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Utilization

The current problems facing government as they confront the limitations imposed by large debts are immense. It is no wonder that planners fear the ever increasing utilization of the health care system and its uncontrollable costs. The particular problems of the Maritimes were addressed recently by Dr. John O'Brien-Bell, the outgoing CMA President. He drew to our attention the situation that includes such facts as the Maritime provinces do not collect Medicare premiums, small numbers of people pay income tax, and Federal transfer payments are decreasing to Nova Scotians. In case you did not know already you were poor, he also stated that health service availability in this area is very much of a concern from a national perspective.

It is not surprising then, and perhaps praiseworthy, that government health administrators are attempting to address the utilization problems in this province. Unfortunately, this cannot be done in a simplistic way and recent efforts to promote "capping" would seem to be just that. After our refusal to accept such a system, as we did, we have to now try our own best efforts in using limited resources in an efficient manner.

Recent editorials by A.L. Linton and D.K. Peachey in *CMAJ* deserve our attention as they strongly suggest that physicians should be prominent in utilization review, analysis, and management. Dr. R.W. Sutherland, in the same August 15th issue, suggests a more shared role and this is possibly more practical, considering our reluctance and limited expertise in this area. If further motivation is needed for many physicians to take an interest in the management of utilization, a recent book could be stimulating. You might wish to read *Second Opinion: What's Wrong with Canada's Health Care System and How to Fix it*. It is a book that should be read by most physicians in Nova Scotia, not because of the solutions it proposes, but because of the issues it raises. The book suggests, with great sincerity, impractical and unachievable programs with little evidence to support them. The fuzzy thinking and lack of scientific approach in the book encourages argument. However, any argument will have to be based on fact if we, as physicians, intend to enter the debate, as is suggested.

The book *Second Opinion* does make a strong case for a good social support system as a determinant of physical health. The authors, however, do not consider physicians are a significant

part of the social support system in this country. On any average day, a practitioner deals with housing; nutrition; social services; home care programs; income situations like Pension, Workman's Compensation, disability allowances; and numerous poverty related issues. In fact, it will probably be discovered that much of our criticized over-activity is really our attempt to give comfort and support to both the well and unwell. Certainly our role as a social support has played a large part in the increasing utilization pattern, but will be difficult to eliminate or to assign to others.

Our participation in utilization review and management will be painful and frightening. Inadequacy and greed of physicians may or may not prove to be a major problem. We will, however, have to keep our consciences scrupulous and our minds open. Perhaps it is time for the profession itself to have a conference that might investigate our role in the management of resources.

If we have said no to "capping" of the health care system, it only makes sense to understand the alternatives.

We welcome Dr. Lynn McIntyre as she submits her first offering in "Current Topics in Community Health". She replaces Dr. K.H. Kurji who has accepted a position as Assistant Medical Officer of Health, York Health Unit, Newmarket, Ontario. Your comments and suggestions are encouraged.

J.F.O.C. □

Believers, agnostics, and sceptics can be found in all fields, where the evidence is difficult to obtain, often difficult to interpret, and subject to valid differences of opinion.

Clement Meighan

NOTICE:

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Alcoholic Denial as Face Saving

Anna Mary Burditt,* MD, CCFP, FCFP, (Retired)

Halifax, N.S.

With few exceptions the alcoholic has started as a controlled social drinker, although in some cases risk factors can be identified from the onset. Denial is regarded as one of the major blocks to therapy. New approaches are needed if we are to get problem drinkers into treatment when they first lose control.

In this paper Erving Goffman's sociological theory of face saving is applied to the case of a business man who has started to lose control of his drinking. Goffman's theory gives us a fresh perspective on the problem of alcoholic denial and enables us to take a broader and more empathetic view of the drinker who has lost control. It identifies some of the problems in getting risky drinkers into treatment. It draws to our attention the one-sidedness of the traditional views of alcoholic denial and carries some important implications for therapy. Acceptance and encouragement must replace rejection and loss of face.

*"Every person lives in a world of social encounters, involving him either in face-to-face or mediated contact with other participants. In each of these contacts, he tends to act out what is sometimes called a **line** — that is, a pattern of verbal and non-verbal acts by which he expresses his view of the situation and through this his evaluation of the participants, especially himself.*

*"The term **face** may be defined as the positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact."¹ p.5.*

Denial is a consistent characteristic of alcoholic behaviour in our society. Whenever social drinkers realize that it is increasingly difficult for them to maintain control of their alcoholic intake, they are likely to establish a pattern of denial, assuring themselves and others that they can stop when they wish. They make excuses for their drinking, minimize the amount they drink, and drink surreptitiously. Such a drinker is frequently accused of lying about alcohol. Although studies have shown that controlled drinkers describe their intake reasonably accurately, the problem drinker is known to drink more than he admits.²

The denial phase of alcoholism is well documented in scientific writing. Retrospective studies on alcoholics indicate that this early phase of alcoholism lasts from six

months to 5 years.³ Since many heavy drinkers never receive treatment it is possible that large numbers of them continue in this stage for much longer, their families and lives threatened or disrupted, their problem unacknowledged.

Denial is regarded as one of the major blocks to therapy. It is widely believed that an alcoholic cannot be helped until he or she admits to being one. The line between social drinking and alcoholism is not clearly drawn. Alcoholism has no precise definition, but drinkers commonly become labelled as alcoholics when problems related to their drinking reach public awareness.

Although there is a voluminous literature about alcoholism, social drinking has seldom been studied. Social drinking is a normative behaviour in Canadian society. Heavy drinking is condoned. The alcoholic, once openly labelled as such, is stigmatized. In a society where only 12% of the adult population claim they have never drunk alcoholic beverages, there is also a mild stigma attached to being a non-drinker. There is ambiguity as to what constitutes normal drinking behaviour and there are few taboos against heavy drinking. Preventive measures are directed at public education, legal control and taxation. Prevention at an individual level rarely enters discussion. The adult individual is assumed to be responsible for his or her own drinking behaviour. In most deliberations about alcohol the perceived rights of the majority, the social drinkers, take precedence over the dangers and damage produced by the minority.⁴

The scientific literature on alcohol includes medical, psychoanalytic, behavioural and anthropological theories of alcoholism.^{5,6} Anthropological theories point to the relation between cultural attitudes and drinking behaviour. Behavioural modification theories treat drinking as a learned behaviour. The other theories focus directly on the alcoholic. Each of these makes a contribution to the understanding of alcoholism, but none of them tells us how to move the problem drinker into therapy during a period of denial.

The lack of information about social drinkers, the small percentage of problem drinkers who enter therapy, the frequency of relapse among those who are treated, and the extensive economic, social and personal cost of alcohol-related problems in our society all point to the need for new approaches.

A SOCIOLOGICAL APPROACH

Sociologists often provide new perspectives on common everyday activities. The sociologist, Erving Goffman has used a dramaturgical approach to develop

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the theme of self and human interaction. He treats behaviour as a stage play, with people in control of their own actions, but responding to the action of others.⁷ Goffman's approach can be useful in helping us take a fresh look at the problem of alcoholic denial.

In *Interaction Ritual*, Goffman develops the concept that all persons in their relationship with others assume a self-image, referred to as "face", that gives them a positive social value.⁷ Persons acquire face through doing what is expected of them and maintain it by following a consistent line of behaviour. During a particular contact an actor is expected to maintain the image that is considered proper for the occasion. Participants may not be conscious of these expectations until an actor in some way discredits himself, in which case both actor and audience attempt to rectify the situation. Although it is commonly a simple matter of embarrassment, loss of face can be very serious. It may change our current and future expectations of a person and cost him his social status.

In every social encounter a person has two perspectives — a defensive orientation to maintain his or her own face and a protective orientation to preserve others' self-image. One defensive mechanism is to avoid those contacts in which threats to our self-image are likely to occur. Once we do meet with others we may avoid topics of conversation or activities that would reveal inconsistencies in our behaviour. Hedging, presenting a front of composure or suppressing a show of feelings until one has discovered how others feel, is another defensive action used to maintain face. Through illusions, rationalizations and half-truths the participant in a group may convince himself and others that he is what he wants to be. The illusion is maintained by the support of the group.

There are always ample opportunities for loss of face. Since this is undesirable, other participants in an encounter take protective measures to save the actor's face. They show respect and courtesy, extending the ceremonial behaviour that is the actor's due. They avoid statements that would refute the claims of the actor. They use circumlocutions and deceptions that enable the actor to retain his self-image. Errors may be covered up by treating them as a joke or passing them off as trivial. Excuses and explanations are offered to justify unusual behaviour. An awkward incident may be disregarded, as if it had never occurred. The actor, too, may behave as if a threatening experience has not taken place, or may admit openly to the incident without acknowledging its threat to face, the audience responding with "studied nonobservance."

Goffman's description of face-saving can be applied to the phenomenon of alcoholic denial in our society. It does not provide an adequate theory of such denial, for it fails to incorporate the psychology and physiology of the drinker, the effects of the drug itself, cultural attitudes toward alcohol, and the historic development of the drinker's problem. Nevertheless, using it as a descriptive mechanism, we can gain valuable insights

into the problems of the drinker who is denying his or her loss of control over alcohol and new perspectives on prevention and treatment of alcohol abuse. A hypothetical case history will illustrate the early development of an alcohol problem and provide a basis for applying Goffman's face-saving concepts to alcoholic denial.

ALCOHOLIC DENIAL

Case History

Ted is a 52 year old financial consultant with a trust company, highly successful and moving up in his job. He has always enjoyed social drinking. He often takes clients to lunch where the moderate use of alcohol is part of his sales technique. He finds a drink before dinner relaxing and enjoys wine with dinner several times a week. He enjoys cocktail parties where he is known to be able to consume more than his friends without becoming drunk. He averaged 2 to 3 drinks per day (including the amount consumed at parties) until six months ago, when the failure of an investment corporation resulted in large financial losses for several of his clients.

Pressured by both clients and boss, Ted began to increase his drinking to relieve tension. He would come home in the evenings and take several drinks to try to forget the day's problems. He began to look for excuses to drink and to hide alcohol in his desk. He has become increasingly preoccupied with thoughts of alcohol. His wife complains that they "never go anywhere any more" except to cocktail parties. Their sex life has declined. He knows that he is drinking too much but is reluctant to admit it even to himself. On his wife's urging he went to the doctor for a check-up. He said to him "I take a drink or two after dinner. That won't hurt me will it?" The doctor brushed it off, informing him that 2 or 3 drinks a day is not harmful as long as he doesn't increase it. His business associates and friends seem not to have noticed the change in drinking habits.

The line that Ted takes with his associates is established in the first paragraph. He is an accepted social drinker who enjoys imbibing with others. He is known to be a heavier than average drinker for his social group, but he handles his alcohol well and it is an accepted part of his identity. Both his work and his leisure activities include drinking. His friends regard it as an integral part of their get-togethers. Ted wishes to protect this image of himself as a congenial social drinker.

One's line is highly dependent on one's social status. A tough labourer may feel that heavy drinking contributes to his "he-man" image. An executive or politician may, like Ted, see it as a social lubricant in his work. A business woman may feel the necessity of proving that she can "drink with the boys." A socially active person may take the stance of an occasional drinker who has a few drinks at social events but rarely drinks at home. A woman at home with small children may find that any alcohol during the day is frowned upon, so she makes a pretense of rarely ever taking a drink. All drinking may be eschewed by the fundamen-

talist Christian or Moslem. There are no consistent guidelines as to what constitutes normal drinking in our society, although more than 20 drinks* per week for men and 15 for women is generally recognized as medically unsafe.⁸

Once the line has been established, drinkers usually try to maintain it. Ted must avoid being labelled an alcoholic; it could cost him his job. Friends may reject him. In his social milieu, everyone respects a hearty drinker, but no one wants to befriend an alcoholic. The dividing line is narrow, but harsh. The first indication that there is trouble at home, or that he has sought help for his drinking can destroy his social image, although it would be regarded as legitimate for him to see a physician for an ulcer or a liver problem.

It would be more difficult for Ted to become a non-drinker. Abstinence is frowned upon by many groups in our society. Non-drinkers have a social stigma among Ted's peers and are excluded from many of their activities. Alcohol is regarded as an essential ingredient for having a good time, for celebration, and for relaxation from stress. Giving up alcohol would distance him from his friends and handicap him in business.

Unable to cut down and knowing that he will be ostracized for either uncontrollable drinking or abstinence (which he doesn't want anyway), Ted feels himself under duress to save face as a social drinker. He has many faces to save. To his wife he wishes to be a dependable husband who can take a drink when he likes. To his friends he presents the face of a person who can drink and have a good time. To his employer he wishes to appear as a competent employee worthy of promotion. To his clients he desires to be a friendly, trustworthy business man who will share a drink with them on occasion. He wants to move about freely in a society that uses alcohol extensively.

Ted's most difficult encounter is with the face in the mirror. He must maintain his self-respect. He must convince himself that he is a man in control. He hides the amount he drinks, denying it even to himself. He creates excuses for drinking. He sincerely believes that when the pressure is off he will go back to his former moderate drinking habits. He convinces himself that his wife's criticism is an added pressure that forces him to drink. He continues to drink with his clients, assuming an air of aplomb. On his return to the office he avoids encounters with the boss. It is only with great difficulty that he finally approaches a doctor for help, and then he makes light of his problem. He uses all of the defence mechanisms described by Goffman — avoidance, hedging, rationalization and illusions.

Goffman's analysis of face-saving does not stop with defence mechanisms. Protective mechanisms also come into play. Ted is aided in his deception by the courtesy

and respect of his associates. His secretary is aware of the bottle in his desk, but does not mention it. His employer notices that he is slightly inebriated when he returns from lunch, but excuses him on the grounds that he has been under pressure, and discretely turns his back. He does not want to lose a good employee. Ted's clients politely ignore his excessive loquaciousness so as not to embarrass him. His wife nags in private but puts up a front in public so the family will not lose face. His friends joke about his behaviour or make light of it as an act of courtesy. They continue to serve alcohol, aiding him in his self delusion that he can decide for himself when to stop. The doctor ignores or fails to detect Ted's subtle clue. He gives inappropriate advice, permitting Ted to retain his face as a responsible business man. Ted's line is maintained through varied encounters by associates who politely overlook his drinking problem.

THE PHYSICIAN'S ROLE

Ted's approach to the doctor contained an oblique appeal for help. The drinker who is in control and knows that he or she is in control does not need a physician's reassurance. A patient who says, "A drink or two after dinner won't hurt me, will it, doctor?" is waving a red flag in front of the physician. Too often it is brushed aside. No physician should ever give off-hand advice about alcohol until a drinking history has been obtained.⁷ A drink or two after dinner may be safe for some, but it is ruinous for the hidden alcoholic and his or her family.

