THE COLLEGE OF GENERAL PRACTITIONERS SINGAPORE

The SINGAPORE FAMILY PHYSICIAN

EMERGENCIES IN GENERAL PRACTICE

- At Home
- In the Clinic
- Worksite and Road Accidents

PROBLEMS IN THE ELDERLY

- Depression
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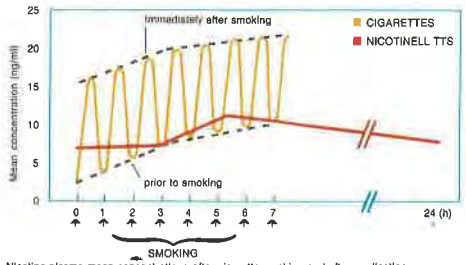

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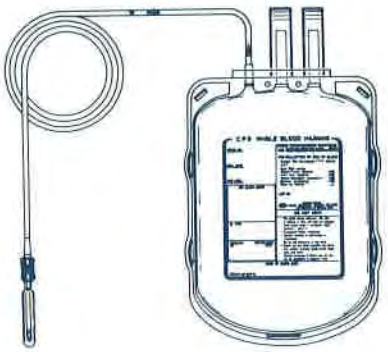

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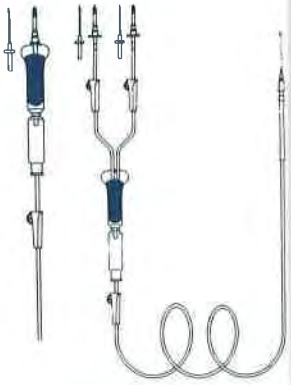

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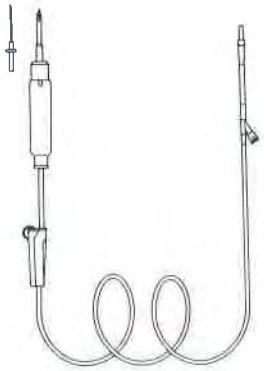

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EDITORIAL

POSTGRADUATE FAMILY MEDICINE EDUCATION AND TRAINING — PAST, PRESENT AND FUTURE

Before 1988

Ever since the College was established in 1971, educational courses for general practitioners were conducted. The subject of postgraduate study was in the list of objectives of the College's constitution. The relevant statements are "(3) to assist in providing postgraduate study courses for general practitioners, and to encourage and assist practising general practitioners in participating in such training." and "(4) to arrange for and/or provide instruction by members of the College or other persons for undergraduate or postgraduate students in general practice."

A Diploma examination was available for members who had prepared themselves through self-study and attendance of courses and clinical sessions to see for themselves whether they had reached a sufficient standard of competence set by the College. The acceptable standard was based on that of sister colleges in Australia and UK as well as what local examiners both in and out of the institutions felt to be necessary and important for practicing doctors to know well. Successful candidates were awarded the MCGP (member of the College of General Practitioners Singapore) diploma. The first examination was conducted in 1971. To date there are 66 MCGP holders.

Towards A Structured Vocational Training Programme

Pilot Programme in 1988

The College worked for many years towards a structured vocational training that had as a key component of learning, hospital rotating postings of 3 months' duration. It was felt that the 6-monthly postings in housemanship period and beyond did not provide enough opportunities for an all-round clinical experience in the many clinical disciplines that general practitioners encounter in their day-to-day work. To this end, memoranda were submitted by several Councils of the College to the Ministry of Health. Understandably such a programme was difficult to implement as it needed very supportive heads of departments because a posting shorter than 4-6 months could be disruptive to the units where the trainees were posted to. Thus it was not until 1988 that the Ministry of Health initiated a pilot programme of rotating hospital postings.

In that year, Dr Chee Yam Cheng, the Director of Manpower, Ministry of Health, invited the College and the Department of COFM at NUS to jointly organise a pilot traineeship programme for medical officers who had intention of pursuing a career in general practice. A Steering Committee on Family Medicine training was formed with tripartite representation from the College, the Department of COFM and the Ministry. The Director of Manpower was elected by the Committee to be its chairman.

The committee initiated a two-year pilot programme consisting of a 1 3/4 years of 3-monthly rotating hospital postings, a three month rotation in primary care (government polyclinic, GP clinic, School Health, Health Care Services of the elderly and Health Education) and a Saturday afternoon modular course conducted over 2 years. Participants in the Family Medicine Programme were encouraged to sit for the MCGP Diplomate Examination. From the 10 Medical officers in the first intake, 4 sat for the examination and all passed. The programme received encouraging comments from Dr Wesley Fabb who was the first HMDP Expert in Family Medicine to be invited by the Ministry of Health in 1988.

The modular family medicine teaching programme (Saturday afternoon courses) was also open to general practitioners as a continuing medical education programme. There were several general practitioners in each module.

Definitive programme in 1991

The next development of the Family Medicine Traineeship Programme was the extension of the

programme from 2 to 3 years as the definitive programme in 1991. In 1990, when Prof Barber, Professor of General Practice, University of Glasgow, visited Singapore as the HMDP Expert in Family Medicine and also as External Examiner of the 1990 MCGP examination, an opportunity was taken to review the Family Medicine Traineeship programme. His recommendation of having a three year programme with at least a year in primary care was accepted in principle. The new traineeship programme consisted of 2 years rotating hospital postings and a full year, in the third year, in primary care. The modular course was conducted in the first two years.

From MCGP to M.MED (Family Medicine)

Discussions were also held by the Steering Committee on Vocational Training of Family Medicine with the College of General Practitioners on the future of the MCGP. Whilst the MCGP was accepted as an additional qualification by the Singapore Medical Council, it was not recognised for promotion in the public sector by the Ministry of Finance. The possibility of a M.Med (Family Medicine) to be awarded by the School of Postgraduate Medical Studies was explored and the College gave its support to the Steering Committee on Family Medicine for a memorandum to the Director, School of Postgraduate Medical Studies on the award of a postgraduate degree in Family Medicine by examination, namely, the M.Med (Family Medicine) by the School.

This was accepted in principle by the School and a postgraduate Committee on M.Med (Family Medicine) was formed with representation from the Ministry, College and University in October 1991. The Committee is chaired by Dr Lam Sian Lian, DDMS, Primary Health Division, Ministry of Health. To be in line with all the other specialty examinations, the M.Med (Family Medicine) is an entry examination. The first M.Med (Family Medicine) Examination will be conducted in 1993.

Apart from Medical Officers who are in the traineeship programme, the M.Med (Family Medicine) Examination is also open to general practitioners. A candidate may be admitted to the Examination provided he has spent six years in general practice of which 2 years should be under supervision in practices approved by the Board of the School.

Beyond the MCGP and M.MED (Family Medicine)

In line with the other specialty programmes in Singapore, an exit certification programme is being planned for Postgraduate Family Medicine training. The College of GPs is looking into the structuring of such a programme.

In UK, the Royal College of General Practitioners has since 1991 initiated a Fellowship by Assessment programme for its Diplomate Members. The applicant for the Fellowship by Assessment programme has to be at least 2 years post-MRCGP and the applicant has to demonstrate that he has fulfilled requirements set up by the College in each of the three areas namely, a) personal clinical competence, b) his practice, and c) contribution to society or the profession. Conceptually this model will be worth studying in the context of a M.Med (Family Medicine) exit certification programme.

To be a specialty qualification, the exit certification programme in Family Medicine in Singapore has also to include family doctors who have the MCGP diploma, doctors with MRCP or equivalent who are working as primary care physicians and who are able to show that they are of sufficient standard. One possibility is to accept as entrants to the exit certification programme holders of the MCGP and MRCP (or equivalent) qualifications who are in active general practice for a specified number of years.

Conclusion

Postgraduate family medicine has developed over the years. The M.Med (Family Medicine) programme and the recognition of Family Medicine as a medical specialty are important developments which have just begun. To be viable, these developments require the support of the profession and the participation of all family physicians to work towards improving themselves and towards providing our patients with the care that we as a community of family doctors can be proud of.

GLG

THEME EDITORIAL

EMERGENCIES IN GENERAL PRACTICE

L G Goh
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The theme of this issue is on emergencies in general practice. Happily, the number of emergencies that the general practitioner is called to deal with in his professional capacity are not very many. Nonetheless, these are likely to cause a fair amount of work stress, particularly if one is not very sure what to do. The three papers in this issue together cover emergencies in the clinic, the home and the accident site.

Of the three scenarios, emergencies in the clinic are the easiest to deal because the doctor is in his home ground. Provided he has the basic resuscitative equipment and a good presence of mind, it is likely he will pass the test with flying colours. He should however, be mindful that he does not fail the attitude test. Emergencies to the layman are quite different from the perception of the doctor. Hence, it is important that the doctor and his staff are able to respond appropriately to the anxiety of the patient and his relatives in what they perceive to be an emergency. Encouraging words, empathy and kindness are as important as technical expertise. Few patients will forgive what they perceive to be an unsympathetic doctor.

Dr Choo Kay Wee[1] in his paper in this issue has covered the spectrum of acute distress and emergencies that the general practitioner may encounter in his clinic. They range from collapse, respiratory distress, chest discomfort or pain, acute abdominal pain to acute trauma and poisoning.