The frequency with which physicians miss alcoholism is well recorded.^{10,11} Reasons given usually include inadequate training, not enough time, or reluctance to become involved. The doctor's own drinking habits can affect his or her attitudes. The doctor who takes a drink or two after dinner but is not dependent on alcohol may not appreciate the seriousness of the patient's problem. The doctor who is an excessive drinker may be denying his or her own problem.

One or two simple questions could have uncovered Ted's problem. "Have you any concerns about your drinking?" "Has your drinking increased lately?" "Does your wife ever complain about your drinking?" Feeling pressured for time or feeling inadequate to treat the problem is no excuse for evading it. The patient can be referred to a counsellor for therapy. Sometimes simply discussing alcohol in a non-judgmental fashion, or handing out appropriate literature is sufficient to encourage the patient to get help. In any event, the problem drinker's drinking should never be endorsed!

Goffman's theory of face-saving, applied to alcoholic denial, enables us to take a broader and more empathetic view of the drinker who has lost control. We can immediately identify some of the difficulties in getting risky drinkers into treatment and some of the reasons treatment may fail. Entrance into therapy means a loss of face for the problem drinker and his or her family. It could mean loss of job, social status, enjoyable leisure activities and friends.

* A drink or unit of alcohol is commonly defined as 15 gms. of absolute alcohol or approximately 12 oz. of beer, 3 oz. of wine or 1½ oz. of spirits.

Goffman's theory also draws our attention to the role of others in preventing the problem drinker from obtaining help. The family's cover-up to save face, the secretary's tactful disregard, the boss' discretion, the clients' respect, the friends' courtesy, and the doctor's trivialization, along with our society's ambiguity toward drinking and scorn of abstinence, all serve to deter the problem drinker from obtaining help in the earliest stages of alcoholism when treatment is known to be more effective. We save the problem drinker's face at the risk of destroying his life.

The first step in therapy is recognizing the problem and drawing the person into treatment as early as possible. The spotlight must be removed from the drinker as an uncooperative or immoral person. Once his or her needs and the hindrances we put in the path of the problem drinker are recognized, and proper support is given, moving into therapy can become a positive step, rather than a loss of face.

Therapy must also include the education of the drinker's family and associates, both through public education and, in the case of the individual, by establishing a supportive team around him. Denial is not restricted to the drinker. Recognition of the importance of social attitudes and the attitudes of physicians, counsellors, and significant others must be an integral part of the care of the excessive drinker. Problem drinkers should be encouraged to discuss their problem and their positive efforts to overcome it with family, employer and a few trusted friends. Acceptance and encouragement must replace rejection and loss of face.

SUMMARY

Problem drinking is a complex subject with many theoretical approaches. The most vital part of treatment is helping the drinker to recognize that he or she has a problem and that denial is a part of it. The problem drinker should be recognized as soon as difficulties in control arise and given positive reinforcement rather

than criticism or rejection. To encourage society to recognize the early stages of alcoholism as a treatable entity, unusual approaches must be used, for we are contradicting traditional thinking and too often arousing feelings of self-guilt or defensiveness among social drinkers.

The description of denial as face-saving is not a complete theory of alcoholic denial. Rather, Goffman's face-saving theory is presented as an alternative perspective of alcoholic denial, a snapshot taken at a single time and place and from a different angle, a snapshot taken through a wide-angled lens that enables us to see not only the alcoholic but also his or her associates and their social environment. In spite of its theoretical limitations, it draws to our attention the one-sidedness of the traditional views of alcoholic denial and carries some important implications for therapy. □

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ALZHEIMER'S DISEASE

Continued from page 124.

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AMBULATORY SURGERY OF COMMON ANAL PROBLEMS

Continued from page 133.

A final consideration in determining the approach to operative treatment is cost. In general, when hospital admission can be avoided, money is saved. With this principle in mind, many procedures once associated with long hospital stays are being performed safely with brief hospitalizations, or on an ambulatory basis. Cost is an important part of the health care equation, and it is appropriate that it is influencing our approach to the management of anal problems. □

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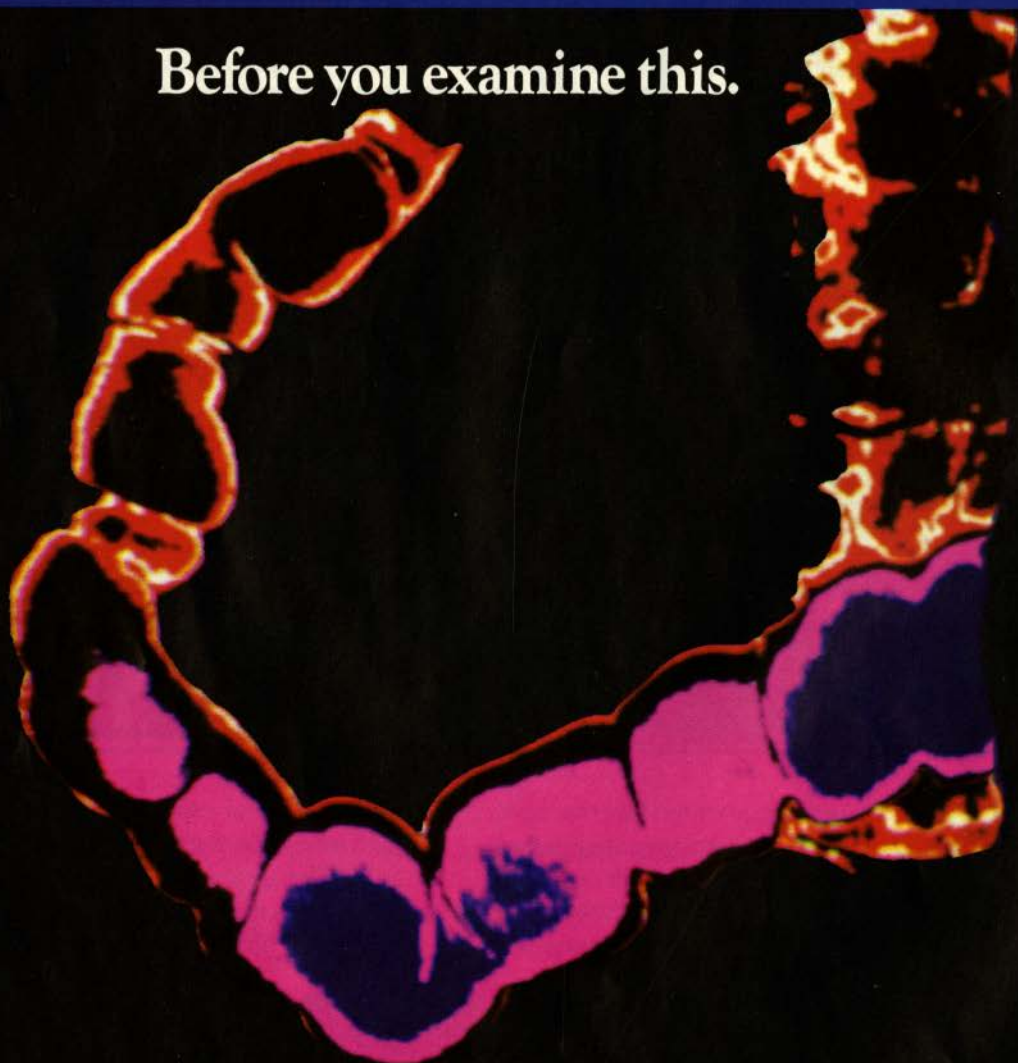
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Patterns in the Use of Antiparkinsonian Agents for Treating Extrapyramidal Side-Effects Caused by Neuroleptics

Max Michalon,* MD, CSPQ, FRCPC and Arun Ravindran,** MB, MSc, FRCPC

Halifax, N.S.

A survey was conducted to gather information regarding practice methods and attitudes towards the use of antiparkinsonian agents among practising psychiatrists. Seventy-two percent of all psychiatrists and psychiatric residents in training in Nova Scotia responded to a questionnaire, which included items pertaining to antiparkinsonian medication, patient characteristics, and clinician variables. Some of the findings were: 1) benzotropine was the first choice for any form of extrapyramidal side-effects (EPSEs); 2) surprisingly, trihexyphenidyl was the second choice for dystonia even though it is not available in parenteral preparation in Canada; 3) most often, trade names are used in prescriptions by psychiatrists in practice for more than twenty years, while more recently qualified psychiatrists and residents tend to prescribe by generic names; 4) only a small minority are aware of the use of amantadine for EPSEs; and 5) the great majority of respondents report diagnosing EPSEs only on the subjective reporting of patient and nursing staff, and fewer than 15% report using any form of neurological examination for this purpose.

Since the 1950s, neuroleptics have been used extensively and their unwanted effects have been well evaluated. In one of the first large surveys of such adverse effects, Ayd reported extrapyramidal side-effects (EPSEs) in 38.9% of patients treated with neuroleptics.¹ Anticholinergic agents have been largely accepted as front-line drugs in the treatment of EPSEs.² However, the development of newer and more potent neuroleptics, and the use of benzodiazepines³, of amantadine^{4,5,6}, and of propranolol^{7,8} and other lipophilic beta-blockers^{9,10} as alternatives to anticholinergics have meant changes in prescribing habits.

In spite of numerous developments in the field, how and when to use antiparkinsonian agents (APAs) remains uncertain and controversial. Use of APAs in prophylaxis is still being debated.⁷⁻¹¹ Again, it is suggested that concurrent use of APAs and neuroleptics may reduce the potency of the latter.¹² The significance

of serum levels and their value in monitoring treatment needs further evaluation.¹³ While these larger questions can be fully answered only by multicentre trials, our study is an attempt to gather initial information on the use of these agents, and to evaluate the factors influencing these practices.

METHOD AND DEMOGRAPHIC DATA

The survey was by a self-administered questionnaire which, accompanied by a covering letter, was sent to all psychiatrists practising in the Province of Nova Scotia (N = 94), and to all residents in psychiatry (N = 15). The investigators were blind to the respondents' identity. We received responses from 78 (71.56%) of the 109 individuals surveyed: 63 psychiatrists and all 15 residents. Fifty-one psychiatrists were Canadian certified specialists; 12 were American or British trained or were fully trained in Canada although not certified specialists. Information on the number of years in practice of the respondents, as well as their subspecialty interests, and academic affiliation was recorded (Figures 1,2, Table I). We used multiple-choice questions, both direct and involving decisions regarding clinical situations, to gather information on the potency of neuroleptics favoured, the type of APAs, their dosages and periods of prescription. Data were also obtained on methods clinicians used to monitor EPSEs, the extent of abuse by patients and whether the type of EPSEs influenced the choice of APA.

Statistical analysis was carried out using several procedures of the SPSS Statistical Package. The results reported on here are based on Pearson's Chi-square test.

RESULTS

From the extensive data gathered from the study, some findings of significance emerged.

Pertaining to the question on the choice of the APAs for different forms of EPSEs (Fig. 3), most psychiatrists used benzotropine mesylate as their first choice, although this is not the cheapest available drug (Table II). We were surprised at the choice of trihexyphenidyl hydrochloride as the second choice for acute dystonia, as it is not available in Canada in parenteral form, which is most desirable for treating this EPSE. Also surprising was the minimal use of amantadine hydrochloride (81% of respondents never or rarely prescribed amantadine) and ignorance about its use (65% were not familiar with it).

We found the respondents divided on the question of generic versus trade name usages and two significant findings emerged. Firstly, those psychiatrists in practice

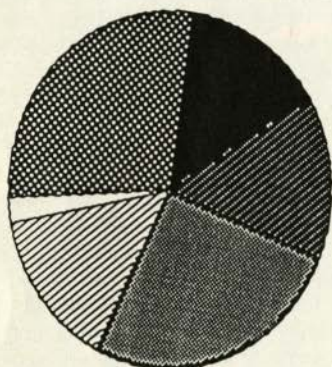
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for more than twenty years mainly favour the use of trade names, while more recently qualified psychiatrists and residents tend to prescribe by generic names ($\chi^2 = 4.35$, DF = 1, $p = 0.03$). Secondly, psychiatrists in private practice have a tendency to prescribe by trade names, whereas residents and those in psychiatric hospitals prefer the generic names ($\chi^2 = 20.5$, DF = 4, $p = 0.0004$).

Most psychiatrists surveyed were aware of the importance of the previous history of EPSEs and the potency of the antipsychotic medication in predicting EPSEs. However, child psychiatrists considered the potency as the most important ($\chi^2 = 8.4$, DF = 3, $p = 0.03$), while those in practice over 20 years felt that previous occurrence is the most significant predictor. Only a minority believed that brain damage or age are significant factors.



- — Private practice only 14.5%
- ▨ — Psychiatric hospital only 14.5%
- ▩ — General hospital and private practice 26.3%
- ▧ — Psychiatric hospital and private practice 14.5%
- — General hospital only 2.6%
- ▦ — Residents and others 27.6%

Fig. 1 Type of Practice of Respondents

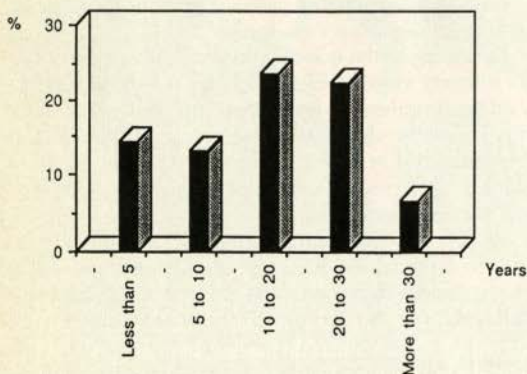


Fig. 2 Number of Years Practice

TABLE I

Positions held in practice (a) and area(s) of special interest (b) (Not including residents)*	Percentage of Respondents	N
Emergency on call Responsibilities (a)	60.3	38
Faculty Appointments (a)	49.2	31
Administrative Responsibilities (a)	28.5	18
Psychotherapy (b)	41.2	26
Chemotherapy (b)	41.2	26
Emergency Psychiatry (b)	17.5	10
Research and Teaching (b)	14.0	9
Child Psychiatry (b)	12.6	8
Forensic Psychiatry (b)	11.0	7
Geriatric Psychiatry (b)	6.3	4

* Respondents were free to indicate more than one type of practice or special interest, thus totals exceed 100%.