Two more symptoms need to be considered because they may be early emergencies: the febrile patient and the persistently crying baby. Of course, not every fever is an emergency but one should give it a healthy respect. In this present day of jet travel, the world is a global village. The doctor should entertain the likelihood that the fever is due to falciparum malaria. Every year, many travellers all over the world die, because their doctors have not thought of malaria as the cause of their fever. Complications (pernicious malaria) may develop at any stage in falciparum malaria. They can be anticipated if more that 5% of red blood cells are infected or if many cells (> 10%) contain more than one parasite.[2] The patient can deteriorate quickly over the next few days beyond rescue.

Another differential diagnosis of fever to be considered in every case is meningitis. When seen in the early stages, there may be no neck rigidity. A patient who complains he feels very unwell may be the only cue. The persistently crying baby may well be harbouring an early meningitis; many have been caught on the wrong foot by it. The mild diarrhoea that may accompany it may throw one off-track. When in doubt, it is better to admit the patient for observation. These remarks also apply to the patient seen at the A&E Department of hospitals.

Abdominal pain should also be given a healthy respect. The majority will be abdominal colic which can be easily recognised by the waxing and waning episodes of pain and better still, if there are bouts of diarrhoea. The rigid abdominal wall due to a perforated viscus is also not likely to give rise to difficulty. The general practitioner may however see an early appendicitis bereft of the tell-tale guarding in the right iliac fossa: all that is present is an abdomen that does not yield any specific sign. One has only the non-descript abdominal pain to go by. If one is not certain, time is a good test. A good rule of thumb is this: a pain that becomes worse or does not get better in six hours' time deserves immediate attention. It is prudent to give the patient with an uncertain abdominal pain a referral letter for the A&E Department in case he needs further

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attention. Meanwhile, one may give an antispasmodic like propantheline but antibiotics should not be given.

In every female patient of reproductive age with abdominal pain, ectopic pregnancy should be considered if there has been a history of sexual intercourse. This condition remains a trap for the unwary. Also, the pregnancy test may well be negative, so do not depend on it for exclusion.

A request for a house visit can turn out to be a disaster and the doctor has to be professionally and psychologically prepared: the decision to just advise and see the patient the next day should be carefully considered. As Dr Hong Ching Ye[3] says in her paper in this issue: "by definition, the family physician provides continuing medical care to his patients and their families, and he has a moral obligation to provide this care at the patient's home, if necessary. So, he must be prepared to deal with these conditions at any time outside the relative comfort and security of his clinic." The operating philosophy should be: "If in doubt whether to go or not, go. You can never tell until you go." Also, go with good grace and tolerance. After all, isn't doctoring "... to comfort, always", to quote Ambroise Pare.

Finally, there are emergencies at the worksite and road to consider. One may be tempted to resist going to the scene of accident for fear of being found wanting. The best prophylactic for this type of stress is to be psychologically prepared and go. Dr Moti Vaswani's paper[4] should be read again and again because it provides a sound prescription for preparing ourselves for such a call of duty. A point he made merits reiteration: "Although there is no legal requirement for any doctor to render aid or treatment to an accident victim, ethical and moral considerations should encourage him to do so, with a sense of duty greater than that of an ordinary citizen."

With regards to the risk of being sued for negligence, the following quotation taken from Prof Chao Tze Cheng's lecture notes in the recent update course[5] (given on 17 Jan 1992) bears repeating:

"One of the fear is that when a doctor treats an accident victim on the road he may be sued for negligence. This is not true if you examined the victim properly, gave him a proper examination and treated him to the best of your knowledge and ability and made use of the equipment that was available to you. But one important point is never to abandon your patient. Once you have established a contact with the patient, it is your duty to see that he is properly cared for. Therefore, you must not leave your patient until you can hand him over to the proper authorities such as the ambulance or the hospital for continued competent medical care." These points were also stressed in Dr Moti Vaswani's article.

Emergencies happen time and again. We need not be afraid of them if we take the trouble to study about them thoroughly.

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EMERGENCIES AND ACUTE ILLNESSES AT HOME — DOING A HOUSE CALL

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Handling emergencies and acute illnesses at patient's homes accounts for only a small proportion of the family physician's workload. From a purely medical point of view, many of the conditions may seem fairly trivial, but studies of out-of-hours' calls in several countries have shown that most of the calls are either genuine medical emergencies or for conditions which have undoubtedly caused great anxiety in the patient or his family. In a local study[1], onbly 13.5% of 954 housecalls were judged medically not justified by the attending doctor.

The anxiety in patients and their relatives is often transmitted as pressure on the family physician to decide whether he could just advise and see the patient the next day or to see the patient right away. By definition, the family physician provides continuing medical care to his patients and their families, and he has a moral obligation to provide this care at the patienf's home if necessary. So he must be prepared to deal with these conditions at any time outside the relative comfort and security of his clinic. There is a need to handle such situations with tacts, skill and kindness. The doctor who is seen to be helpful will be trusted.

The scope of emergencies seen in general practice is wide, and range from paediatric to geriatric age groups. The conditions presented may be trivial or serious. The following is a brief summary of common emergencies that a general practitioner may be called to attend to[2].

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a) Paediatric emergencies

These constitute a considerable proportion of a doctor's emergency calls. Common conditions include the persistently crying child, the feverish child, the child with respiratory tract infections, vomitting, diarrhoea and abdominal pain, childhood injuries, fits, foreign bodies, accidental poisoning and epistaxis.

b) Cardiovascular emergencies

Chest pain of various causes, cardiac failure, especially acute left ventricular failure, cardiac arrhythmias are the common ones encountered.

c) Respiratory emergencies

These are mainly acute breathlessness secondary to asthma, pneumothorax, hyperventilation; acute laryngeal obstruction caused by foreign bodies or angioedema. Haemoptysis may occasionally present to the general practitioner as an emergency.

d) Gastrointestinal emergencies

These range from abdominal pain and food poisoning to haemetemesis, melaena and rectal bleeding.

e) Urogenital emergencies

Balanitis, haematuria, acute urinary retention, renal colic, acute testicular pain, etc. can all result in calls to the general practitioner.

f) Obstetric and gynaecological emergencies

Pregnancy-related conditions include antepartum haemorrhage, hyperemesis gravidarum,

and ectopic pregnancy. Gynaecological conditions include twisted ovarian cyst, vaginal bleeding, pelvic inflammatory disease giving rise to severe lower abdominal pain. Breast engorgement and haemorrhage in the pueperium may occasionally necessitate the doctor to do a housecall.

g) *Neuromuscular emergencies*

Common ones include stroke, transient ischaemic attack, severe headache, oculogyric crisis, loss of consciousness from various causes, head injury, skeletal injuries secondary to various causes, severe backache or joint pain, among others.

h) *ENT and eye emergencies*

Severe pain as in glaucoma, earache from various causes, a particularly painful sore throat which may be perceived by the patient as an emergency, vertigo and epistaxis are not uncommonly encountered. Dental problems such as toothache and bleeding after extraction may sometimes present to the general practitioner after hours.

i) *Endocrine emergencies*

These are not common. The general practitioner may occasionally be called to see patients in diabetic ketoacidosis and hypoglycaemic coma.

j) *Bites and stings, burns and scalds*

Bites and stings can present at all hours and some may be life-threatening. Bee and wasp stings are the most common; animal bites such as by dogs, snakes and even fish are sometimes encountered depending on the location of practice. Burns and scalds are common.

k) *Forensic emergencies*

The general practitioner may occasionally be called to attend to patients who have been victims of assault or alleged rape, or where there is a death at home.

l) *Psychological or psychiatric emergencies*

These include patients who are acutely confused, suicidal, extremely anxious, aggressive or violent, or those who are acutely pyscholtic.

ATTENDING TO EMERGENCIES AT HOME—DOING A HOUSECALL

Preparedness

The general practitioner should be ready at any time to make a home visit. In a group practice a roster system for after hours visits can be arranged. The doctor should be contactable outside clinic hours. Arrangement for message-taking should be made, e.g. via a pager.

As far as possible, arrangements should be made to ensure the doctor's safety in making out of clinic calls.

The housecall bag needs to be well-planned and stocked at all times, to cater to most situations, so that the doctor needs only to bring certain extra equipment or drugs depending on the particular case. Each doctor must decide on the range of equipment and drugs he or she may require to deal with a housecall.

The contents of bags should be checked regularly. Restocking should take place and out-of-date drugs should be replaced. Expiry dates should be clearly written on each drug container. The housecall bag should be securely locked at all times, and kept in a cool place to prevent deterioration of drugs and other contents, e.g. gloves, from exposure to heat.

Handling a request for housecall

Many calls during clinic hours and most out-of-hours are made through the telephone. Sometimes the caller comes personally to the clinic. Clinic staff should be trained to recognise an urgent call and alert the doctor. All such calls should be screened by the doctor to decide how soon the call needs to be arranged, if advice over the telephone is enough, or if it is better for the patient to come to the clinic. It is good to document details of all requests to make housecalls, make a note of any advice given, and whether or not a visit was made.

The decision of a doctor whether or not to visit is a professional responsibility. It is a good practice for the doctor to establish at the outset the identity of the caller, the contact telephone number, the name of the patient, and where the patient is at the time. This is because the caller, in his anxiety to get the message across, may launch straight into the account, and ring off without giving the necessary identities and address to visit.

Collect only enough information to decide[3] whether a visit is necessary, as excessive questioning may be construed as reluctance to visit. If a visit is necessary, then decide how quickly and whether any extra equipment will be needed; also whether there is need to call for an ambulance at the same time. If a visit is not necessary, then to decide what other action should be taken, including calling an ambulance for major medical emergencies where time is of the essence, for example in severe injuries.