TABLE II

COSTS OF ORAL APAs, PER TABLET, IN NOVA SCOTIA (1989) (Not including dispensing fee)

Amantadine	100 mg.	68¢
Orphenadrine	50 mg.	70¢
Benzotropine	2 mg.	13¢
Ethopropazine	50 mg.	20¢
Procyclidine	5 mg.	8¢
Trihexyphenidyl	2 mg.	4¢
Biperiden	2 mg.	14¢
Propranolol	10 mg.	7¢

An unexpected finding was that most respondents (78%) favoured report by the patients or observation by ward staff as the most useful factor in assessing EPSEs and neurological examination as the least useful (14% of respondents). Only 8% of psychiatrists regularly use rating scales in monitoring EPSEs. Using patients' reports and observation by ward staff may significantly distort the actual percentage of patients reported as developing EPSEs in the psychiatrist's practice. Physicians in psychiatric hospitals reported significantly higher incidence of EPSEs than did those in private practice and in general hospital units ($\chi^2 = 25$, DF = 12, $p = 0.01$).

We also examined the awareness of physicians of the abuse potential of APAs. Sixty-four percent of the respondents believed that patients do not abuse APAs as a rule, although most of them thought that a proportion of patients tend to abuse. Trihexyphenidyl is reported as the most favoured by the abusers. The inquiry found that those who are aware of this fact were avoiding its prescription for drug-induced Parkinsonism ($\chi^2 = 5.9$, DF = 1, $p = 0.01$) as well as for acute dystonia ($\chi^2 = 4.03$, DF = 1, $p = 0.04$).

DISCUSSION

Acute EPSEs, particularly oculogyric crises and, less common, laryngeal dystonia¹⁴, are medical emergencies which need to be treated with parenteral antiparkinsonian agents. The choice of trihexyphenidyl by 40% of respondents as the second best agent in this clinical

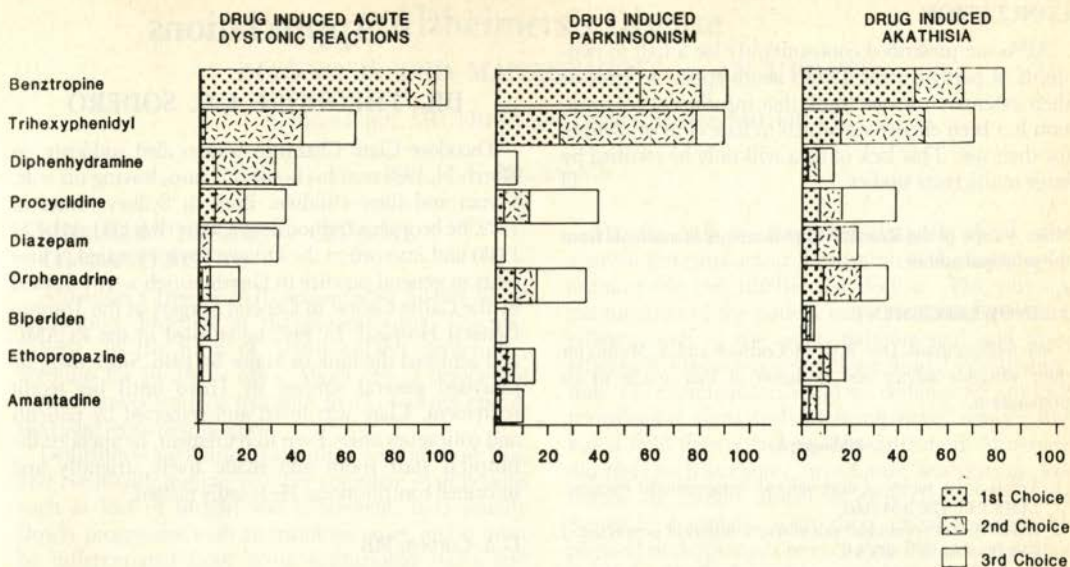


Fig. 3 Choice of Drug for the Treatment of EPSEs

context, suggests a need for information since this medication is not available in the parenteral form. The same conclusion may also be drawn from the fact that 81% of the respondents were not aware of the use of amantadine. This is confirmed by our finding that psychiatrists who did not answer the questions on the adverse effects of amantadine were predominantly those who did not prescribe it. Dimascio *et al.*⁶ reported amantadine to be equally effective and as rapid in action as benztropine, and this observation has been confirmed by several recent studies.^{4,5} Gelenberg *et al.* have suggested it may be of value in patients who do not respond to anticholinergic agents.¹⁷ The general agreement in the recent literature is that amantadine, in spite of its adverse effects and costs (Table II), has a definite place in the management of drug-induced extrapyramidal reactions, particularly in old age.^{4,15,16}

Whether one should prescribe by generic or trade names is a contentious issue, and one that is of particular relevance to legislation being enacted now in Canada's Parliament. One significant finding of this study is that senior psychiatrists and those in private practice tend to prescribe by trade name. One might wonder what factors influence their prescribing habits when available information suggests that trade-name prescribing can increase cost by up to 300%.¹⁸

Our survey found that most psychiatrists believe that a past history of EPSEs is the best predictor of their future occurrence; this is highly consistent with current literature.¹⁹ Casey *et al.* found a significant relationship between past history and vulnerability for EPSEs, particularly when APAs were discontinued.²⁰ Most psychiatrists were also aware that the potency of neuroleptics influences EPSEs.^{19,20} We found that child

psychiatrists considered the potency to be the single most important factor. Our study suggests that the longer one is in practice, the greater the emphasis one places on past history as a predictor. However, we found only a small minority of psychiatrists aware of the influence of brain damage and age in increasing vulnerability to EPSEs.

The findings from this study suggest that the assessment of severity and progress of EPSEs needs to be made more objective. Hoffman, after his investigation on these assessment procedures, concluded, "Psychiatrists in particular tend to talk with patients rather than examine them physically".¹⁸ Our findings confirmed this observation. We should be aware that not all patients are capable of reporting adverse effects and some may not want to do so for a number of reasons. Observation by staff may be incomplete and often is influenced by expertise and time factors. Rating scales are only as good as the person who uses them; the most objective technique remains a full neurological examination.²¹

We observed that 64% of psychiatrists were aware of the abuse potential of EPSEs. We feel this awareness should be higher. There is clear evidence that at least two very different psychological states may be seen in patients abusing EPSEs — a delirium-like state and an organic affective syndrome.^{22,23} The extent of this problem is unclear. McEvoy has suggested that often it is not intentional abuse but an attempt on the part of the patient to obtain maximum benefit and to relieve EPSEs.¹⁹ Trihexyphenidyl is thought to have a euphoric effect and appears to be the one most abused. We found that the psychiatrists who believed in the abuse potential of trihexyphenidyl significantly avoided its prescription.

CONCLUSION

APAs are prescribed concomitantly for a half to two-thirds of patients treated with neuroleptics. In spite of their extensive use, we think that insufficient information has been elicited on which to base clear guidelines for their use. This lack of data will only be rectified by large multicentre studies. □

Note: A copy of the Research Questionnaire is available from the principal author.

ACKNOWLEDGEMENT

We wish to thank Drs. W.O. McCormick and A. Munro for their valuable advice and criticism of this article in its preparation.

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Appreciations

DR. THEODORE C.C. SODERO

Theodore Clare Chalmers Sodero died suddenly on March 14, 1989 near his home in Truro, leaving his wife, Vivian and three children. Born in Sydney Mines in 1909, he became a Dalhousie graduate (BA 1931, MDCM 1935) and interned at the Ottawa Civic Hospital. Three years in general practice in Guysborough were followed by the Gallie Course in General Surgery at the Toronto General Hospital. In 1942 he enlisted in the RCAMC and achieved the rank of Major by 1946. Since then, he practised general surgery in Truro until his recent retirement. Clare was loved and respected by patients and colleagues alike. Even in retirement, he attended the hospital staff room and made lively, friendly and informed contributions. He is sadly missed.

G.A. Corbett, MB

DR. KENNETH A. FRASER

Dr. Kenneth A. Fraser expired suddenly at his farm in Middle River, Cape Breton, July 3. He was 71 years old and had retired from his practice in Sydney Mines, Nova Scotia, four years before.

He was born at Donkim, Cape Breton, where he received his early education. He graduated from Dalhousie in the early forties and immediately enlisted with the Royal Canadian Army Medical Corps. Upon discharge he joined the late Dr. B.R. MacRae and took over this practice upon the retirement of the latter.

Kenneth worked steadily and skillfully as a general practitioner and surgeon until he joined a group of physicians who established the Sydney Mines Clinic in 1958. There he laboured successfully until his retirement.

He leaves to mourn his devoted wife Isabel, one brother, and three sons.

Our sincere sympathy is extended to this close family.

W.J. Lamond, MD □

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Alzheimer's Disease

DIAGNOSIS AND MANAGEMENT — AN UPDATE

R. Allan Purdy, MD, FRCPC and David B. Hogan, MD, FRCPC

Halifax, N.S.

ALZHEIMER'S DISEASE — CLINICAL CHARACTERISTICS

Alzheimer's Disease (AD) accounts for 50-60% of all dementing disorders at the present time. Vascular disease, in the form of "multi-infarct dementia", accounts for 10-20% of cases. About 15% of dementing illnesses are potentially treatable. In 5% of all dementias, the cause remains unknown.¹

Dementia is a syndrome presenting with memory loss, and eventually leading to other cognitive dysfunctions such as loss of insight and judgement. It is usually slowly progressive with an insidious onset, and it must be differentiated from acute confusional states and delirium which are usually caused by treatable disorders. Dementia is characterized by global neurological dysfunction which cannot be accounted for on the basis of a single focal lesion. Depression can mimic or coexist with dementia.

Many neurological disorders, such as Huntington's disease, cerebral neoplasms and Parkinson's disease, can be associated with dementia. Usually, specific neurological disorders have characteristic findings which allows differentiation from AD. Many medical conditions, including hypothyroidism and pernicious anemia, can also produce dementia.

AD presents with early loss of recent memory in patients, usually after age 65, but it can present between age 40 to 90.² It is not associated with any change in consciousness and usually involves other cognitive dysfunctions such as language (aphasia), or motor dysfunction (apraxia), or problems with perception (agnosia). These problems indicate cortical involvement, in a patient whose mental status examination indicates global intellectual deterioration common to all dementias. The dementia of AD usually is significant enough to interfere with the normal social and occupational activities of the individual.

Patients with AD may well accentuate previous personality traits. If they are suspicious pre-morbidly, they might become overtly paranoid when the disorder evolves. Patients early in the disorder preserve their gait and continence. Visual hallucinations are common, as is occasional aggressive behaviour, nocturnal worsening of symptoms, and reversal of the sleep-wake cycle. Affect is usually preserved, unless the patient has insight into the early symptoms of memory loss and then depression may be superimposed. Occasionally, there is a family history of AD.

AD can only be diagnosed clinically if no other systemic or neurological disorder can be demonstrated to account for the intellectual decline. The physical examination of the patient may reveal some primitive reflexes such as the pout, palmomental and grasp reflexes. All these reflexes indicate frontal lobe dysfunction. The examination should *not* demonstrate any focal neurological signs such as hemiparesis, sensory loss, visual field defects or loss of coordination. Movement disorders such as chorea, myoclonus, bradykinesia, and tremor are usually absent in early classic AD alone. Systemic disorders, with their usual recognizable physical findings, must be excluded. It is very important to exclude drugs that can cause intellectual impairment such as sedatives, tranquilizers, anti-parkinsonian drugs or an anti-hypertensive medications.³

Investigations reveal normal or non-specific slowing on EEG, normal brain scan, negative serology, normal serum biochemistry, complete blood count, and normal thyroid function tests. The CSF, if done, is normal. The CT head scan in established cases usually shows progressive atrophy on serial studies. In early cases, the CT scan may be normal or show mild atrophy. Neuropsychological testing is extremely helpful in confirming the presence of the dementia. The usual investigations in the work up of AD are outlined in Table I.

TABLE I

USUAL WORK-UP OF ALZHEIMER'S DISEASE

1. Complete blood count and ESR
2. Serum biochemical profile
3. Thyroid function tests
4. B₁₂ and folate levels
5. Serology (VDRL)
6. Chest X-ray and Skull X-ray
7. Nuclear brain scan or CT head scan
8. EEG
9. CSF examination is usually NOT necessary unless syphilis or chronic meningeal disease are suspected and NO mass lesion is demonstrated by neuroimaging techniques.

Although AD can appear to present with a subacute or apparently acute onset (particularly when subtle intellectual deterioration goes unrecognized), it is important not to consider AD as the initial consideration in a patient with an acute onset of rapidly progressive neurological symptoms. An alternative, potentially treatable, etiology is more probable.

Alzheimer's patients may present with seizures at some point in their course. However, an initial or early

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onset of seizures is unusual and should raise uncertainty regarding the diagnosis, so that an alternative diagnosis should be considered. Syncope and falls may also occur in AD.

It should be noted that if the patient has a known neurological or systemic disease, not known to be associated with dementia, then AD can still be diagnosed clinically.

A diagnostic accuracy of clinically probable AD can be achieved in about 80% of patients on clinical grounds, with the accuracy increasing to 90% with appropriate laboratory tests.¹

The only way a diagnosis of *definite* AD can be made is from histopathological confirmation from a brain biopsy or at autopsy. The former procedure is unlikely to be performed in clinically probable cases and the latter is, unfortunately, too often omitted in elderly patients dying of dementia and presumed to have AD.

It should be noted that very frail elderly patients with progressive dementia of long duration (usually greater than two years), may reasonably not be subjected to CT scanning, particularly if they would not be suitable for neurosurgical intervention. These patients are frequently not hospitalized. It is important not to neglect comprehensive assessment of demented patients; but to investigate all of them in detail is probably unnecessary.³

The first part of this paper overviews AD. For an overview of other causes of dementia, including reversible and treatable etiologies, as well as screening and evaluation of dementia, the reader is referred to two recent review articles.^{4,5}

MANAGEMENT OF ALZHEIMER'S DISEASE

As indicated in the first section of this article, senile dementia of Alzheimer's type is a common clinical condition. Physicians, dealing with the elderly, will confront AD frequently and as such should know how to manage sufferers of the disease. While the condition is incurable, it is not untreatable. There are many interventions physicians can undertake which may lead to improvement in the quality of life of both the patient and the family. This section of the article will deal in the main with the Alzheimer patient living at home with his or her family.

At present, there are no drugs or other interventions which have a significant, direct effect on the disease itself. The management strategy is essentially for "symptomatic" treatment. It is also important to point out that frequently in this condition, the individual you treat is not so much the patient but rather the patient's care-giver. This condition poses significant stress on any involved care-giver as outlined in the book aptly named, *The 36-Hour Day*.⁶

The major difficulties encountered in management relate to the abnormal behavior of patients suffering from AD. A useful memory aid is: "Red Danger, Lone Ranger, Dark Stranger". *Red Danger* relates to the dangerous situations a confused patient may find themselves in. For example, they may be leaving the

stoves on in their apartments or homes. *Lone Ranger* refers to the wandering behavior which is frequently found in agitated sufferers of Alzheimer's. Unfortunately, as indicated previously, some individuals become paranoid, irritable, and aggressive, thus becoming quite different persons than they were formerly (*Dark Strangers*). It has been estimated that a quarter of individuals with AD will develop a depressive state sometime in the course of their illness. Because of alterations in the sleep/wake cycle and nocturnal sleeplessness, significant stress on the family caring for the individual can occur. This is also true for urinary or fecal incontinence.

The aims of treatment are to maintain the patient in optimal medical and social health, avoid any catastrophic situations, and support the patient's family or any other relevant care-giver. Management is directed toward designing and implementing the most effective program of care for the individual patient. This would entail addressing the items noted in Table II.

TABLE II

MANAGEMENT ISSUES TO BE ADDRESSED IN THE INDIVIDUAL SUFFERING FROM ALZHEIMER'S DISEASE

1. Accurate Diagnosis
2. Inform family/care-giver
3. Optimize medical and psychosocial management
4. Evaluate "home" situation
5. Mobilize community/social resources
6. Address legal/financial matters
7. Refer to self-help groups
8. Reassess and follow
9. Consider institutionalization
10. Appropriate use of medications

The essential first step is to make as accurate a diagnosis as possible. It is important to point out that the error rate in diagnosing AD is in the order of 10 to 30%. This issue has been addressed in the first part of this article. After diagnosis is made, it is then important to inform the patient's family and/or care-giver. It is not good enough to say the patient is suffering from "senility". The family frequently has many questions with regard to the disease. These should be addressed as best as possible.

A simple yet accurate explanation of the disease should be given. The family should be told that the disease is a progressive, degenerative disorder of insidious onset, characterized by memory loss, confusion, and a variety of other cognitive (or "thinking") disabilities. It should also be pointed out that the cause is not known and that the disease is not "contagious". They can be reassured that assistance can be mobilized to help them, but it is also essential that the family has realistic expectations. They should be told that there is no cure for the disease.

A frequent question is prognosis. Patients have their own rate of progression and following a patient over a

period of time is the best projector of prognosis. Some associated findings which have been suggested to carry a poor prognosis are myoclonus, extrapyramidal signs, and speech problems.^{7,8}

These individuals require careful medical attention. Any concurrent acute illness may aggravate or worsen the dementia. Because of the nature of the illness they are prone to accidents such as falling. As mentioned above, they not infrequently are depressed which in itself can worsen the confusional state. A proportion of individuals with AD can benefit from reality orientation and "reminiscence group therapy".^{9,10} The aim of these interventions is to maintain the patient's ability to socialize. Some common sense suggestions are contained in the book *The 36-Hour Day*.⁶

It is important to evaluate the "home" situation. Both the architecture of the house or apartment and the support available from the patient's family and/or caregiver should be assessed. Some suggestions can be made to make the dwelling safer for the patient. Sometimes the only way to get a true feeling of the home situation is by making a home visit. Because of the difficulty in transporting a severely demented patient into an office, it is not surprising if a proportion of the medical care will have to be given in the patient's own home. After evaluating the "home" situation, one may then mobilize community or social resources if available and required. For example, if some alterations have to be made on the house then an approach to Community Social Services may be appropriate.

There are a number of legal and/or financial matters which have to be considered by the patient and the patient's family. This is usually not within the province of the physician but the family may seek advice. Often these questions revolve around the question of mental competency. In marked advanced AD, it is not difficult to deem an individual as being mentally incompetent. It is more difficult earlier in the progression of the disease.

To determine mental competency three issues have to be addressed.¹¹ For the particular question, does the patient understand what is being asked? Secondly, can the patient make a rational decision based on his understanding? And finally, how much "understanding" is sufficient or required to make an appropriate decision on this specific question? Every issue has to be addressed separately as, for example, the patient may not be competent to look after finances but still may be competent to make a decision with regards to where he or she wants to live.

Early in the progression of the disease, patients should be encouraged to have their wills made out and to have an individual they know and trust given financial responsibility for themselves. This is usually done by having someone given the "Powers-of-Attorney". A useful guide about this is available from the Public Legal Education Society of Nova Scotia.¹² When an individual cannot make any meaningful decisions for themselves they may have to have a "Legal Guardian" appointed. This requires the intervention of the legal system.

The question of a driver's licence should be addressed as well. Driving a car is not a right but rather a privilege. In addition to the patient, the question of public safety must be considered. If the physician feels that, on medical grounds, the patient is unfit to operate a motor vehicle then the physician *may*, in Nova Scotia, report the name and address of the patient to the Department of Transportation. It is best to inform the patient's relatives or care-givers that you are doing so, since most of them are in full agreement and will actively intervene in keeping the patient off the road. Physicians, in Nova Scotia, are legally protected for reporting such information in good faith. On the other hand, physicians who decide not to report such patients may face legal action by victims of motor vehicle accidents caused by their patients, if the court decides that the physicians could have foreseen the damage from their patients continuing to drive.¹³

The care-giver, looking after the individual suffering from Alzheimer's, frequently requires a great deal of support. This need may be addressed by involvement in a self-help group such as the Alzheimer's Society. These groups are mainly for the involved care-giver. It is also pertinent at this time to address the question of respite care. Respite care is a management modality which is directed at supporting the care-giver. It can be arranged either inside or outside the home. The aim is to give the care-giver a "break" from the continuous responsibility of looking after the demented patient. Careful and well-timed use of respite care may enable the patient to remain in the community for extended periods of time which otherwise would be impossible.

Throughout the patient's course it is necessary to continuously reassess and follow them. As mentioned, intercurrent and concurrent illnesses frequently develop. Just the fact of carefully following the patient can give a great deal of emotional support to the family.

A question frequently brought up in management is institutionalization. This involves weighing the needs of the patient with the capabilities of the care-giver. If there is no care-giver involved, then the affected patient is frequently institutionalized at an early stage. Aside from living alone, the other critical factors in determining the requirement for institutional care are: behavior, degree of dependency, presence of incontinence, and mobility level. As a physician, all one can say is that the patient is at a level of care appropriate for an institutional setting. A proportion of patients, at this level of care, are adequately managed in the general community and never require institutionalization.

Medications are used for symptomatic treatment. There is at present no drug which has conclusively been shown to reverse the cognitive loss. If a depressive state is present, this may be adequately treated with the use of a tricyclic such as Sinequan® (recommended dose 10-50 mg/day). For agitated and aggressive behavior a neuroleptic is frequently used.¹⁴ It is started at a low dose and gradually increased. If it is started at too high a dose, the medication may initially obtain a "good" response for a few days, followed by excessive sedation. Haldol®

0.5-2 mg per day, Mellaril® 10-25 mg per day, or Trilafon® 2-4 mg per day are reasonable starting dosages for these medications. Unfortunately, patients frequently prove to be intolerant or unresponsive to neuroleptics. A dose necessary to control the agitated behavior often produces excessive sedation. As well, extrapyramidal side effects and dyskinesias are common. Nocturnal sleeplessness can be sometimes treated with the use of a bedtime sedative such as chloral hydrate or a benzodiazepine with a short or intermediate half-life, such as oxazepam, lorazepam or triazolam. Urinary and fecal incontinence in this setting usually do not respond to medications and the mainstay of therapy should be regular toileting.

CONCLUDING REMARKS

Alzheimer originally felt the case he reported was a rare clinical entity. At present, the disease that bears his name is a household word and is obviously more prevalent than anyone could have imagined, even twenty years ago.

It is most important that all individuals involved in the care of the elderly patients with dementia recognize that Alzheimer's Disease remains a diagnosis of exclusion on clinical grounds. Just as there is no definitive etiology or cure at present, there is likewise no definitive laboratory test, of a non-invasive nature, to secure the diagnosis in a living patient. All patients with dementia should be considered to have a potentially reversible cause until proven otherwise.

If after all is said and done, and if the diagnosis appears to be Alzheimer's Disease, then there is still much that can be done for patients and their families. This article outlines some of the diagnostic and management strategies in the disorder. Hopefully, there will be a cure or an effective treatment for Alzheimer's Disease in the future. □

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Continued on page 114.

Tablets/Syrup/Expectorant

Antitussive—Expectorant—Decongestant

Indications: CoActifed Expectorant: To facilitate expectoration and control cough associated with inflamed mucosa and tenacious sputum.

CoActifed Syrup and Tablets: The treatment of cough associated with inflamed mucosa.

Precautions: Before prescribing medication to suppress or modify cough, it is important to ascertain that the underlying cause of the cough is identified, that modification of the cough does not increase the risk of clinical or physiologic complications, and that appropriate therapy for the primary disease is provided.

In young children the respiratory centre is especially susceptible to the depressant action of narcotic cough suppressants. Benefit to risk ratio should be carefully considered especially in children with respiratory embarrassment, e.g., croup. Estimation of dosage relative to the child's age and weight is of great importance.

Since codeine crosses the placental barrier, its use in pregnancy is not recommended.

As codeine may inhibit peristalsis, patients with chronic constipation should be given CoActifed preparations only after weighing the potential therapeutic benefit against the hazards involved.

CoActifed contains codeine: may be habit forming.

Use with caution in patients with hypertension and in patients receiving MAO inhibitors.

Patients should be cautioned not to operate vehicles or hazardous machinery until their response to the drug has been determined. Since the depressant effects of antihistamines are additive to those of other drugs affecting the CNS, patients should be cautioned against drinking alcoholic beverages or taking hypnotics, sedatives, psychotherapeutic agents or other drugs with CNS depressant effects during antihistaminic therapy.

Adverse Effects: In some patients, drowsiness, dizziness, dry mouth, nausea and vomiting or mild stimulation may occur.

Overdose: Symptoms: Narcosis is usually present, sometimes associated with convulsions. Tachycardia, pupillary constriction, nausea, vomiting and respiratory depression can occur.

Treatment: If respiration is severely depressed, administer the narcotic antagonist, naloxone. Adults: 400 µg by i.v., i.m. or s.c. routes and repeated at 2 to 3 minute intervals if necessary. Children: 10 µg/kg by i.v., i.m. or s.c. routes. Dosage may be repeated as for the adult administration. Failure to obtain significant improvement after 2 to 3 doses suggests that causes other than narcotic overdosage may be responsible for the patient's condition.

If naloxone is unsuccessful, institute intubation and respiratory support or conduct gastric lavage in the unconscious patient.

Dosage: Children 2 to under 6 years: 2.5 mL 4 times a day. Children 6 to under 12 years: 5 mL or ½ tablet 4 times a day. Adults and children 12 years and older: 10 mL or 1 tablet 4 times a day.

Supplied: Expectorant: Each 5 mL of clear, orange, syrupy liquid with a mixed fruit odor contains: triprolidine HCl 2 mg, pseudoephedrine HCl 30 mg, guaifenesin 100 mg, codeine phosphate 10 mg. Available in 100 mL and 2 L bottles.

Syrup: Each 5 mL of clear, dark red, syrupy liquid with a pineapple odor and a sweet black currant flavor contains: triprolidine HCl 2 mg, pseudoephedrine HCl 30 mg and codeine phosphate 10 mg. Available in 100 mL and 2 L bottles.

Tablets: Each white to off-white, biconvex tablet, code number WELLCOME P48 on same side as diagonal score mark, contains: triprolidine HCl 4 mg, pseudoephedrine HCl 60 mg and codeine phosphate 20 mg. Each tablet is equivalent to 10 mL of syrup. If tablet is broken in half, it reveals a yellow core. Bottles of 10 and 50 tablets.

Additional prescribing information available on request.

*Trade Mark W-611

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WELLCOME MEDICAL DIVISION
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KIRKLAND, QUE.

Prehospital Defibrillation

PHYSICIAN CONSIDERATIONS

M.F. Murphy,* MD, FRCPC and D.E. Sinclair,** MD, CCFP(EM), FRCPC

Halifax, N.S.

The development of efficient and effective Emergency Medical Services Systems (EMSS) through the 1970s and 80s has led to significant improvements in survival following acute cardiac "events" where those systems exist. In concert with "systems developments", technical developments have been impressive, with production of automatic defibrillators over the past few years. The addition of such technical apparatus to established systems has been shown to lead to improved survival from sudden cardiac death.¹⁻⁵ The apparent safety of these devices and their ease of operation are compelling factors motivating keen prehospital care personnel and physicians to advocate their proliferation and use in the field.

It is important for physicians, who are or wish to become involved in prehospital defibrillation programs or any other delegated medical act for that matter, to be cognizant of the issues surrounding the process.

The first of these issues is *need*. In other words, "Will the addition of these devices improve survival in our local setting?" Generally speaking, several major factors impact on the utility of these devices, such as: bystander CPR, time to system activation, response time, operator facility with the device, and others. For instance, it appears from the literature that resuscitation beyond 10 minutes of down time is unlikely.⁵ On the other hand, rural services must travel long distances with victims suffering chest pain in the ambulance. The prophylactic application of the automatic defibrillator, should this victim suddenly arrest, may mean a life saved. This has not been investigated.

The second issue is *risk to the patient*. It is the authors' opinion that the checks and balances built into these devices make them exceedingly safe, until the operator bypasses these safety features; which opens the door to allow defibrillation by a potentially untrained operator. The medical and/or legal liabilities are obvious.

The third issue relates to the *need for documentation*. Documentation of events must be extensive and complete, subject to external review, and is essential in establishing whether or not such a program is of benefit.

A final issue is *legal liability of the physician*. CMPA receives inquiries about such programs from time to time and should be contacted by the individual physician contemplating becoming involved in such a program. In general, several points need to be emphasized:

1. That the personnel to be utilizing the equipment be accredited by an approved program (e.g., Provincial Ambulance Operators Association, EMA-1).
2. That these personnel have adequate *physician quided* training with the device; and appropriate retraining to ensure skill retention.
3. That there is ongoing medical supervision of these personnel. This is called "medical control" and is of two varieties:
 - a) Administrative control, i.e., the physician has input into which personnel are permitted to use the equipment; recertification and the consequences of not doing so; and discipline. As can be seen this implies a *formal* agreement with the *private* ambulance operator.
 - b) Clinical Control. This is of two varieties: "on-line" and "off-line". Off line control is prospective (i.e., written protocols and procedures) and retrospective (i.e., review and critique of individual "run" reports). "On line" control implies that a physician, or group of physicians, is willing to be involved in the day to day, moment to moment, supervision of the program. Generally, this involves being able to field telephone requests for instruction or clarification of procedure or policy and is *not* onerous, provided "off-line" control is done well.
4. Obtain some assurance that the Provincial Medical Board feels that delegating this medical act is reasonable in a particular setting, with specific controls.
5. Be certain that the employees of the ambulance company you are dealing with have liability coverage; and understand the details of this policy.
6. Be certain that the manufacturer of the machinery provides liability coverage in the event of equipment failure or malfunction.