Sometimes, advice may be the only action that is needed. In cases where telephone advice is the most appropriate action, make it clear to the caller that if the advice is not helpful or if symptoms change, another call will result in the patient being seen. If the doctor is perceived to be kind and helpful, it is more likely that any advice he gives will be readily taken. In the case where a visit will be made, any first aid advice necessary should be given, and the caller assured of the doctor's intention to visit in an estimated time frame.

Prior knowledge can play a major role in a decision to visit[4] . The established family doctor has the advantage of knowing the patient and his family members for many years. With this knowledge, he will understand their reactions to illnes and can make appropriate adjustments in his professional assessment of need, as opposed to reacting to the urgency of lay demand.

Pointers to urgency include raising of the voice and the use of emotionally charged terms by the caller, coupled with the presence of internal inconsistency in the message. Urgency of each call can be categorised as follows[5] :

i) **High**—urgent treatment necessary to avoid severe sufering or risk of serious deterioration (visits after patient's death included)

ii) **Medium**—symptoms or circumstances sufficiently concerning to justify a visit, where prompt treatment would facilitate recovery.

iii) **Low**—minor illness or discomfort not justifying a visit, delay in diagnosis or treatment would not lengthen the recovery period; other patients with the same complaint would have managed themselves.

The clinical circumstances are key determinants. Most gerneral practitioners would attend major medical emergencies as soon as possible. The rapidity with which doctor visits in response to a request has been identified to promote a high degree of patient satisfaction[6] .

Having discussed at length the issues involved in deciding whether to visit, in practice, the answer to any request is almost always 'yes', and 'as soon as possible'. It is important to remember that 'when in doubt, GO!'

At the scene

i) Acute cases

Peform a quick assessment. Institute first aid, resuscitation and emergency treatment if necessary. Organise admission to hospital if necessary.

If it is decided that the patient with an acute illness should be treated at home, or if there is resistance to hospital admission from either the patient or his relatives, a thorough assessment of the patient, his family and home environment is necessary to decide if this is feasible. In such a case an early follow-up visit should be arranged.

It is important to attend to the patient and his family members' anxieties, more so if the call seems inappropriate. In situations where the doctor cannot readily understand why the call has been made, exploring the caller's anxieties and fears is likely to be much more productive than a system-oriented examination. In many situations, it is the caller rather than the patient who needs reassuranc or explanation.

It is vital to recognise that while accurate diagnosis is satisfying it is not always possible, and it is perfectly legitimate to have a plan of action for a problem whose exact cause cannot be determined. The doctor must be prepared to revisit and reconsider his management plan, having ensured before he leaves that a reliable and responsible relative understands when and under what circumstances to contact him again. It is also important to remember that parents largely know their own children and their norms. Even if a doctor cannot find any evidence of serious illness on examining the child who the parents are sure is ill, the parents are probably right, and the doctor should indicate his willingness to see the child again if necessary.

ii) Chronic cases

These can present as emergencies in the case of exacerbation of the chronic problem, an urgent new problem or a terminal event. If the patient is a regular patient of the doctor, his problems would already by known to the doctor. Management will depend on the problem at hand. If the patient is new to the doctor, then the doctor will have to spend some time to evaluate the situation and manage accordingly. The consultation may need to be staggered over several visits.

The patient's and family's anxieties should be attended to. The doctor should help organise the family's resources to cope with the problem, including considering the use of paramedical and community services. Referral to hospital or specialist should be arranged when indicated.

Follow-up Action

In any problem not requiring referral, after the initial treatment, the relatives should be instructed to return to the clinic to collect further medications and to ensure that the medical advice given is followed. Appointments should be given for the patient to attend follow-up visits in the clinic or, alternatively, subsequent home visits should be arranged if indicated.

SHOULD FAMILY PHYSICIANS DO HOUSECALLS?

Just recently, a group of British general practitioners voted not to attend to after-hours emergency calls. Whether this is a correct stand is debatable, but it does reflect a shift in the views of many doctors regarding the necessity and the practicality of doing housecalls. Why are some doctors reluctant to do housecalls? There are two aspects to this controversy: the 'lay' view expressed in 'demand' and the 'professional' assessment which defines 'need'. The two are sometimes widely different, and hence the disagreement.

The Patient's Perspective

From the caller's point of view, 'trivial' and 'irresponsible' calls rarely, if ever, exist. The degree of urgency is usually assessed by the lay caller at a higher level than it is by the professional responder[7]. The nature of the physical disease and its manifestations are important determinants, but demand is also conditioned by many other considerations, including how the patient perceives illness, the patient's and the family's previous experiences of disease and of medical responses, together with all sorts of modifying factors, such as the patient's awaremess of 'antisocial hours'. Many a caller will begin by saying 'Sorry to disturb you, Doc, but ...' indicating that they are making the request after having considering all the above. They, therefore, expect the doctor to understand that they call out of need, and will be puzzled and annoyed if the doctor does not respond in the way they anticipated.

The increased levels of anxiety may influence assessment of the urgency of a situation by the lay observer. This adds to the discrepancy between the caller's assessment and the doctor's assessment, and may lead to misunderstanding that the doctor is 'uncaring', 'unhelpful' and 'slow to respond'.

The Doctor's Perspective

Calls during clinic hours interrupt the doctor's work. If in solo practice, he would not be happy to leave a clinic full of patients to attend to what he considers a trivial problem, or one that can wait until he is free (but which the relatives insist that he should see immediately).

Out-of-hours calls involves the doctor as well as his household in work during 'unsocial hours', interfering with sleep and other social activities. The doctor and his family, like others, are entitled to their leisure and recreation time. There is therefore, a potential clash of interests—on the one hand, a professional wish (and requirement) to be available and accessible to patients in their hour of need, and on the other, the doctor's social commitments.

Though the ideal would be for doctors to work during clinic hours only, most doctors ar prepared to make themselves personally available, whether on call or not, in some circumstances. Doctors' assessment of 'trivial' and 'irresponsible' calls vary from 86%[8] to 0%[9]. Most reports suggest that the proportion of truly irresponsible or nuisance calls is very small.

In one local study, general practitioners were asked to classify calls into 'life-threatening' or

'non-life-threatening' based on the patient's presenting complaints. It was found that calls that were perceived as life-threatening had indeed a greater number of patients found very ill and ill as compared to calls that were perceived as non-life-threatening. There was a large number of patients found 'ill' after examination in perceived non life-threatening calls. This shows that perception of the non-severe illness before a call can be incorrect. Clinical evaluation, i.e. a housecall, is therefore a necessity.

Rights and Responsibilities

A general practitioner is not obliged legally to respond to every call with a visit. He is however ethically bound to assess each situation and be resposible for any action that he takes. If the patient comes to harm, and it can be shown to relate to the doctor's failure to visit, the doctor may face an action for damages and/or censure by the professional body.

Guiding Principles

The guiding principles about housecalls can be summarised in two sentences

'When in doubt - see the patient.
Visit first - argue or educate later'[3].

It is perhaps in the handling of a request for an urgent home visit that the qualities of a good family physician—care, consideration, understanding, friendliness, calmness and tolerance—come most into play. These will enable the physician to get the information he needs, to make his decisions more effectively, and will have considerable effect on the management of the presenting problem and future problems, as well as improve relationships. An abrasive, irritable approach can only make one lose the patient's and/or caller's confidence and respect. Furthermore, the problem can be dangerously mishandled if anger is allowed to cloud one's judgement.

Sometimes the person presented as a patient is really not the patient at all. A depressed mother may call again and again for the doctor to see her ill child or children. If there is some psychological stress in the family (e.g. family strife), the family may not be able to tolerate the added anxiety generated by an illness. The resulting call may be made in an abrupt, aggressive, provocative or demanding manner, and will require great tact and skill on the part of the doctor.

Therefore, if there is any doubt, go and see 'the patient'. Deal with the clinical problem or situation first. Then, if the condition was actually trivial, discipline or educate the patient and/or his family. Teach them self-help and advise them on the use of emergency services. If there has been some aggressiveness on the part of the caller, this is the time to take him to task. A mixture of firmness and friendlines is required. Explain that aggression is neither appropriate nor acceptable, and indicate your sympathetic attitude and willingness to help if possible with any psychosocial problem that might be present.

Sometimes a housecall is made more to allay the acute anxiety state present in the caller of family member, even though from the medical point of view, a visit is not necessary. Nevertheless to allay anxiety is good enough a reason to make a home visit[2]. The presence of the phsician gives reassurance and confidence to the patient and his careers. It is an opportunity for the family physician to build a closer rapport with the family members.

CONCLUSION

Attending to emergencies and doing housecalls are essential constituents of the work of the family doctor, as part of his role in providing personal, primary and continuing care. These activities cater to the need of the patient in the community, and strengthen the continuing relationship between the patient, his family and the family doctor. The proximity of the hospital Accident and Emergency Department and an increase in sophistication of tertiary medical care in hospitals do not obviate the necessity of doing a housecall when the need arises. The Family Medicine Vocational Trainee must therefore be provided supervised experience in handling requests for, and in doing, housecalls, both during and outside clinic hours.

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EMERGENCY CARE IN THE CLINIC

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INTRODUCTION

A family physician in his daily practice needs to deal with a wide spectrum of illnesses presented by his patient. Some of these are emergencies. This paper reviews the common emergencies seen in the family doctor's clinic.