The lack of a central agency coordinating all aspects of EMSS has led to confusion among physicians in Nova Scotia about where to turn to for help and advice when they wish to become involved in prehospital care matters. The Section of Emergency Medicine of the Society is actively engaged in producing a proposal that would create such an EMSS agency. Physician involvement and support is crucial and essential in fostering the development of Emergency Medical Services Systems in Nova Scotia.

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In summary, the authors feel that several criteria must be satisfied to allow for *effective* and *safe* delegation of medical acts (such as defibrillation) to the field.

1. Medical control (including physician time and funding).
2. Documentation and review.
3. Liability assurance.

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Physicians wishing further information should feel free to write:

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PRESCRIBING INFORMATION

ZANTAC TABLETS (ranitidine hydrochloride)

Pharmacological Classification

Histamine H₂ - receptor antagonist

Indications and Clinical use

Zantac Tablets are indicated for the treatment of all conditions where a controlled reduction of gastric secretion is required for the rapid relief of pain and/or ulcer healing. These include duodenal ulcer, benign gastric ulcer and reflux oesophagitis.

Contraindications - Zantac is contraindicated for patients known to have hypersensitivity to the drug.
Warnings - **Gastric ulcer** - Treatment with a histamine H₂ - antagonist may mask symptoms associated with carcinoma of the stomach and therefore may delay diagnosis of the condition. Accordingly, where gastric ulcer is suspected the possibility of malignancy should be excluded before therapy with Zantac is instituted.

Precautions - **Use in pregnancy and nursing mothers** - The safety of Zantac in the treatment of conditions where a controlled reduction of gastric secretion is required during pregnancy has not been established. Reproduction studies performed in rats and rabbits have revealed no evidence of impaired fertility or harm to the foetus due to Zantac. If the administration of Zantac is considered to be necessary, its use requires that the potential benefits be weighed against possible hazards to the patient and to the foetus. Ranitidine is secreted in breast milk in lactating mothers but the clinical significance of this has not been fully evaluated.

Use in impaired renal function - Ranitidine is excreted via the kidney and in the presence of severe renal impairment plasma levels of ranitidine are increased and prolonged. Accordingly, in the presence of severe renal impairment clinicians may wish to reduce the dose by one half.

Children - Experience with Zantac Tablets in children is limited and such use has not been fully evaluated in clinical studies. It has however been used successfully in children aged 8-18 years in doses up to 150 mg twice daily without adverse effect.

Interactions with other drugs - Although ranitidine has been reported to bind weakly to cytochrome P450 in vitro, recommended doses to the drug do not inhibit the action of the cytochrome P450-linked oxygenase in the liver. There are conflicting reports in the literature about possible interactions between ranitidine and several drugs, the clinical significance of these reports has not been substantiated. Amongst the drugs studied were warfarin, diazepam, metoprolol and nifedipine.

If high doses (2g) of sucralfate are co-administered with ranitidine the absorption of the latter may be reduced. This effect is not seen if sucralfate is taken after an interval of 2 hours.

Adverse Reactions - Headache, sometimes severe, rash, dizziness, constipation, diarrhoea and nausea have been reported in a very small proportion of drug-treated patients but these also occurred in patients receiving placebo. A few patients on re-challenge with Zantac have had a recurrence of skin rash, headache or dizziness. Rare reports of bradycardia have occurred. Rare cases of reversible mental confusion and hallucinations have been reported, predominantly in severely ill and elderly patients. There have been a few reports of reversible blurred vision suggestive of a change in accommodation.

Some increases in serum transaminases and gamma-glutamyl transpeptidase have been reported which have returned to normal either on continued treatment or on stopping Zantac. In placebo controlled studies involving nearly 2,500 patients, there was no difference between the incidence of elevations of SGOT and/or SGPT values in the Zantac treated or placebo treated groups. There have been occasional reports of reversible hepatitis (hepatocellular, hepatocellular or mixed) with or without jaundice. Hypersensitivity reactions (urticaria, angioneurotic oedema, bronchospasm, hypotension) have been seen rarely following the parenteral and oral administration of Zantac. These reactions have occasionally occurred after a single dose.

Reversible blood count changes (leucopenia, thrombocytopenia) have occurred in a few patients. Rare cases of agranulocytosis or of pancytopenia sometimes with marrow hypoplasia have been reported. Other haematological and renal laboratory tests have not revealed any drug related abnormalities. No clinically significant interference with endocrine or gonadal function has been reported. There have

been a few reports of breast symptoms (swelling and/or discomfort) in men taking ranitidine; some cases have resolved on continued treatment.

Symptoms and Treatment of Overdose - No particular problems are expected following overdose with Zantac. Symptomatic and supportive therapy should be given as appropriate. If need be, the drug may be removed from the plasma by haemodialysis.

Dosage and Administration - **Adults**: Duodenal ulceration, benign gastric ulceration, or reflux oesophagitis: 300 mg once daily at bedtime.

It is not necessary to time the dose in relation to meals. In most cases of duodenal ulcer and benign gastric ulcer, healing will occur in four weeks. In the small number of patients whose ulcers may not have fully healed, these are likely to respond to a further course of treatment.

Patients who have responded to this short term therapy, particularly those with a history of recurrent ulcer, may usefully have extended maintenance treatment at a reduced dosage of one 150 mg tablet at bedtime.

To help in the management of reflux oesophagitis, the recommended course of treatment is one 300 mg tablet once daily at bedtime or one 150 mg tablet twice daily for up to 8 weeks.

Children: Experience with Zantac in children is limited and it has not been fully evaluated in clinical studies - see **Precautions**.

Availability - Zantac Tablets are available as white film-coated tablets engraved ZANTAC 150 on one face and GLAXO on the other, containing 150 mg ranitidine (as the hydrochloride), in packs of 30 and 60 tablets.

Zantac Tablets are also available as white, capsule shaped, film-coated tablets engraved ZANTAC 300 on one face and GLAXO on the other, containing 300 mg ranitidine (as the hydrochloride), in packs of 30 tablets.

Zantac Injection is available as 2 mL ampoules each containing 50 mg ranitidine (as the hydrochloride) in 2 mL solution for intravenous or intramuscular administration. Packages of 10 ampoules.

Product Monograph available on request.

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A Modified Technique for Abdominal Hysterectomy

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Thirty cases of abdominal hysterectomy are presented to review the results of a new technique in operative surgery using the recently developed GIA 90 stapling device (Auto Suture, Surgical Corp. US). This technique reduced the operating time of the procedure and resulted in less morbidity when compared with the conventional technique of operative abdominal hysterectomy. The application of this technique to abdominal surgery further standardises the approach to hysterectomy and significantly decreased the post-operative stay in hospital.

The surgical technique of abdominal hysterectomy has changed very little in the past two decades. In an effort to reduce the incidence of post-operative contamination by opening the vaginal vault during hysterectomy, surgeons have increasingly utilized the technology of surgical stapling in closure of the vaginal vault before excision of the cervix uteri.

Many reports have been published on this subject.^{1,2,3} In order to minimize the extent of abdominal discomfort and the risk of associated bleeding surgeons have more recently utilized the Auto stapling devices for division of the adnexial tissue.^{4,5} In recent times it has been an increasing practice to utilise a synthetic dissolvable staple (Auto suture, polysorb U.S. Surgical Corporation). In this article I describe the use of GIA 90 cutting and stapling device to assist the surgical refinement of abdominal hysterectomy.

PROCEDURE

The usual Pfannenstiel incision is made and the uterus is clamped at the fundus with a bivalved clamp. The utero-vesical peritoneal fold is divided to permit the bladder to be dissected off the cervix and upper vagina. The re-loadable GIA 90 stapler is easily placed across the ovarian ligament, fallopian tube and round ligament. The design of this instrument allows for varying tissue thicknesses found in the structures of the adnexa. This instrument allows both the pelvic and uterine side to be haemostatically closed with the fine stainless steel staples, while a knife blade simultaneously divides the tissue. The use of clamps is eliminated.

In some cases, it is usually essential to divide the cardinal and uterosacral ligaments manually prior to the stapling of the vaginal vault with Polysorb TA 55 staples. However, in most cases with a normal sized uterus, the GIA 90 is of sufficient length to divide the

utero-sacral and cardinal ligaments and to automatically divide and ligate these structures.

The cervix and upper vagina are now prepared for application of the TA 55 PREMIUM instrument with POLYSORB staples (Auto Suture, Surgical Corp, US). Placement of the instrument beneath the cervix is simple; the instrument slides down on the side of the uterus until the open jaws reach the cervix. The instrument is then turned through 90 degrees towards the operator and the wide open cartridge will slip into place easily. Traction is maintained on the fundus of the uterus as the locking mechanism of the polysorb staples is closed. After the instrument has been fired, the vaginal vault is divided with a scalpel close to the cartridge edge. Closure of the pelvic peritoneum need not always be performed since there is little tendency for adhesions to form on the flat pedicles.

RESULTS

The majority of the operations performed in our series were for dysfunctional bleeding and cervical dysplasia. A total of 30 abdominal hysterectomies were performed using this technique, and the types of operations performed in all groups were similar. Utero-salping-oophorectomy was not performed.

Post-operative morbidity was defined as a temperature elevation over 100.4 degrees on any two days. Five patients in the post-operative days developed pyrexia; however, these temperatures settled spontaneously. There were no post-operative wound infections. The effect of stay in hospital was defined as the day the patient was discharged post-operatively. The post-operative stay in hospital ranged from two to five days (mean of three days). The utilization of regional anesthesia also decreased the use of narcotic agents post operatively.

DISCUSSION

During the course of an abdominal hysterectomy, the opening of the vaginal vault when excising the cervix allows the contents of the vagina to gain entrance into the peritoneal cavity.

No disinfectant can completely sterilize the vagina of its normal flora. By closing the vault of the vagina before removing the cervix, the surgeon can minimize the amount of bacterial contamination of the pelvis.

The amount of avascular tissue remaining in the pelvis after an abdominal hysterectomy is less when staples are used, as the tissues are transected almost flush with the row of staples. This contrasts with the relatively large avascular pedicles when conventional suturing is

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used.⁶ The stapling technique is easily learned and can quickly reduce the operating time for hysterectomy. This technique ensures closure of the vagina prior to resection, essentially eliminating the potential for contamination of the peritoneal cavity.

The vaginal vault heals very cleanly using absorbable staples. Minimal or no granulation tissue is seen during the post-operative course. It has been my experience that stapled patients seem to fare better post-operatively. This may have something to do with the reduction in operating time, less manipulation of the tissues, and less bunching of pedicles.

On post-operative examination, the vaginal vault is almost always intact and staple extrusion seldom occurs. One can occasionally feel deep or extruded staples at the six week post-operative period.

The early discharge from hospital in our series, with the associated lower morbidity and decreased febrile morbidity, is similar to the favourable results achieved by others using stapling devices. The results of this study suggest that by minimizing pelvic contamination and residual avascular pedicles in abdominal hysterectomies, the hospital and post-operative course of the patient can be significantly improved.⁷

SUMMARY

A technique is described wherein the uterine adnexiae are haemostatically divided using the new GIA 90 Auto Suture stapling device, and the vaginal vault is closed with absorbable staples before the cervix is excised. The resulting minimal contamination of the pelvis and small avascular pedicles improves the post-operative course of the patient. □

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COMPLETE PRESCRIBING INFORMATION

Pr AXID[®] Lilly

Nizatidine Histamine H₂ Receptor Antagonist

Pharmacology: Nizatidine is a competitive, reversible inhibitor of the binding of histamine to the histamine H₂ receptor of gastric acid secreting cells. Nizatidine is not an anticholinergic agent. It inhibits nocturnal gastric acid secretion and gastric acid secretion stimulated by food, caffeine, betazole and pentagastrin. Pepsin output is reduced in proportion to the reduced volume of gastric secretions. Nizatidine has little or no effect on basal serum gastrin or food induced hypergastrinemia. Nizatidine is absorbed rapidly after oral administration. Peak plasma concentrations occur from 0.5 to 3 hours after the dose. The absolute oral bioavailability of nizatidine exceeds 90%. Approximately 35% of nizatidine is bound to plasma protein, primarily α 1-glycoprotein. This binding is not influenced by other drugs such as warfarin, diazepam, acetaminophen, propranolol, or phenobarbital. Approximately 90% of an oral dose of nizatidine is excreted in the urine within 12 hours. About 60% of an oral dose and 77% of an i.v. dose of nizatidine is excreted as unchanged drug. The elimination half-life is 1 to 2 hours and the systemic plasma clearance is about 50L/hour. The volume of distribution is 0.8 to 1.5 L/kg. Since nizatidine is primarily excreted in the urine, renal impairment significantly prolongs the half-life and decreases the clearance of nizatidine. In anephric individuals with creatinine clearance less than 10mL/min, the half-life is 3.5 to 11 hours, and the plasma clearance is 7 to 14L/hour. The dose should be adjusted in patients with moderate or severe impairment of renal function (see Dosage). The pharmacokinetic profile for nizatidine in the elderly was not significantly different from the profile in younger normal subjects. Gastric acid suppression correlates directly with nizatidine doses from 75 to 350 mg. Oral doses of 100 mg or 1.3 mg/kg suppressed gastric acid secretion in sham fed volunteers for 3 hours after the dose. The duration of acid suppression directly correlates with the nizatidine dose. 300 mg nizatidine suppressed acid secretion almost entirely early in the day, and the suppression persisted about 10 hours. Nocturnal acid was suppressed for 10 to 12 hours after 300 mg nizatidine. Treatment for up to 2 weeks with nizatidine 600 mg daily did not influence the serum concentrations of gonadotropins, prolactin, growth hormone, antidiuretic hormone, cortisol, triiodothyronine, thyroxine, testosterone, 5 α -dihydrotestosterone, androstenedione or estradiol.

Drug Interactions: No interactions have been observed between nizatidine and theophylline, chlorzazepoxide, lorazepam, lidocaine, and warfarin. Nizatidine does not inhibit the cytochrome P-450-linked drug-metabolizing enzyme system; therefore, drug interactions mediated by inhibition of hepatic metabolism are not expected to occur.

Indications: Nizatidine is indicated in the treatment of conditions where a controlled reduction of gastric acid secretion is required for ulcer healing and/or pain relief. Conditions include acute duodenal ulcer, acute benign gastric ulcer, and prophylactic use in duodenal ulcer.

Contraindications: Patients with known hypersensitivity to the drug.

Precautions: Gastric ulcer: Where gastric ulcer is suspected the possibility of malignancy should be excluded before therapy with nizatidine is instituted.

Pregnancy and Lactation: Safety of nizatidine during pregnancy has not been established. Reproduction studies performed in rats and rabbits at doses up to 300 times the human dose have revealed no evidence of impaired fertility or teratogenicity. If the administration of nizatidine is considered to be necessary, its use requires that the potential benefits be weighed against possible hazards to the patient and the fetus. Nizatidine is secreted in the milk of lactating rats. It is assumed to be secreted in human milk and caution should be exercised when nizatidine is administered to nursing mothers.

Impaired Renal Function: As nizatidine is excreted via the kidney, dosage should be adjusted in patients with moderately or severely impaired renal function (see Dosage).

Hepatic Dysfunction: Nizatidine is partially metabolized in the liver; however, in patients with uncomplicated hepatic dysfunction, disposition of nizatidine is similar to that of normal subjects.

Geriatrics: Ulcer healing rates in elderly patients are similar to those in younger age groups. The incidence rates of adverse events and laboratory test abnormalities are also similar to those seen in other age groups. Age alone is not an important factor in the disposition of nizatidine. Elderly patients may have reduced renal function (see Dosage).

Children: Safety and effectiveness of nizatidine in children has not been established.

Adverse Effects: In double-blind, placebo-controlled clinical trials in over 2,300 patients, the overall incidence of adverse events reported by patients treated with nizatidine was no greater than in the placebo group. Clinical pharmacology studies and controlled clinical trials showed no evidence of antiandrogenic activity or other adverse hormonal effects.

Headache, asthenia, chest pain, myalgia, abnormal dreams, somnolence, rhinitis, pharyngitis, cough and pruritus were reported with a slightly higher frequency by nizatidine-treated patients than by the placebo group. A relationship to nizatidine administration has not been established. Excessive sweating may be related to administration and has been reported by 1.1% of patients.

Laboratory Values: Patients treated with placebo and those receiving nizatidine therapy had mild, transient, asymptomatic elevations of transaminases; rare instances of marked elevations (>500 IU/L) occurred in nizatidine-treated patients, although causality has not been established. These abnormalities were asymptomatic and readily reversible after discontinuation of the drug. Other laboratory variables which were statistically different from placebo in the nizatidine-treated group, include serum cholesterol, serum uric acid, platelet count, serum creatinine, and white blood cell count. The clinical significance of these differences is not clear.

Laboratory Tests: False positive tests for urobilinogen with Multistix[®] may occur during therapy with nizatidine.

Overdose: Treatment: There is no clinical experience with deliberate overdose of nizatidine in humans. Should overdose occur, the usual measures to remove unabsorbed material from the gastrointestinal tract should be employed along with clinical monitoring and supportive therapy. The amount of nizatidine absorbed from the gastrointestinal tract can be reduced by activated charcoal.

Dosage: Duodenal or Gastric Ulcer: One 300 mg capsule or two 150 mg capsules once daily at bedtime. Treatment should be given for 4 to 8 weeks, but the duration of the treatment may be shortened if healing can be documented. Healing occurs within 4 weeks in most cases of duodenal ulcer.

Maintenance Dosage in Duodenal Ulcer: One 150 mg capsule once daily at bedtime for 6 to 12 months depending on the severity of the condition. Antacids may be given concomitantly if needed.

Dosage Adjustment in Renal Impairment:

Renal Function	Creatine Clearance (mL/min)	Dosage	
		Acute	Maintenance
Normal	>50	300 mg/day	150 mg/day
Moderate Impairment	20-50	150 mg/day	150 mg/2nd day
Severe Impairment	<20	150 mg/2nd day	150 mg/3rd day

Supplied:

300 mg: Each pale yellow and brown Pulvule 3145 contains nizatidine 300 mg. Bottles of 30 and 100.

150 mg: Each pale yellow and dark yellow Pulvule 3144 contains nizatidine 150 mg. Bottles of 30.

Product monograph available on request.

New Product 1987.

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6. AXID[®] Product Monograph.



Eli Lilly Canada Inc.
Scarborough, Ontario

Operative Pelviscopy in a Peripheral Hospital

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A series of 250 cases is presented as a retrospective study on the laparoscopic procedures performed in a district community hospital. This was a critical analysis of the role of ambulatory surgery and the possible benefits to the patient population in this region. The majority of the procedures were diagnostic laparoscopic investigations and laparoscopic tubal ligations. Four cases of appendectomy were performed using operative pelviscopy, four cholecystectomies using the laparoscopic technique, and fifty patients underwent laparoscopic adhesiolysis for intraperitoneal and pelvic adhesions. The remaining cases were diagnostic laparoscopy and four cases of pancreatic biopsy and liver biopsies.⁴

There was a high index of patient satisfaction and very few complications using this form of surgery.

In the past decades¹ laparoscopic surgery has found numerous therapeutic applications. Its many advantages over laparotomy have prompted its use by many gynaecologists. Semm², Gomei³ and Fayed⁴ have stressed its indication for the treatment of periadnexial adhesions. Sterilization is the commonest single indication for therapeutic laparoscopy in the United Kingdom, about 30,000 operations being performed each year.⁵

This article presents an experience with the first 250 consecutive laparoscopic procedures performed in a District community Hospital.

MATERIALS AND METHODS

Two hundred and fifty procedures were performed from August 1, 1987 to April 1, 1989. These were the first laparoscopic procedures performed in this Hospital coinciding with the appointment of a new surgeon. The total number of laparoscopic tubal ligations was 80. The division of periadnexial adhesions comprised 10% of the laparoscopic procedures. Four patients had laparoscopic cholecystectomy and four laparoscopic appendectomies were performed.

The following instrumentation is used: a carbon dioxide insufflator (Karl Storz), a wide angled laparoscope, a 7mm surgiport (Auto Suture USA) for the introduction of coagulator, an 8mm surgiport for the introduction of Filshie clip applicator, and an atraumatic grasping forceps. After abdominal exploration with the wide angled laparoscope, depending upon the procedure, the following steps were taken: in the case of

laparoscopic tubal ligations the Filshie clip is loaded to the applicator and applied to the fallopian tube after manipulation to correctly identify a position 1-3 cm from the body of the uterus. In 10 cases of tubal ligation Marcaine® 0.5% (2.5ml) was injected under direct vision into the mesosalpinx in the area of the clip application.

Pancreatic aspiration cytology was performed using a Chiba needle which penetrates the wall of the stomach and is guided by the laparoscope into the pancreatic lesion. Suction by the syringe is maintained as the needle traverses the lesion. The needle is withdrawn and smears are prepared. A similar technique is used in liver biopsy procedures.

A suction coagulator is used to puncture ovarian cysts and aspirate blood or fluid from the cavity of the ovarian cysts. Marcaine® 0.5% (2.5 ml) is infiltrated into the insertion wounds post-operatively, the patient is transferred to the recovery room where a cardiac monitor is observed for 30 minutes to detect arrhythmias. Pain levels were monitored in all cases. Each patient was discharged home on the day of surgery.

A randomized selection of patients (10 cases) who underwent tubal ligation were assessed for tubal occlusion using hysterosalpingogram 6 weeks after surgery. Thirty cases were performed under local anaesthesia and sedation.

RESULTS

The age range of patients in this series was from 18 to 89 years (mean was 29 years). There were no post-operative deaths, four patients were hospitalized overnight because of nausea and vomiting but were discharged the following day. Five patients complained of post-operative pain by telephone to the surgeon's office in the first two days of the operative period. One 65 year old lady developed paroxysmal ventricular complexes during the laparoscopic procedure, all of which ceased spontaneously after anaesthesia. Extra peritoneal carbon dioxide leakage occurred in five cases, detected at the time of operation and for the most part, this occurred in obese patients. No post operative morbidity occurred in this group of patients.

There was no incidence of bowel trauma using cautery in adhesiolysis or fallopian tubal ligations. There were no failures in this series.

DISCUSSION

This retrospective study in a District General Hospital was conducted as a critical analysis of a new dimension to one-day surgery in this region. Patients involved in this program have their procedures explained orally and graphically by the surgeon and attending nursing staff,

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prior to the event. The patients are assessed pre-operatively by the anaesthetist and, when there are no contraindications, they are admitted to an outpatient ward to await surgery. None of the patients involved wished for admission to hospital, although five patients found it necessary to contact either the surgeon or their own general practitioner for post-operative pain relief.⁶

Trans-abdominal anaesthetic infiltration of the mesosalpinx during laparoscopic tubal sterilization provided significant relief from pain in the post-operative period. There were no complications from any of the solutions infiltrated. A significant reduction in narcotic analgesic requirements during recovery was achieved, and the result was less nausea and respiratory depression, and a shorter sedation period. Post-operative pelvic distress, previously of major concern to the ambulatory patient was significantly decreased.⁷

There were no pregnancies reported in the twenty month period since the initiation of laparoscopic tubal ligations using either the Filshie clip or coagulation technique. All post-partum sterilizations were delayed for 4 weeks after delivery to allow tissue oedema to subside.⁸ Even though this is a preliminary study since, 80% of such pregnancies occur within two years, it is reasonable to anticipate an excellent result in this series.⁹

CONCLUSION

A critical appraisal of this program of ambulatory surgery in a District General Hospital yields noteworthy results and a high index of patient satisfaction; of particular significance is the low incidence of complications. Pelvic infection subsequent to laparoscopic sterilization was negligible. Even though there were no thermal injuries sustained I now feel that the use of Filshie clip sterilization is more appropriate especially when one considers the younger age group of patients on which these procedures are being performed, thus increasing the possibility of reversal of sterilization.

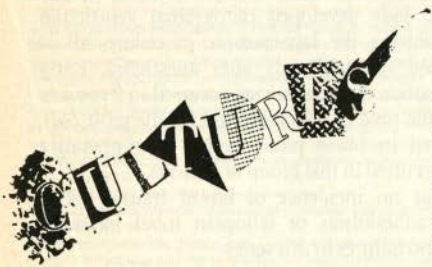
Finally, these results are in agreement with and are in fact more favorable than those produced by the American association of Gynaecological Laparoscopists (AAGL).¹⁰ This laparoscopic procedure also enhances the diagnostic ability of surgeons in peripheral hospitals.

SUMMARY

A review of the results of operative pelviscopy is described. A series of 250 cases is presented including laparoscopic appendectomy, laparoscopic cholecystectomy and tubal ligations. The results of a program of ambulatory surgery have been extremely satisfactory. □

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Ambulatory Surgery of Common Anal Problems

Marcus Burnstein,* MD, FRCSC and Wilbert Henderson,* MB, FRCSC

Halifax, N.S.

Most common anal problems require either non-operative treatment, or an operation which can be carried out in an ambulatory setting — in the office or in an out-patient operating facility. In this article, the authors will review the ambulatory surgery of hemorrhoidal disease, chronic anal fissure, and anal abscess-fistula.

HEMORRHOIDAL DISEASE

The upper anal canal has three sites of thickened submucosa containing arterioles, venules and arterio-venous communications. These three vascular "cushions" are in the left lateral, right anterior, and right posterior positions and are covered by columnar epithelium. These cushions are held in the upper anal canal by suspensory fibres from the adjacent muscular wall. Internal hemorrhoidal disease exists when the cushions prolapse following the disruption of their suspensory mechanism, and/or there is dilation of the veins and arterio-venous communications. The main symptoms of internal hemorrhoids are painless, bright red bleeding and protrusion. Mucus discharge and pruritus often accompany chronic protrusion.

Table I shows the staging of internal hemorrhoids. To a large extent, treatment is determined by stage. All patients should receive dietary advice, and an improvement in bowel habits is all that may be required for many patients with stage 1 disease. The rest of stage 1, stage 2, and some stage 3 disease can be managed in the office. Most stage 3 and 4 disease will require excisional hemorrhoidectomy.

The office procedures for internal piles share a common rationale: 1) application above the zone of somatic innervation, thereby avoiding the need for anaesthesia; 2) resuspension of the prolapsing tissue in the upper anal canal; and 3) devascularization of the tissue. The pre-eminent office treatment in North America is rubber band ligation. Other office or ambulatory procedures include infrared photocoagulation, cryosurgery, and injection sclerotherapy. While photocoagulation has its proponents, cryosurgery and sclerotherapy are vanishing from modern surgery.

Since its introduction over thirty years ago, rubber band ligation has become the procedure of choice for stage 1 and 2 internal piles. With an anoscope in place, and the patient bearing down slightly, the bulging

hemorrhoid is grasped near its apex, well above the dentate line and above the zone of sensory innervation. The pile is drawn — either by suction or by forceps — into the barrel of the ligator, which is then fired. Firing the ligator applies a strangulating rubber ring to the base of the pile. The incorporated tissue sloughs within a week, leaving an ulcer which heals within a month. Subsequent bandings can be scheduled at monthly intervals. We prefer one or two ligations per session, and we abandon the approach if there is insignificant improvement after 3 or 4 sessions.

Activity is not restricted after rubber band ligation. A high fibre diet with Metamucil and a softener are prescribed. Up to 30% of patients may have a transient (less than 24-48 hours) discomfort. This problem can be minimized by restricting the number of bandings per session to 1 or 2. Analgesics and tub baths provide relief.

TABLE I

STAGING AND TREATMENT OF INTERNAL HEMORRHOIDS

INTERNAL PILES - STAGE AND TREATMENT -		
	STAGE	THERAPEUTIC APPROACH
1 st	No prolapse	non-operative or office procedure
2 nd	Prolapse, spontaneous reduction	
3 rd	Prolapse, manual reduction	hemorrhoidectomy
4 th	Chronic prolapse	

The long term results of banding are good for stage 1 and 2 disease. At five years of follow-up, 70-80% are greatly improved or asymptomatic, and the results are equivalent whether banding has been done for prolapse or for bleeding. In selected third degree hemorrhoids, 60% have good long term results. Some residual symptoms are common.

Rubber band ligation is extremely safe and complications are rare. Bleeding from the residual ulcer may be significant in up to 1% of patients. Thrombosis of internal and external piles, band slippage, and urinary

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retention are rarely seen. Rare incidents of pelvic sepsis, secondary to infection of the necrotic tissue, have been described and, in approximately 6 reported cases, sepsis has been fatal. Symptoms of increasing pain or urinary retention, which may or may not be accompanied by signs of sepsis, must be promptly assessed.