COLLAPSE

Collapse presents dramatically and unexpectedly. The swiftness and steadiness with which a doctor goes about handling this emergency goes a long way to reassure and boost the confidence of the patient and his relatives. When faced with this situation the doctor must be able to immediately decide what to do.

Collapse may be attributed to:-

1) Cardiopulmonary failure
2) Loss of consciousness (coma)
3) Syncope

CARDIOPULMONARY FAILURE

Cardiopulmonary resuscitation (CPR) must be instituted without delay if cardiopulmonary failure is detected. Attending refresher courses on CPR and holding regular practice sessions on mannequins enable the doctor and his staff to perform this task well. The doctor should equip his clinic with basic resuscitative equipment namely bag-valve-mask ventilation device, suction apparatus and oropharyngeal airways. A set of intravenous medications, drip sets, butterfly needles, alcohol swabs, adhesive tapes must be set aside ready for use. Table 1 contains a list of medications that may be used during emergency conditions for your reference. If resources permit, a defibrillator would also be useful in such a situation. All personnel in the clinic must be familiar with the site and location of all these equipment.

Balestier Dispensary
Block 102 Whampoa Drive #01-28/30
Singapore 1232

TABLE 1: Medications for Emergency Use

Drug	Concentration
Injectable	
Adrenaline (1:10,000)	0.1 mg/ml
Adrenaline (1:1,000)	1 mg/ml
Atropine	0.1 mg/ml
Chlorpheniramine maleate	10 mg/ml
Diazepam	10 mg/2ml
Diclofenac sodium	75 mg/3ml
Dimenhydrinate	50 mg/ml
Frusemide	20 mg/2ml
Glucagon	1 mg/ml
Glucose (50%)	25 g/50ml
Hydrocortisone sodium succinate	100 mg/vial
Hyoscine-N-buty1-bromide	20 mg/ml
Lidocaine HCL	100 mg/5ml
Metoclopramide HCL	10 mg/2ml
Pethidine HCL	50 mg/ml
Prochlorperazine maleate	12.5 mg/2ml
Sodium bicarbonate	1 mEq/ml
Water for injection	2ml
Inhalation	
Salbutamol sulphate	5mg/ml
Ipratropium bromide 0.025%	0.25mg/ml
Transdermal	
Nitrodisc	10 mg/dose

COMA

A second cause of collapse is sudden loss of consciousness or coma. In this case the doctor has

TABLE 2: Causes of Coma

1. Self Poisoning
   - drugs (e.g. hypnotics, aspirin)
   - alcohol
2. Anoxia
   - cardiac arrest
   - 'gas' poisoning e.g. carbon monoxide
3. Trauma
   - head injury
     - acute
     - compressive haematoma
4. Cerebrovascular disease
   - thrombo-embolic infarction
   - haemorrhage
     - primary
     - subarachnoid
   - encephalopathy
     - hypertensive encephalopathy
5. Space-occupying lesion
   - primary tumour
   - metastatic tumour
   - hyd1rocephalus
6. Infection
   - CNS
     - meningitis
     - encephalitis
     - abscess
   - systemic
     - malaria
     - septicaemia
7. Epilepsy
8. Psychological
   - hysteria
   - hypnosis
9. Metabolic
   - Diabetes mellitus
     - hypoglycaemia
     - ketoacidosis
     - hyperosmolar non-ketotic acidosis
   - Rental
     - uraemia
     - electrolyte imbalances
   - Hepatic failure
   - Thiamine deficiency (Wernicke)
   - Hypothermia
   - Hyperthermia
10. Endocrine
    - Myxoedema
    - Pituitary apoplexy

TABLE 3: Important Causes of Syncope

A. Reflex
1. Vasodepressor syncope
   - emotion
2. Vasovagal syncope
   - heat
   - standing still for prolonged period
   - dysmenorrhoea
3. Valsalva syncope
4. Post-tussive syncope
   - cough
5. Post-micturition syncope
6. Orthostatic hypotension
   - vasodilator drugs
   - autonomic neuropathy
     - familial
     - diabetic
   - old age
   - prolonged bed rest

B. Vascular
1. Cerebrovascular disease
   - atheroma
   - thrombosis
   - embolism
2. Carotid insufficiency
3. Subclavian steal syndrome
4. Cervical spondylosis
5. Strangulation

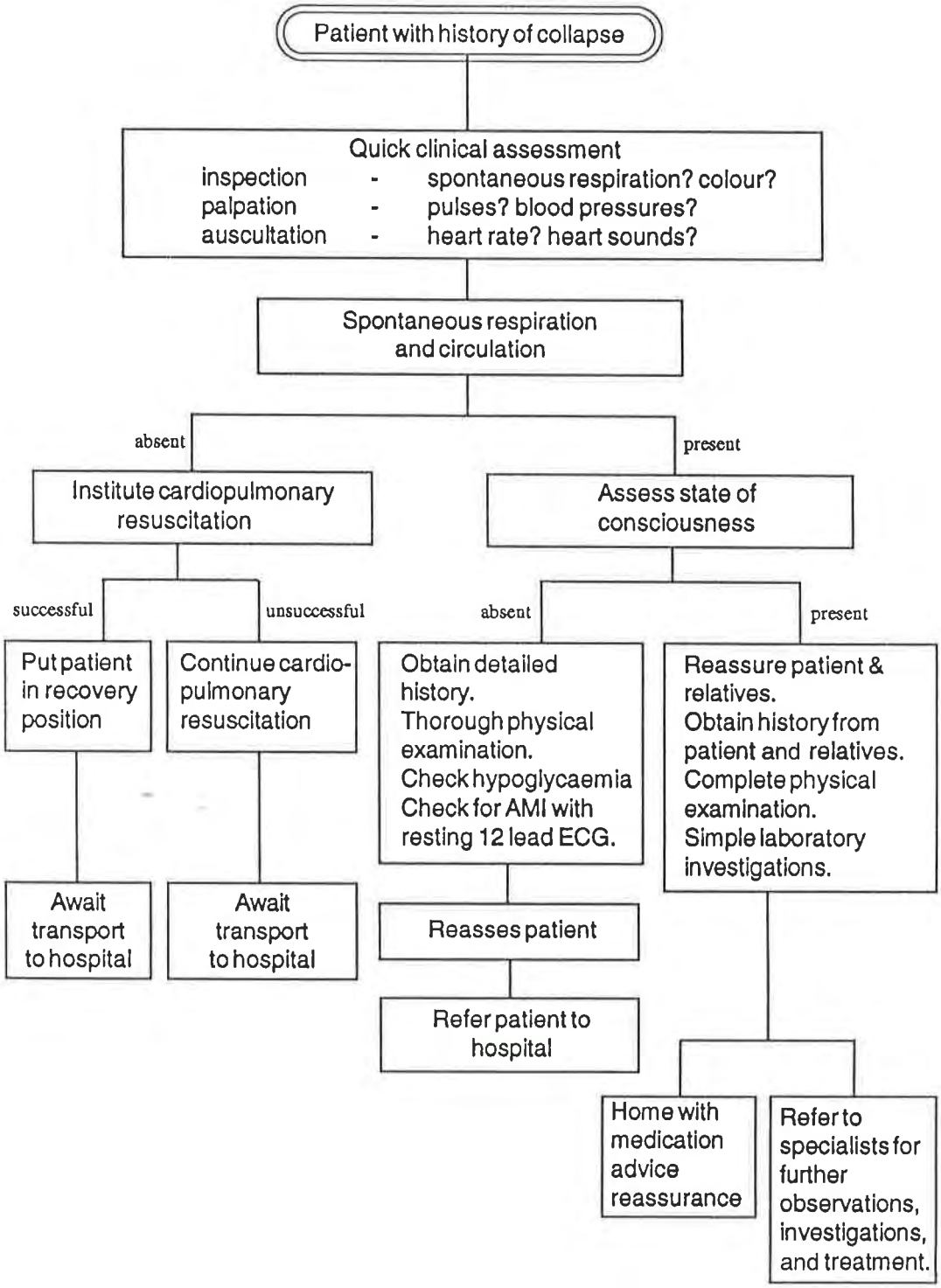
C. Neurologic
1. Head injury
   - concussion
2. Seizures
   - Petit-mal
3. Migraine
4. Obstruction hydrocephalus
5. Benign paroxysmal vertigo
6. Benign cryptogenic drop attack

D. Cardiac
1. Cardiogenic shock
2. Rhythm disorder
   - arrhythmias
     - sick sinus syndrome
     - venticular tachycardia
     - supraventicular tachycardia
   - heart block
     - Stokes-Adams attack
3. Structural abnormality
   - mitral valve prolapse
   - aortic stenosis
   - asymmetrical septal hypertrophy
   - hypertrophic obstructive
     - cardiomyopathy
   - cyanotic congenital heart disease
4. Space occupying lesion
   - atrial myxoma
   - haemopericardium
5. Thrombosis
   - ball-valve thrombosis
6. Pulmonary causes
   - pulmonary embolism
   - primary pulmonary hypertension

E. Metabolic
1. Hypoxia
   - loss of blood
   - loss of plasm
   - anaemia
2. Hypoglycaemia
3. Hypocalcaemia

F Psychological
1. Hyperventilation
2. Hysteria
3. Narcolepsy

Table 4 : Approach To A Patient Who Collapses



to do a quick clinical assessment followed by obtaining as detailed as possible a history from the patient's relatives. The duration of illness, previous episodes of such event, past medical history and drug history may shed some light on the diagnosis. Table 2 contains a checklist of causes of coma. When hypoglycaemia cannot be excluded, the capillary blood sugar level can be easily determined with the aid of a glucometer. Hypoglycaemia can be immediately remedied with intravenous glucose 50% 20ml stat or intramuscular glucagon 1mg stat. The patient and his relatives will be greatly impressed if you can easily resolve the problem.

SYNCOPE

Fortunately most of the time, patients are brought to the doctor's clinic in a conscious state but having suffered a 'faint' at home or at work. In this situation, the doctor has time to obtain a detailed history and carry out a complete examination. Table 3 lists important causes of syncope which have to be considered.

Table 4 consists of a flow chart delineating the approach to a patient who has collapsed.

RESPIRATORY DISTRESS

The second emergency that the family physician should be well prepared to handle is respiratory distress.

Causes of respiratory distress can be divided into those affecting the upper or lower respiratory tract. Upper respiratory tract obstruction may present as stridor and lower respiratory tract obstruction as wheeze. However, it is important to realise that in severe obstruction there may be absence of respiratory sound. Table 5 gives a list of causes for stridor and Table 6 contains causes of wheezing.

Patients presenting with respiratory distress may be in a pre-collapse state. Therefore, it is important for the attending doctor to be aware of the differential diagnoses and to anticipate any rapid deterioration.

He must also be cautious not to irritate the larynx of a child with acute epiglotitis which may go into servere spasm resulting in asphyxiation.

Foreign body should be removed using the correct CPR technique for example, the Heimlich manoeuvre. Any unremovable obstruction in the upper airway threatening death may be bypassed with a wide bore needle inserted into the trachea below the site of obstruction.

TABLE 5: Causes of Stridor

1. Infection
   - bacterial
     - acute epiglotitis
     - acute laryngitis
     - diphtheria
     - tetany
     - retropharyngeal abscess
   - viral
     - acute laryngotracheobronchitis
2. Foreign body
   - glottic
   - infraglottic
3. Swelling
   - angioneurotic edema
   - gross enlargement of tonsils and adenoids
   - mediastinal tumour or thyroid
4. Paralysis
   - vocal cord paralysis
5. Spasm
   - laryngeal spasm
6. Congenital
   - supraglottic causes
     - congenital laryngeal stridor
     - micrognathia
     - mongolism
     - lingual or laryngeal cysts
     - supraglottic webs
   - glottic causes
     - hydrocephalus
     - laryngeal web, polyp, papilloma
   - infraglottic causes
     - cogenital subglottic stenosis
     - tracheal obstruction or stenosis
     - haemangioma
     - neurofibroma
     - tracheomalacia
     - vascular ring
7. Trauma
   - dislocation of cricothyroid articulation
   - dislocation of cricoarytenoid articulation

Extra-pulmonary causes of respiratory distress must also be borne in mind. When a child presents with hyperventilation and dehydration, our suspicion must always be aroused to the possibility of diabetic ketoacidosis.

ANGIONEUROTIC OEDEMA

Angioneurotic oedema is commonly seen in general practice. This is a type I allergic reaction

TABLE 6: Causes of Wheezing

A. Adult
1. Bronchial asthma
2. Chronic obstructive pulmonary disease
3. Anaphylaxis
   - Effects of drugs, food additives
   - Inhalation of smoke
4. Aspiration
5. Foreign body

B. Paediatric
1. Acute bronchiolitis
2. Asthmatic bronchitis
3. Bronchial asthma
4. Foriegn body
5. Aspiration
6. Others
   - trachael or bronchial obstruction
     tracheomalacia, bronchomalacia
     tracheal web, stenosis, tumour
     tuberculosis and mediastinal lymph nodes
     vascular ring or congenital heart disease
     mediastinal cyst
   - fibrocystic disease of pancreas
     alpha-1-antitrypsin deficiency

caused by IgE mediated release of histamines and related compounds from mast cells into the general circulation. The resulting anaphylatic reaction causes swelling of soft tissues particularly around the eyes, lips and also the larynx. Patients therefore may feel a choking sensation associated with respiratory distress. It may result from insect bites, oral medications, injections, food, food additives, pollen or any antigenic substances known to cause allergy. The onset is usually acute and immediate actions have to be taken to reduce distress and save life. In the adult patient the immediate thing to do if the symptom is severe is to set up an intravenous line and administer intravenously hydrocortisone acetate 100-200 mg stat, followed by intramuscular injection of an anthistamine such as promethazine HCL 25-50 mg stat and subcutaneous adrenaline 0.1-0.2 ml of 1:1,000 strength. Salbutamol nebuliser may be necessary if the patient also has wheezing. After administering these medications and a short period of rest lasting for 1-2 hours, the patient usually recovers and may be fit enough to be sent home with oral antihistamine and steroids. He should be encouraged to sign up for a Medik-Awas card which he should carry with him all the time. Admission to hospital is rarely needed unless his symptoms do not improve or he develops complications.

ASTHMA

Asthma is a chronic illness with episodes of acute excerbation. Its emergency management should begin at the primary health care level as it is a potentially life-threatening condition.

Patients with moderate to severe symptoms should be treated immediately with nebulised salbutamol. Recent studies have shown that the combination of beta-agonist such as salbutamol and anticholinergic such as ipratropium bromide potentiates the effects of both drugs [1,2]. A family physician should own a portable nebuliser for administering these medications to their asthmatic patients. The usual dosages are as follows:-

Salbutamol
- for children (0.03 x weight in kg) round up to the nearest 0.1 ml making up to 2.0 ml with distilled water per dose.
- for adult (2 ml with 2 ml of distilled water).

Ipratropium bromide
- 0.5 ml for children above 6 years old.
- 1.0 ml for adult.

These should be administered immediately and then repeated an hour later if symptoms persist. I personally feel that if the patient requires more than two sessions of hourly-nebuliser per day, he should be admitted for closer monitoring and treatment in hospital.

Intravenous hydrocortisone sodium succinate may be given in severe cases. Steroid decreases the severity of bronchial reactivity and oedema. Recent studies have revealed that asthma is the result of inflammatory processes in the airways. Therefore, steroid should never be excluded in the management of asthmatic patients. Inhalation of steroid has lesser systemic side-effects and it delivers a higher concentration of drugs to the affected site. This should be preferred to oral steroids especially in growing children.

A broad spectrum antibiotic may be given during an acute episode of asthma as prophylaxis against secondary bacterial infections. Salbutamol inhaler and beclomethasone inhaler may be used to suppliment oral medications at home. If the patient's symptoms improve after treatment in the clinic, he can be sent home with frequent reviews at the clinic.

All asthmatic patients should be taught the potential fatality of this condition and advised to seek medical treatment immediately if their condition deteriorates. Prophylaxis such as ketotifen or sodium cromoglycate should be given to patients with moderate to severe debilitating illness in the hope of abolishing or reducing the severity of future episodes.

ACUTE PULMONARY OEDEMA

This is another emergency condition seen commonly in family practice. Causes of acute pulmonary oedema are listed in Table 7. It is important to identify the cause before implementation of therapy. Certain cardiac causes can be treated by reducing the preload to the heart by reducing the circulating fluid volume with diuretics such as intravenous frusemide 80-100 mg stat for adults. In the elderly patients, it is important to exclude any prostatic hypertrophy which may precipitate acute retention of urine after administration of diuretics. Prophylatic catheterisation may be appropriate as it abolishes the patient's need to go to the toilet and this will also allow the doctor to monitor the patient's response to the diuretic treatment. When congestive cardiac failure is the cause, it is important to know that recent studies have found that angiotensin-converting enzyme inhibitors improve the prognosis of these patients [3, 4].

Extra-cardiac causes should be identified and remedied according to the predisposing cause. Most of the causes of acute pulmonary oedema require referral to a specialist colleague in hospital for further investigations and treatment.

CARDIAC ARRHYTHMIAS

Occasionally a family physician encounters a patient who presents with palpitation and shortness of breath. From the history and physical examination the doctor discovers an abnormality in the cardiac rhythm. Some cardiac arrhythmias can be life-threatening as a result of hypotension and heart failure.

The family physician must recognise the different types of arrhythmias in order to decide on the urgency of therapuetic intervention.

In brief, arrhythmias may be divided into:-

TABLE 7: Causes of Acute Pulmonary Oedema

A. Cardiac
1. myocardial infarction
2. hypertensive heart failure
3. valvular heart disease
4. arrhythmias
5. myocarditis
6. cardiac tamponade

B. Extra-cardiac
1. excessive fluid overload
2. anaemia
3. hypoalbuminaemia
4. pulmonary embolism
5. pancreatitis
6. infection
7. thyroid dysfunction
8. pregnancy

1) Tachycardias

supraventricular - *paroxysmal atrial tachycardia*
- *atrial flutter*
- *atrial fibrillation*

ventricular - *ectopics*
- *tachycardia*

2) Bradycardias

sinus node disorder - *sinus bradycardia*
- *sinus block*
- *sinus arrest*

heart blocks - *atrio-ventricular blocks*

3) Sick Sinus Syndrome

Supraventricular tachycardia

This is a fairly common cardiac arrhythmia seen in our patients. The diagnosis is unmistakeable. The heart rate is elevated and ranges from 120 to 200 per minute. The patient usually is aware of the rapid heard rate and seeks medical advice because of this. An electrocardiogram is useful to document the attack as well as to record the cardiac rhythm after conversion.