Rubber band ligation should be withheld in certain settings: when an improvement in bowel habits is sufficient, as will be the case with most stage 1 disease, when there is a large external component, or an attempt at banding is painful, or when there is an associated fissure. Patients with Crohn's disease or immunodeficiency should have their piles left alone. Coagulopathy is a relative contraindication to banding. Large third and fourth degree hemorrhoids will not do well with this approach.

When excisional hemorrhoidectomy is indicated, we use a closed technique in which the wounds heal by primary intention in the great majority of cases. In our practices, excisional hemorrhoidectomy is infrequently an ambulatory procedure. Hospitalization is not because of anticipated complications — in fact, with the exception of urinary retention, which occurs in 10-20% of patients, complications are rare. Pain control is the main reason for an overnight stay or short admission to hospital. The frightening spectre of fecal impaction has caused us to keep many of our patients in full view until defecation has occurred, usually on the third or fourth day. However, selected patients can be discharged on day 1 or 2, after appropriate instruction regarding high fibre diet and tub baths. Narcotic analgesics will further increase constipation, and this must be checked by fibre supplements and stool softeners. As with any ambulatory or short-stay operation, the patients must be encouraged to call with any problems, and the surgeon must remain available.

ANAL FISSURE

This is a linear crack in the lining of the anal canal, extending from the dentate line to the anal verge. It is most commonly seen in young adults and presents as painful defecation. Bright red blood is often seen on the toilet paper and on the stool. Most fissures will be seen in the posterior midline on gentle separation of the buttocks.

The mainstay of therapy for an acute fissure is to achieve daily soft bowel movements. This will prevent tearing and relieve anal spasm allowing most acute fissures to heal within 1 to 2 weeks. Warm baths are soothing, cleansing, and they also reduce the spasm and encourage healing.

A chronic anal fissure is much less likely to respond to this approach. Chronicity is recognized not only by the persistence of symptoms, but by the characteristic appearance of the fissure, with fibrotic edges, exposed sphincter fibres, and the classic tag and hypertrophied anal papilla. If symptoms warrant, such a fissure should be treated operatively. The operation which has evolved for chronic fissure is lateral internal sphincterotomy.

This operation probably works for a number of reasons: 1) it allows increased anal diameter with decreased resistance to the passage of stool and decreased trauma to the anal canal; 2) it decreases resting anal tone and diminishes anal spasm; and 3) by performing internal sphincterotomy in the lateral quadrant, the groove defect and resultant seepage problem seen with fissurectomy and posterior midline sphincterotomy are avoided.

We perform a closed sphincterotomy in which the tiny wound does not require suturing. The patient is placed in the lithotomy position and given a general anaesthetic without intubation. With an anal retractor tensing the internal sphincter, the intersphincteric plane is entered with a skinny blade which is advanced to the level of the dentate line. The blade is turned toward the lumen of the anal canal and the fibres of the internal sphincter muscle are divided. The fissure itself is usually left alone, although the base may be curetted and the edges trimmed. If a tag or papilla is present, it is excised. The procedure takes less than 10 minutes.

Lateral internal sphincterotomy reliably achieves the goals of rapid symptom relief and fissure healing, with a low failure rate and minimal morbidity. Pain is relieved in 1 to 2 weeks, and the fissure heals in 2 to 3 weeks. The failure (non-healing) rate is under 10%. While bruising is common, infection is a problem in 1% or less. Transient continence deficits for flatus, or even stool, are reported in 0-10% of the patients. Permanent deficits are rare. It is an ambulatory procedure with minimal discomfort, minimal lost time from work (1 day) and with little post-operative care or follow-up.


It is a traditionally held belief that sphincterotomy will cause worsening of hemorrhoidal symptoms, and that if grade 2 or 3 piles are present, then sphincterotomy should be accompanied by hemorrhoidectomy. We agree with this view when advanced hemorrhoidal disease co-exists with a chronic fissure.

ABSCESS-FISTULA

Anorectal abscess and fistula are the acute and chronic phases, respectively, of the same disease. The disease begins as an infection in the anal glands, and initially presents as an abscess. When the abscess is operatively drained, or drains spontaneously, a communication exists between the gland of origin and the perianal skin, i.e. a fistula.

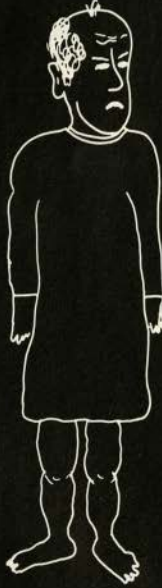
The infection begins in the plane between the internal and external anal sphincters where many of the anal glands terminate. The infection may remain in this "space", to produce the intersphincteric abscess, but more commonly, it tracks into adjacent spaces to produce the perianal or ischioanal abscess. Rarely, infection may track above the pelvic floor to produce the supralelevator abscess.

Steady or throbbing anal pain and the clinical signs of inflammation are generally present. However, with the intersphincteric abscess, there may be nothing to see, and the patient will be too tender to undergo examination. An examination under anaesthesia is mandatory if




PHYSICIAN

Proficiency	- technique - anesthesia
Office "Set-up"	- space, lighting, table - cautery, suction, ... - assistant / nurse - nearby toilet
Time	- OR vs. Office



PATIENT

motivation
proximity
general health



PROCEDURE

"Complication Index"
wound pain / care

this process is suspected. Infection in a large ischiorectal space may be associated with physical findings which are surprisingly subtle.

Management of the abscess consists of incision and drainage, and this can usually be accomplished under local anaesthesia in the office or Emergency room. To ensure adequate drainage, an elliptical or cruciate incision is made. Prolonged packing is avoided. For the 1/2 to 2/3 of patients who develop an anal fistula, a fistulotomy or laying-open of the tract is required. Although fistulotomy is usually carried out under a brief general anaesthetic, it is also an out-patient procedure in most instances. The wound heals secondarily. Non-healing or recurrence indicates failure to destroy the gland of origin or failure to deal with a side avenue of extension. In performing fistulotomy, utmost attention must be paid to the anatomic relationship between the fistula track and the sphincter mechanism. Excessive division of muscle can lead to partial or complete fecal incontinence.

OUT-PATIENT VERSUS IN-PATIENT

Once the decision has been made that a particular anal lesion needs "operative" attention, several factors determine whether the procedure is performed in the office or operating room, and whether on an ambulatory or in-patient basis. These factors relate to the patient, the physician, and the nature of the procedure (Figure 1).

When anaesthesia is not needed, the office setting is generally best for patient and doctor. When anaesthesia is required, the type of anaesthetic best suited to that particular patient will often determine where a procedure is performed. Infiltration techniques cannot only provide complete local anaesthesia, but when used correctly, excellent anal relaxation with exposure of the entire anal canal and distal rectum can be achieved. In other words, most anal operations can be performed under local anaesthesia. However, local anaesthesia alone is frequently unacceptable to patients; when sedation is added, we prefer the operating room setting, with its personnel, monitoring devices, and readily available recovery facility. Of course, regional and general anaesthetics are administered only in the operating room.

The "size" of the operation must be considered. While a single quadrant hemorrhoidectomy might be accomplished nicely in the office, a standard hemorrhoidectomy requires the lighting, retraction, assistance, and equipment not usually available outside the operating room.

As discussed in reference to excisional hemorrhoidectomy, the post-operative discomfort associated with the procedure, or the nature of specific complications, may mandate an overnight stay or a longer hospital admission. Similarly, the patient's poor general health or distance from hospital may favour an in-patient approach.

Fig. 1 Factors determining In-Patient or Out-Patient Operative Therapy

Continued on page 114.

Current Topics in Community Health

Selected by: Dr. Lynn McIntyre
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NOVA SCOTIA YOUTH AND AIDS

The *Canada Youth and AIDS* study evaluated the knowledge, attitudes and behaviour of over 38,000 Canadian youth (aged 11-21) with respect to AIDS and other sexually transmitted diseases. The young people represented grades 7, 9 and 11 and first year college/university students. Also included in the target groups were those who had recently dropped out of secondary school and youth who spent most of their time on the streets of large cities. The Nova Scotia report of this survey analyses youth in grades 7, 9, and 11 only. Nova Scotia youth who were in grade 7, 9 and 11 were slightly older than their Canadian counterparts on average. This reflects the slightly older age at which students enter school in Nova Scotia compared to the rest of Canada.

Family Relations and Self-Esteem

Approximately three-quarters of Nova Scotia youth in the three grades lived with both parents (similar to the Canadian average). A lower proportion of youth in Nova Scotia showed a positive relationship with their parents in some respects than other Canadian youth; fewer Nova Scotia youth than those in Canada asked their parents for advice on serious matters and fewer reported having understanding parents.

Measures of self-esteem showed that, compared with their Canadian counterparts, more Nova Scotia Grade 7s reported having trouble making decisions (41% in Nova Scotia compared with 34% in Canada) and slightly fewer of the province's Grade 9s and 11s reported having self-confidence (NS Grade 9, 80% compared with Can 84%, NS Grade 11, 81% compared with Can 85%). The majority of youth in Canada and Nova Scotia exhibited positive indications of mental health, however, more Grade 7s and 11s in Nova Scotia compared with those in

Canada often could not sleep worrying about things. [This is similar to findings of the *Canada Health Attitudes and Behaviour Survey: 9, 12 and 15 Year Olds* published in 1985].

Alcohol, Cigarette and Cannabis Use

Not unexpectedly, more older than younger adolescents consumed alcoholic beverages and more of the older ones who drank did so more frequently. While slightly fewer Grade 11s in Nova Scotia than in Canada drank alcohol, when NS Grade 11s did drink they were more likely than their Canadian counterparts to have three or more drinks of alcohol at any one time. Use of tobacco and cannabis was similar for Nova Scotian and Canadian youth. (Table I)

Knowledge of AIDS and STDs

Grade 7 and 11 students in Nova Scotia on average knew as much about AIDS as Canadian youth overall. The province's grade 9s were the most knowledgeable about AIDS in comparison with their peers in other provinces. Slightly more than one-half of Canadian youth worried about getting AIDS but only 15% of the grade 11s in Nova Scotia and Canada said that this fear was keeping them from engaging in sexual intercourse. Young people in Nova Scotia on average knew as much about STD's as did Canadian youth overall. Nearly 60% of Canadian youth, regardless of age including those in Nova Scotia, believed their chances of catching an STD were low.

Attitudes

More grade 7 students in Nova Scotia than in any other province or territory believe that people who have the AIDS virus should be allowed to attend school. The

TABLE I

ALCOHOL, CIGARETTE AND CANNABIS USE IN NOVA SCOTIAN AND CANADIAN YOUTH (GRADES 7, 9, 11)

	GRADE	ALCOHOL		CIGARETTE USE	CANNABIS USE AT LEAST ONCE A MONTH
		Never	About Once A Month		
Nova Scotia	7	57	37	10	3
Canada		54	40	8	3
Nova Scotia	9	27	53	20	12
Canada		24	51	20	13
Nova Scotia	11	17	48	24	21
Canada		13	43	25	21

* Modified from *Canada Youth and AIDS Study & Nova Scotia Report* (1989), 1988.

majority of Canadian youth would restrict the rights of HIV-infected people to have contact with the public; furthermore, approximately one-fifth of Canadian youth would go so far as to quarantine people who have AIDS. In comparison to their Canadian counterparts, more Nova Scotia Grade 7s and 9s viewed homosexuality as wrong.

The proportion of Nova Scotia Grade 11 students who would be embarrassed to buy condoms was higher than for those in Canada. Nova Scotians were similar to other Grade 11s in Canada in believing that carrying condoms signifies a willingness to have sex.

Sixty-three percent of Grade 7, 72% of Grade 9, and 76% of Grade 11 Nova Scotia students agreed with the statement that "It is all right for two people to have sex before marriage if they are in love". This is similar to Canadian figures and indicates that Canadian youth generally accept pre-marital sex within a loving relationship. How a loving relationship is defined, however, is unclear.

Table II shows the frequency of sexual activity for Nova Scotia and Canadian youth. The majority of Grade 7s have engaged in some preliminary sexual activity and Nova Scotians score higher at all age groups

for this activity. Forty-two percent of sexually active Nova Scotia youth had had 2 to 5 partners and 17% had 6 or more partners. This is similar to Canadian figures.

Implications of the Study

It is clear that despite knowledge about AIDS, Canadian youth appear to behave in ways that put them at risk. Young people have not internalized the risks that AIDS poses for them and continue to practice potentially dangerous activities such as drinking, drug use and sexual experimentation.

Young people need information that is current, complete, clear, accurate, and explicit. Personal contact with HIV-infected people is recommended in the report to soften their attitudes towards those affected by the disease. Youth need training in responsible decision-making and since sexual experimentation will continue, youth need to be educated about a range of sexual behaviours that encompass safer sex.

Source: King AJC, Beazley RP, Warren WK, Hankins CA, Robertson AS, Radford JL. *Canada Youth and AIDS Study & Nova Scotia Report* (1989). Ottawa: Health & Welfare Canada, 1988.

TABLE II
SEXUAL ACTIVITY AMONG NOVA SCOTIAN AND CANADIAN YOUTH (PERCENT) *

	GRADE	DEEP KISSING EVER	PETTING ABOVE WAIST EVER	PETTING BELOW WAIST EVER	SEXUAL INTERCOURSE EVER
Nova Scotia	9	77	76	65	32
Canada		73	68	57	25
Nova Scotia	11	87	86	81	56
Canada		84	81	74	47

* Modified from *Canada Youth and AIDS Study & Nova Scotia Report* (1989), 1988.

HYPERTENSION AWARENESS AND CONTROL HOW ARE WE DOING?

The recently released findings of the *Canadian Blood Pressure Survey* which was carried out in 1985 by the Department of National Health and Welfare show little change in knowledge, awareness and control of hypertension in Canadians since the Canada Health Survey was conducted in 1979. This survey is the first national survey designed specifically to assess the problems of high blood pressure in Canada. Its purpose was to determine the extent of public knowledge of high blood pressure as a risk factor as well as the prevalence of high blood pressure in the general population, the degree of control of those at risk, and treatment patterns and compliance.

The target population was non-institutionalized Canadian residents in the 10 provinces, 18 years of age and over. A probability sample of 3092 individuals, drawn from 1727 households was interviewed by registered nurses and two blood pressure measurements

were made, one before and after the interview. The overall response rate for the survey was 67%, comparing favourably with response rates obtained in other national surveys.