The first important task of the doctor would be to ascertain the urgency of the situation. If the patient is hypotensive with blood pressure less than 60 mm Hg systolic or in cardiac failure, synchronised cardioversion is needed and he should immediately refered to hospital. Otherwise the

TABLE 8: Causes of Acute Abdominal Pain

I. Gynaecological
   1. mid-cycle ovulation pain
   2. endometriosis
   3. dysmenorrhoea
   4. ectopic pregnancy
   5. haemorrhage into ovary or cyst
   6. pelvic inflammatory disease
   7. torsion of the ovary, pedunculated fibroid or cyst
   8. abortion
   9. pelvic congestion syndrome

II. Non-gynaecological
   A. Peritional irritation
      1. acute appendicitis
      2. mesenteric adenitis
      3. cholecystitis
      4. pancreatitis
      5. diverticulitis
   B. Obstruction
      1. gastric outlet
      2. small bowel
      3. large bowel
      4. biliary tract
      5. urinary tract
   C. Perforation of any intraperitoneal viserae
   D. Mucosal ulceration
      1. peptic ulcer disease
      2. acute gastritis
      3. gastric cancer
   E. Altered motility
      1. gastroenteritis
      2. inflammatory bowel disease
      3. irritable bowel syndrome
      4. diverticular disease
   F. Nerve injury
      1. herpes zoster
      2. nerve root compression
      3. nerve root invasion
      4. tabes dorsalis
   G. Vascular insufficency
      1. embolism
      2. artherosclerotic narrowing
      3. hypotension
      4. aortic aneurysm dissection
   H. Referred pain
      1. pneumonia of lower lobes
      2. inferior myocardial infarction
      3. pulmonary infarction
   I. Muscle wall disease
      1. trauma
      2. myositis
      3 haematoma of rectus sheath
   J. Infection
      1. typhoid
      2. shigellosis
      3. acute pyelonephritis
      4. food poisoning
   K. Systemic inflammatory disease
      1. acute rheumatic fever
      2. systemic lupus erythromatosis
      3. polyarteritis nodosa
      4. Henoch-Schonlein purpura
   L. Metabolic disturbances
      1. angioneurotic oedema
      2. diabetic ketoacidosis
      3. heavy metal poisoning (lead, arsenic, mercury)
      4. uraemia
      5. porphyria
      6. hyperlipoproteinaemia
      7. Addisonian crisis
      8. haemachromatosis
   M. Psychological
      1. narcotic withdrawal
      2. depression
      3. anxiety
      4. neurosis

patient should be taught to perform the various procedures used to stimulate the vagus nerve such as unilateral carotid massage and the Valsalva manoeuvre before any intravenous medication is given.

5 ml of verapamil (10 mg) diluted into 10 ml of water for injection given slowly intravenously may abort the attack if these manoeuvres fail. Vagal stimulation should be resumed and if the attack persists, the remaining 5 ml of verapamil should be given. This is usually sufficient to abort the attack. Intravenous propranolol should not be given after intravenous verapamil because of their synergistic effect which may cause atrioventricular block and hypotension.

The patient is usually fit to go home after conversion.

Oral medication is rarely needed if the attack is infrequent. Referral to a specialist collaegue is indicated if attacks recur frequently.

ACUTE ABDOMEN

Acute abdomen is another emergency seen commonly in family practice. There are many causes of acute abdomen which are tabulated in Table 8. Signs of hyperpyrexia, abdominal guarding and rebound tenderness indicate peritonitis, and acute appendicitis is one diagnosis that should not be missed. Signs of sweatiness associated with pallor, hypotension and malaena may indicate an upper gastrointestinal bleed. Most of these pre-shock states should be detected with high index of suspicion and the patient resuscitated and admitted to hospital early for closer monitoring and appropriate medical or surgical intervention.

GASTROENTERITIS

Gastroenteritis varies in spectrum of severity. It is potentially dangerous in the pediatric age group as well as in the elderly. The tasks of the emergency management are assessment of the state of hydration and the need for immediate admission to hospital for replacement therapy.

Travel history is important. Cholera epidemics are still prevalent in many parts of the world and must be kept in mind. Oral rehydration salts are useful only for the mild to moderate cases.

Oral antibiotics particularly ampicillin have of no place in its management except in proven bacterial gastroenteritis where the appropriate antibiotic may be used e.g. tetracycline for vibrio cholera infection.

All cases of severe gastroenteritis have to be admitted to hospital for isolation, close monitoring and intravenous therapy. Use of anti-diarrhoeal medications such as atrophine sulphate, diphenoxylate and loperamide should be guarded in severe cases.

NEUROLOGICAL EMERGENCIES

Various aspects of neurological emergencies have been covered in the other sections. Fever, fits, loss of consciousness, paralysis and acute severe headaches may indicate an urgent neurological problem. High fever in a child between 3 months to 3 years may cause febrile fit if the child is predisposed by having a family history of this condition. Most of the time the patient and his relatives are anxious and upset. It is important to reassure them and advise them on the necessary measures to take when the fit recurs. They must be advised never to force utensils into the mouth of the young patient which may lacerate the tongue or cause fracture to the teeth. They only need to turn the child's head to one side and bring him to the doctor. Tepid sponging is important to bring the temperature under control and the patient's relatives should be taught to do this every time the temperature exceeds 38.5 degrees Celcius. If the fit recurs or persists, diazepam suppositories are available to abort the attack. As other more serious causes of fits such as intracranial infection cannot be excluded, the child should be admitted to hospital for careful monitoring and appropriate investigations.

For the adult epileptic patients, intramuscular diazepam 10 mg may be given to abort an epileptic episode. Maintainence of vital functions is important until the patient has been transfered to hospital

ACUTE TRAUMA

Traumatic injury may be a result of road traffic accident, assault, self inflicted injury and household or industrial accidents. Patients may present with severe pain, bleeding, or loss of consciousness. As in the collapsed patient, assessment of vital signs should be of first priority followed by immediate first-aid measures. Intraveneous fluid replacement therapy is important for patients in the pre-shock state especially in those due to severe bleeding. Immobilsation of fractures should be done immediately once the injury has been assessed and documented. Intramuscular anti-tetanous toxoid must be administered for those who are not immune. Reassurance is important for conscious and apprehensive patients. For patients with lacerations, use of tourniquet technique helps the doctor to assess the wound more thoroughly to enable him to decide whether it should be managed in the clinic or referred to a specialist colleague.

ACUTE POISONING

Acute poisoning is frequently encountered in family practice. The patients and their relatives are usually in a distressed state, therefore it is important that the family doctor reacts and responds confidently and compassionately to reassure and calm them.

It is important to document the detailed history and clinical examination for medico-legal purposes. Only a few poisons produce diagnostic features such as pinpoint pupils in opiates poisoning and flushing, sweating, tachycardia, hyperventilation in acute salicylate poisoning. Burns on the buccal mucosa may suggest ingestion of corrosive substances. Blisters on the skin may be due to barbiturates poisoning. Overdose of tricyclic antidepressants produces wide dilated pupils, bladder distension, cardiac arrhythmias and pyramidal signs. If the relatives are able to bring evidence of the poison, the sight or smell of the container and content may give a clue to its identity. This should be sealed and sent to the forensic laboratory for further investigations.

The emergency treatment in the primary care

level involves the maintainence of vital functions. Elimination of the poison and administration of antidotes are usually done in hospitals.

CONCLUSION

These conditions account for most of the emergencies seen in the family doctor's clinic. Attention to the emergency equipment and mental preparedness is necessary to deal with these emergencies efficiently when they arise.

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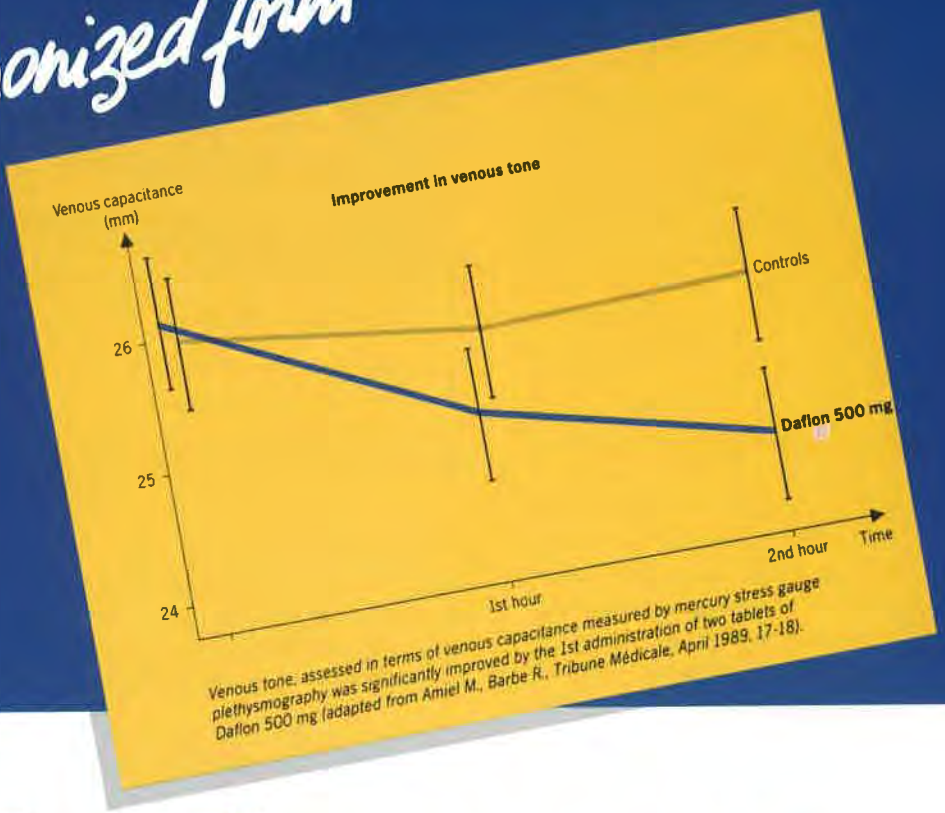

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THE GENERAL PRACTITIONER AND PRE-HOSPITAL CARE OF THE CRITICALLY INJURED

M H Vaswani
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Many a general practitioner may feel ill-equipped by his training for this form of primary care, and believe that it is the responsibility of the ambulance crew and best left to them. However, proper care in the immediate post-injury period can be life-saving, and the practitioner's contribution during this time can make a significant difference to the outcome.

Compared to his routine work where a history is taken followed by examination, the general practitioner at the accident scene has to operate with different priorities – that of recognising injury quickly and resuscitating the critically injured to reduce morbidity and mortality.

Although serious injury can happen in the home or at the worksite, the most frequent injuries the general practitioner is likely to face are those in road traffic accident victims. Whatever the cause, and wherever the place, there are certain principles in the plan of action that must be followed.

1. **Send for help**

   This simple but critical requirement can often be missed in the hurry to attend to the victim(s). Send someone to find the nearest telephone to call for an ambulance and/or notify the police. In the case of a road accident, stopping a passing car equipped with a car-phone (there seem to be more and more of these on the road nowadays) may be the quickest way. The message should be concise, complete and accurate, and the location and degree of urgency clearly specified.

2. **Note time and details of the accident**

   Noting the time of the accident will allow objective assessment of the period for which a victim has not been breathing or moving. Details of the accident and information from the accident scene (e.g. tyre marks on the road, or the location of the crashed vehicle(s) and the injured person(s)) will help in the clinical assessment of the forces involved, and their distribution.

   Damage of the rear end of a car indicates the possibility of whiplash injury in its occupant(s), while damage to the side of the car would make the practitioner suspect that the victim's head struck the side window or make him consider the possibility of multiple fractures. Suspect flail chest and possible tension pneumothorax if you see a grossly deformed steering wheel and/or paradoxical movement of the victim's chest wall.

3. **Assess all victims' injuries**

   Rapidly assess and classify the severity of injuries in all victims to set your priorities in instituting any necessary measures. Deploy all available resources, to ensure that each patient gets appropriate treatment.

4. **Institute life-saving measures**

   Firstly, eliminate any hazards to the victim or the rescuers. Look out for power lines which might have fallen on the car or on the road. Make sure the ignition switch of the car is turned off. Mobilise bystanders to carefully move the injured (gentle movement with the

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neck properly supported in slight extension to prevent airway obstruction or exacerbation of cervical spine injury) off a busy road or away from a vehicle likely to catch fire.

Then, institute whatever necessary life-saving measure are necessary:

i) Clear the airway

Maintenance of a clear airway will markedly improve the chances of survival, and prevent brain damage from hypoxia or inhalation.

Use a spoon or a sucker if available, extracting or loosening any inhaled foreign body with your finger. A laryngoscope is available in some ambulances, and this may be used, if the patient is unconscious, to clear the airway by sucker or forceps. Occasionally, for gross obstruction of the airway, endotracheal intubation may be necessary.

Maintain the unconscious patient in the recovery position to prevent him from inhaling any vomitus or other secretions, since vomiting and swallowing are the first reflexes to return with consciousness.

If the victim is trapped or slumped in the seat of the car, hold up his chin to prevent asphyxiation, or use an improvised neck collar with a newspaper folded in a triangular bandage.

ii) Assist respiration

Use CPR (cardiopulmonary resuscitation) if necessary. If fractured ribs are obvious or suspected, and the patient is conscious, his ribs should be strapped to assist his efforts to breathe and to reduce the accompanying pain.

iii) Control any bleeding

Elevate the affected limb. Apply direct pressure to either the bleeding point or a proximal artery against a bone. If necessary, clamp the artery. Consider intravenous infusion if the patient's blood pressure is low (systolic blood pressure below 100 mm Hg) or dropping. Unexplained shock often is due to internal bleeding. Suspect extradural or subdural bleeding in the presence of reduced level of consciousness, headache and often a progressive bradycardia with rising blood pressure.

Splint any fractured limb after gentle manipulation into the normal position and dress the wound to help control haemorrhage, to ease the pain, and to make an intravenous infusion more effective. If pain prevents movement and correction of any displacement, local anaesthetic might be necessary if the fracture is compromising blood supply. Allowing injured limbs to remain grossly displaced encourages bleeding, swelling, pain and the onset of shock. Do not reduce compound fractures, lest you introduce dirt on the bone ends into the wound. Furthermore, hospital staff may be misled about the injury. The wound may be cleaned and splinted in deformity, with the bone extruding.

5. Attempt to ascertain the cause of unconsciousness

Question other passengers about the victim's health and any medications and when he last ate and drank. Note any information inscribed on an amulet or wristband. Search his clothes or the car's glove compartment for any diabetic, anticoagulant, epileptic or corticosteroid medications or prescriptions. If diabetes or hypoglycaemia is suspected, use a reagent stick to estimate the blood glucose level.

Most convulsions after trauma are due to hypoxia, and will subside when it is corrected by maintenance of an adequate airway. If not, intravenous anticonvulsant medication may be given.

In most cases, unconsciousness is caused by concussion, and its level lifts rapidly. But concussion can have serious sequelae. The post-concussion syndrome of headaches, dizziness, insomnia and inability to concentrate affects to some degree all persons who have had concussion.

6. Assess the conscious patients

Assess the seriousness of his injuries and his condition. Is he able to talk, does he have amnesia? Can he tell you where it hurts? Is movement of his limbs associated with pain? Note his breathing and any associated discomfort when he takes a deep breath to exclude serious chest injury.

Beware of the "walking wounded". All trauma victims who have pain should be reviewed at the hospital, lest they walk away from the accident with broken ribs, soft tissue neck

injuries, fractured lumbar transverse processes, minor fractures of the pelvis, wrists or hands, or even a partial tear of the aorta. All trauma victims should also be cautioned to avoid alcohol, the vasodilator effect of which can exacerbate bleeding.

Do not attempt to control pain with narcotic injections, so that hospital staff can correctly assess the degree of any head injury and respiratory depression. The best sedative is a kind reassuring hand, careful efficient manner, proper splintage and attention to hypoxia.

MEDICO-LEGAL ASPECTS

Accident injuries can be the subject of workmen compensation or insurance claims or of civil or criminal proceedings, which may occur many moons after the date of the accident. Hence the importance of adequate, reliable and readable notes made by the attending doctor, made contemporaneously within a reasonable time period.

The record must include the patient's history of the accident, and all injuries must be noted and charted. The examination must include a search for any disease process or alcohol or drugs that may be present, whether they contributed to the accident and/or injury or not, for the patient may later claim that the damage found was caused by or related to the accident and not by the disease. Notes are not to be altered without good reason. If an alteration has to be made, the to-be-amended parts should be cancelled with a single stroke so they are still readable (they must not be blanked out), and the correction put it and initialled by the doctor.

Any medical report furnished by the attending doctor should have particulars of the patient, the history as given by the patient, results of the examination and any investigations, the treatment given, any follow-up assessment(s), and the prognosis.

The attending doctor must not issue a death certificate if a patient dies of the injuries he has sustained in an accident, or if the cause of death could be linked to the injuries. The case must be reported to the police to be referred to the Coroner.

Medical Negligence

Although there is no legal requirement for any doctor to render aid or treatment to an accident victim, ethical and moral considerations should encourage him to do so, with a sense of duty greater than that of an ordinary citizen.

Although the lack of facilities or support from other professionals and the urgency with which decisions must be made and actions taken may be inherent to attending to those injured in accidents, the practitioner is obliged to observe an appropriate standard of care or conduct which will avoid unreasonable or foreseeable risk to the injured and/or others directly involved. The standard of care required is equated to that of his peers, and encompasses both commission and omission. Failure in this 'duty of care' — failure to do or not do that which 'a prudent colleague' of similar status would in the same circumstances — could constitute medical negligence, and render the doctor liable. The actions of the practitioner must be related to the circumstances of the event; the environment, ancillary resources and available skills are relevant when defining that which is 'reasonable'.

The medical practitioner must:

- examine the victim properly and carefully
- treat the victim to the best of his knowledge and ability, and
- make use of equipment or other resources available

to make a charge of negligence defensible. He must also not leave the victim until he can hand him over to the appropriate authority, such as the ambulance or the hospital, for continued competent medical care. The 'duty of care' must persist until everything possible has been done, or the patient's condition will not be jeopardised by the doctor's withdrawal.

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ORIGINAL ARTICLE

DEPRESSION IN THE ELDERLY– WHAT CAN WE OFFER?