High blood pressure was defined as a diastolic blood pressure equal to or greater than 90 mm Hg (the mean of the two measurements) or being on medication, salt restriction or weight reduction program for the treatment of high blood pressure.

About one in five individuals had high blood pressure, and its prevalence was found to rise with age except for men where it seemed to plateau beyond age 45. The age-standardized prevalence rates appeared to be slightly lower in the west and lower among those with a higher level of education. (Table I)

One out of five men aged 45 to 64 had uncontrolled high blood pressure; this was double the rate found in women of the same age group. Table II shows that 57% of hypertensives did not have their blood pressure under control and 36% were unaware of their condition. Of those who were under treatment, 27% were uncontrolled.

TABLE I

PREVALENCE OF HIGH BLOOD PRESSURE*
(Percentage of Individuals)

TOTAL	Percent
	18
Male (age in yrs)	
18-44	11
45-64	31
>65	28
Female (age in yrs)	
18-44	6
45-64	25
>65	43
Region**	
West	15
Ont	17
Que	19
Atlantic	17
Education** (level in years)	
< 9	20
9-12	16
>12	15

* Diastolic BP equal to or greater than 90 mmHg, and/or on medication, salt restriction and/or weight reduction, specifically prescribed for blood pressure control.

** Age- and sex-standardized to the 1985 Canadian population.

Modified from: *Canadian Blood Pressure Survey, 1989.*

Virtually everyone had had their blood pressure measured at some time in the past, usually by a doctor or nurse. One in three reported that they were not given any information after their blood pressure was measured and only 1 in 8 was given the results in numbers. Individuals from Atlantic and Western Canada and those with higher education seemed more likely to be given some information.

There were significant gaps in the public's understanding of the terms "hypertension" and "high blood pressure" and of its causes, outcomes, symptoms, and treatment. Knowledge about hypertension was markedly associated with level of education but not with age, sex or region.

Among individuals who had been prescribed some form of treatment, about half had been placed on medication only and about 1 in 3 on medication plus other forms of treatment. Non-pharmacological measures such as salt restriction, weight control, physical exercise and alcohol restriction had been recommended to fewer than half.

TABLE II

PREVALENCE OF HIGH BLOOD PRESSURE
AWARENESS, TREATMENT AND CONTROL STATUS
(Percentage of Individuals: All Age and Sex
Groups Combined)*

Status	Prevalence
Aware:	
Treated and controlled	43
Treated and not controlled	16
Not treated and not controlled	5
Not Aware	36
TOTAL	100

* Modified from *Canada Blood Pressure Survey, 1989.*

Many people with high blood pressure also had other risk factors for cardiovascular disease. About 56% had one or more of the following risk factors: high blood pressure, smoking and obesity. The prevalence of combined risk factors was highest among middle-aged men, increased from the western to the eastern regions of the country and was inversely related to level of education.

The *Canadian Blood Pressure Survey* provides evidence that high blood pressure is a significant public health problem in Canada. The prevalence and control rates of high blood pressure determined by this survey are similar to those reported in the Nova Scotia Heart Health Survey. These findings suggest the need for public education targeted not only at diagnosed hypertensives but also at the population at large. Health care professionals should encourage a partnership approach to blood pressure management with their patients.

Source: Main Findings Report of the Canadian Blood Pressure Survey. Ottawa: Department of National Health and Welfare, 1989.

NON-PHARMACOLOGIC THERAPIES FOR HYPERTENSION: WHICH ARE EFFECTIVE?

The 1988 Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure reviewed non-pharmacologic therapies for hypertension control and presented the following recommendations. Some of the measures are included to reduce other cardiovascular risk factors and may not be directly effective in blood pressure lowering.

1. Control of Obesity

The relationship between obesity and blood pressure is clear and all obese, hypertensive adults should participate in weight reduction programs with target body weight being within 15% of desirable weight. Health professionals should also promote weight control for those at increased risk of becoming hypertensive because of a family history of this condition.

2. Restriction of Alcohol

For controlling hypertension, those who drink should do so in moderation (i.e., no more than one ounce of ethanol as contained in two ounces of 100 proof whiskey, eight ounces of wine or 24 ounces of beer daily).

3. Restriction of Sodium

Some patients with mild or moderate blood pressure elevation may achieve control through moderate sodium restriction to 70-100 mEq/day (i.e., approximately 1.5 to 2 g of sodium or 4 to 6 g of salt). Since much of daily sodium intake comes from prepared foods, merely refraining from adding salt at the table is usually inadequate to control hypertension. Thus proper counselling on sodium labelling of canned, frozen and other processed foods is necessary to achieve moderate sodium control.

4. Role of other Cations

Data have suggested that reduced potassium intake may be associated with high blood pressure and that high potassium intake (i.e., greater than 80 mEq or 3 to 4 g per day) has a modest blood-pressure-lowering effect. The evidence in this regard is still developing.

Increased intake of calcium has been reported to lower blood pressure in some individuals. However, some studies have suggested that a direct relationship exists between serum calcium concentration and blood pressure. The data concerning calcium appear inadequate at this time to warrant specific recommendations. Similarly the evidence regarding magnesium, zinc, and lead is too meagre to justify any recommendations.

5. Tobacco Avoidance

The benefits of tobacco avoidance have been proven conclusively and smoking cessation is strongly recommended. Although nicotine may increase arterial blood pressure acutely, prolonged use is not associated with an increased prevalence of hypertension. Smokers appear to have a higher frequency of malignant hypertension and subarachnoid hemorrhage. Individuals who smoke definitely increase their risk of cancer and pulmonary disease and overall more than double their cardiovascular risk for coronary artery disease and sudden death. Furthermore, risk reduction induced by anti-hypertensive therapy may not be as great in smokers as in non-smokers.

6. Biofeedback and Relaxation

Recent data concerning behavioural approaches to hypertension management have demonstrated that various relaxation and biofeedback therapies produce modest long-term reductions in blood pressure in selected groups. Such regimens are most useful for the treatment of mild hypertension and may also be used in conjunction with pharmacologic therapy. These promising methods have yet to be subjected to rigorous clinical trial evaluation and should not be considered as definitive treatment of patients with high blood pressure.

7. Exercise

A regular aerobic exercise program (eg., walking, bicycling, jogging, or swimming) facilitates weight control and may be helpful in reducing blood pressure. Health practitioners should advise hypertensive patients who are initiating an exercise program to do so gradually and after appropriate clinical evaluation.

8. Modification of Dietary Fats

Some studies have suggested that low intake of saturated fat and high intake of polyunsaturated fats are associated with lower arterial blood pressure while others have not demonstrated this effect. The evidence is still inadequate to recommend such dietary changes for hypertension control but these modifications could be important for lowering blood cholesterol and reducing risk of developing coronary artery disease.

Source: The 1988 Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure. US Department of Health and Human Services, Public Health Service National Institutes of Health, 1988.

Comment

The Canadian Consensus Conference on Non-Pharmacological Approaches to the Management of High Blood Pressure was held in Halifax, March 22-23, 1989. Preliminary recommendations from the consensus panel are consistent with those of the American National Committee and will soon be released for general distribution. □

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Notice Board

FETAL ECHOCARDIOGRAPHY

Fetal echocardiography is a detailed examination and assessment of the fetal heart in utero by ultrasound. It is a relatively new and evolving field, the feasibility of which has been discussed by many authors.^{1,2,3,4} The diagnostic capabilities have improved with the development of high resolution real time ultrasound equipment.

The main objective of fetal echocardiography is the prenatal diagnosis of congenital heart disease. Real time, M-mode, and Doppler modalities are utilized in a sequential analysis of the fetal heart. The real time shows anatomic detail, the M-mode becomes the fetal EKG, and is useful in diagnosing arrhythmias, and the Doppler examines the blood flow. A routine obstetrical ultrasound examination at approximately 17 weeks gestation, or later, should include a "four-chamber view" of the fetal heart. This has proven to be a fairly reliable screen for cardiac abnormality. Detailed fetal echocardiography goes further, and allows specific identification of chambers, atrioventricular valves and ventriculo-arterial connections.

Fetal echocardiography is indicated if the screening, four-chamber view, is suspicious or abnormal and should be considered in the following situations, where the risk of congenital heart disease is increased.

The Table is from *Prenatal Diagnosis of Congenital Anomalies* by Roberto Romero.

Maternal and familial indications

Familial history of congenital heart disease
Maternal diabetes
Maternal drug exposure during pregnancy
Maternal infections during pregnancy
Maternal alcoholism
Maternal lupus erythematosus
Maternal phenylketonuria

Fetal indications

Polyhydramnios
Nonimmune hydrops
Dysrhythmias
Extracardiac abnormalities
Chromosomal abnormalities
Symmetrical intrauterine growth retardation

When a cardiac anomaly is identified, coordinated consultation from the disciplines of obstetrics, neonatology, diagnostic imaging, cardiology, and possibly cardiac surgery should be considered in an effort to provide optimum care for the fetus/neonate and mother. Such an approach is currently available through the prenatal diagnosis service at the Grace Maternity Hospital (coordinator Carole Smith, R.N. Telephone: 424-6491).

Fetal echocardiography may be attempted as early as 16 weeks, and considered right up to term. The ideal timing for examination is between 22 to 28 weeks gestation, examination in the last trimester becoming technically more difficult. Fetal echocardiography is a developing science and difficulties in interpretation remain, especially in the diagnosis of septal defects, patent ductus, mild aortic and pulmonary stenosis and total anomalous pulmonary venous return.⁵ Abnormalities successfully diagnosed in Halifax prenatally include hypoplastic left heart, polysplenia syndromes, endocardial cushion defect, cardiac tumour, cardiomyopathy, double outlet right ventricle and supraventricular tachycardia. The early recognition of supraventricular tachycardia is especially important since such a condition can lead to fetal hydrops and death in the absence of suitable treatment. Of note, is the growing local experience whereby fetal echocardiography has been performed in one center, and viewed in Halifax by means of audiovisual telephone link.

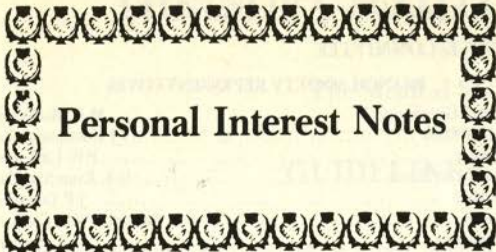
The technique of fetal echocardiography requires experience and expertise, and is not a part of the standard obstetrical ultrasound examination. Considerable extra time (at least 40 minutes) is necessary to adequately visualize the cardiac structures. In future, the application of color flow doppler will greatly improve our ability to diagnosis ventricular and atrial shunts, valvular regurgitation and stenosis, and impaired cardiac function.

In summary, fetal echocardiography enables in utero diagnosis of many significant cardiac abnormalities. In some situations, such as the arrhythmias, such diagnosis have been life saving. More commonly, the major benefit of fetal echocardiography is that it allows for prenatal counselling and preparation, planning for delivery with respect to time and place, and an organized approach to initial neonatal management. □

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Personal Interest Notes

1989 CONVOCATION DALHOUSIE UNIVERSITY FACULTY OF MEDICINE

The Dalhousie University Faculty of Medicine Convocation was held on May 19, 1989, when 96 M.D. degrees were conferred. By place of residence, these graduates were from: Nova Scotia - 60; New Brunswick - 21; Prince Edward Island - 5; Québec - 4; Ontario - 4; and Alberta - 2.

Dr. Daniel Brock Hoffman, Halifax, N.S., was awarded the Dr. C.B. Stewart Gold Medal as the most outstanding graduate. Honorary degrees were conferred on **Dr. Lea Chapman Steeves**, former Associate Dean, Faculty of Medicine, Dalhousie University, Halifax, N.S., and on **Dr. Carol Withlow Buck**, Professor of Epidemiology and Biostatistics, University of Western Ontario, London, Ontario.

Dr. Ronald Allan Purdy, Associate Professor of Medicine, Dalhousie University, was named Professor of the Year by the Graduating Class. This award, which is a trophy in the form of a small shovel with an inscribed blade, was presented during the Convocation exercises.

The Honorable David Nates, Minister of Health and Fitness, Government of Nova Scotia, gave the Convocation Address.

Dr. Aden C. Irwin, who is the Associate Editor of the *Journal*, has been appointed Emeritus Professor of Epidemiology, Dalhousie University. He was commended for his special interest in the education and welfare of students over the years, and for his contributions to research activities in the Medical School.

Dr. Douglas A. Gibbon, (80) of Rothesay, N.B. died in June 1989. Born in Saint John, N.B. he received his medical degree from Dalhousie Medical School in 1933 and then continued his studies in paediatrics. He was chief of paediatrics at Saint John General Hospital for 24 years and founded the department of paediatrics at the St. Joseph's Hospital in 1965. He is survived by his wife, a daughter, and three sons. The *Journal* extends sincere sympathy to his family.

Dr. Kenneth A. Fraser, (71) of West Middle River, N.S. died on July 3, 1989. Born in Donkin he received his medical degree from Dalhousie Medical School in 1943 and practised surgery in Sydney Mines for 39 years. He was a member of The Medical Society of Nova Scotia and the Canadian Medical Association. He is survived by his wife and three sons, to whom the *Journal* extends sincere sympathy.

Dr. Edward M. Fogo, (74) of Halifax, N.S. died on August 18, 1989. Born in Windsor he graduated from Dalhousie Medical School in 1942. In 1944 he obtained a degree in public health and dedicated his medical career to public health becoming Associate Director of the Atlantic Health Unit in 1969, and Inspector of Anatomy for the Province of Nova Scotia. He was a member of The Medical Society of Nova Scotia, The Canadian Medical Association, and the Canadian Public Health Association. He is survived by his wife, two daughters, and a son. The *Journal* extends sincere sympathy to his family.

Dr. Herbert B. Lang, (68) of Halifax, N.S. died on August 31, 1989. Born in Austria he received his medical degree from Innsbruck in 1945. In 1969 he was appointed Chief Pathologist and Director of Laboratories of the Halifax Infirmary, and he was Assistant Professor at Dalhousie University until retiring in 1986. He was active in teaching, research and publishing and was a member of The Medical Society of Nova Scotia and The Canadian Medical Association. He is survived by his wife, two daughters, and a son, to whom the *Journal* extends sincere sympathy. □

TIPS FOR PUBLIC SPEAKING

The English scientist, Michael Faraday (1791-1867), in addition to making many scientific discoveries, did much to popularize science. Among his personal papers was a list of tips for public speaking.

- 1) Never repeat a phrase.
- 2) Never go back to correct yourself.
- 3) If at a loss for a word, simply wait and it will come.
- 4) Never doubt a correction from the audience.

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