R S H Tan
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Summary

Depression in the elderly is often an overlooked problem worldwide. It usually presents first to the Primary Care Physician who often knows the home and family situation intimately. He/She is in the best position to help. This article highlights possible solutions to the rather complex issue one faces when confronted with the appeal: "What can you do for me, doctor?".

Keywords:

Depression, Elderly, Primary Care Physician, Antidepressants

INTRODUCTION

"The Old Man in Sorrow" is a famous painting by the impressionist artist Vincent van Gogh. Why he should have chosen this subject is thought-provoking. Does ageing per se, bring about depressed moods? No one is exactly clear on this. However, epidemiological studies do show an alarmingly high rate of depression amongst the elderly. The rate varies from between 5 and 42% of the population in general hospital settings[1], and seems higher in populations residing in Nursing Homes, as one study in Japan suggests[2]. In the General Practice setting, depression probably hovers at about 5%. Certainly the prevalence rates differ in different studies, and this could be due to the different diagnostic methods used.

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CLINICAL PRESENTATIONS

This may be typical or atypical, and both frequently occur in Geriatric Practice. In a typical textbook presentation, a patient may say: "Doctor, my husband passed away 8 months ago, and I still am unable to sleep or eat. Everything seems dull. I am depressed. I need some help." Rarely however, are we so fortunate; many a time, depression is masked within other medical illnesses. For instance, careful questioning may reveal depressive symptoms in patients suffering from strokes, Parkinsonism or terminal cancer. A patient of mine recently was sent through a whole gamut of tests, including CT scan, temporal artery biopsy, EEG and a collagen workup when she presented with headaches. This was arguably justified in view of her age, but in fact the tests were all negative. Only a detailed history revealed the source of her problems – loneliness, as she was recently placed in an Old Peoples' Home and she could not cope with the changes. The headaches turned out to be a conversion symptom, as she craved for attention in the unfamiliar setting.

DIAGNOSIS

How then can we be sure that a patient is depressed? As illustrated above, a thorough history is essential. Enquiries to the patient should extend to the support systems and the home situation. The DSMIII criteria, Hamilton Ratings, Geriatric Depression Scale could be used, but in real-life practice, particularly for the Primary Care Physician, this could prove arduous and time-consuming. A novel card system called BASDEC might prove to be the answer. This test takes about 5 minutes to administer and a score above 7/21 suggests depression[3]. Common and reversible causes of depression must also be excluded, including hypothyroidism, concomitant therapy with older antihypertensives (eg reserpine and methyldopa), and other medication (eg steroids).

WHAT CAN WE DO?

For the **severely depressed** and suicidal, an urgent psychogeriatric referral is necessary. Assessment has to be made as to whether electroconvulsive therapy (ECT) is indicated, in addition to psychotropics. In Geriatric Practice, where patients are likely to have multiple pathology, proper cardiovascular and orthopaedic assessments are needed before initiating ECT. However, for patients with **mild to moderate depression**, treatment is within the realm of the Primary Care Physician. This could be broadly divided into 2 categories:

1. Pharmacological Approaches
2. Psychotherapeutic Approaches

This article will highlight some aspects of the former, in particular the choice of the antidepressant for the elderly. The latter approaches would extend from relaxation to supportive, behavioral or even hypnotherapy.

ANTIDEPRESSANT THERAPY

There is a wide choice of antidepressants in the pharmaceutical market: the total in the U.K. is 41, and even in Singapore, it is at least 15. This article is an update of the practice in the U.K., and drugs which are currently available in Singapore are marked with an asterisk for convenience of comparision. Antidepressants are usually grouped into 4 broad categories, namely:

(A) Tricyclics (eg newer generation—trazodone, lofepramine, dothiepin*; older generation—amitriptyline*, imipramine*, nortriptyline*)

(B) Tetracyclics (eg mianserin*)

(C) Monoamine Oxidase Inhibitors (eg tranylcypromine, phenelzine, isocarboxazid)

(D) 5HT specific drugs (eg fluoxetine*, paroxetine, fluvoxamine*)

* *currently available in Singapore*

(A) Of the **tricyclics**, lofepramine is possibly the favoured drug for use in the elderly. Lofepramine has been found to be as efficacious as the older tricyclics such as amitiptyline* or imipramine*, but with much less cardiotoxic effects[4]. This is important in light of the relatively high incidence of cardiac problems in the elderly. Unfortunately, lofepramine alters the liver function in some patients[5]. Dothiepin* may cause sedation, but could have therapeutic implications in patients with difficulty in sleeping.

(B) The next group - **tetracyclics** - includes mianserin* . This drug tends to be sedative with few anticholinergic side effects, but has an increased risk of blood dyscrasias.

(C) **Monoamine Oxidase Inhibitors** (MAOIs) tend to be used less frequently nowadays because of the hazardous interactions they have with the sympathomimetics and the need for dietary restriction. In fact most of the MAOIs have been omitted from the 1991 issue of the Drug Index of Malaysia and Singapore (DIMS).

(D) **5HT** drugs recently came into the market and have influenced especially the North American market. A recent editorial in the Lancet is testament of this[6]. 5HT drugs are believed to work by enhancing serotonergic nerve terminals. There have been several studies comparing their efficacy against tricyclics[7] . The forte of 5HT drugs in Geriatric Practice is, I believe, in easier compliance. For example, fluoxetine* is given just once a day, and in the elderly population, may prove invaluable to improving compliance. Set against this is the cost, but if there are less falls (from orthostatic hypotension compared with older tricyclics),

the expense may be justified.

Hence, the choice of antidepressants in the elderly depends on several factors. One must ask the following questions:

1. Is there coexisting cardiac disease, hypertension or Parkinsonism?
2. Bear in mind that elderly patients are more sensitive to orthostatic hypotension, bladder obstruction and narrow-angle glaucoma, and antidepressants may aggravate the problem.
3. Drug elimination may be slower in the elderly, but this caution should be balanced against the pitfall of prescribing too low a dose of antidepressant, resulting in mere homeopathic doses.

SUMMARY

The algorithm below is suggested with respect to the choice of antidepressants in the elderly.

Last but not least, let me re-emphasise that the management of the elderly depressed must be not solely pharmacological. The fact that someone is there to listen to their problems is often therapeutic enough. Always remember the adage: "We can offer a listening ear".

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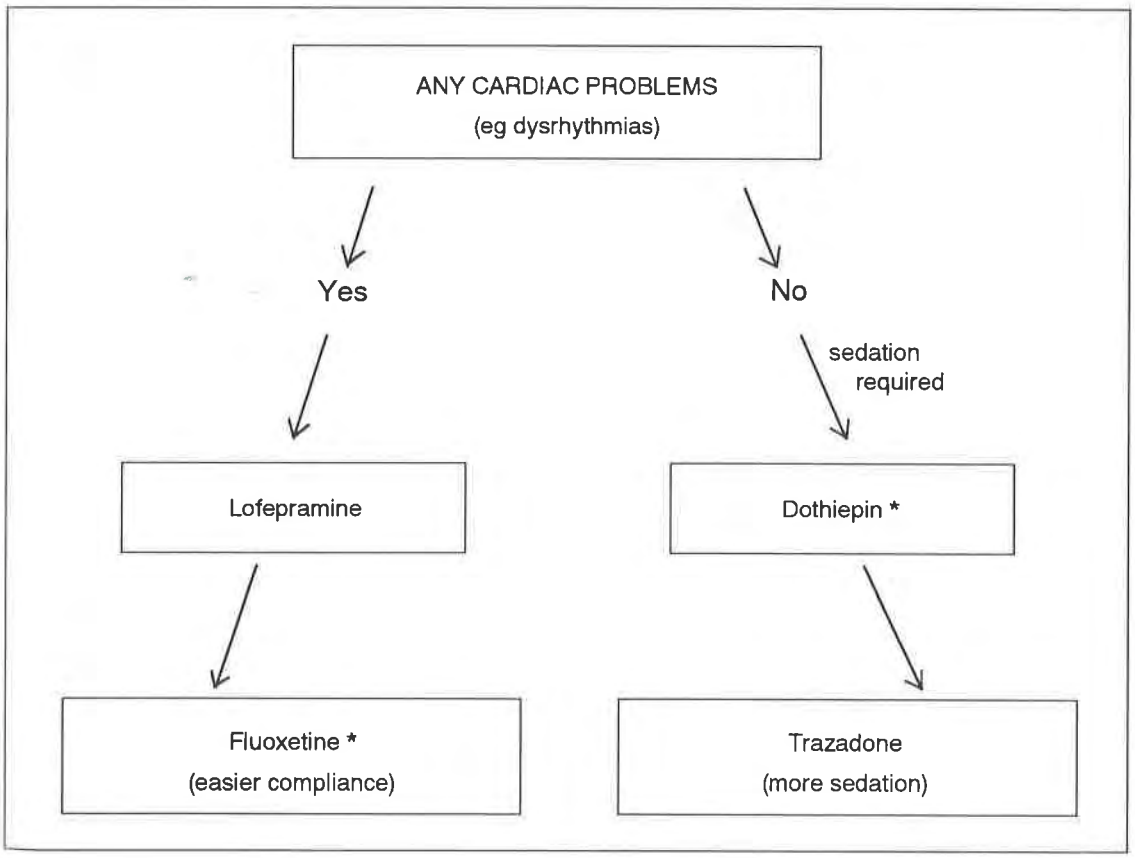

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ORIGINAL ARTICLE

A CLINICAL STUDY OF THE PROGNOSIS AND OUTCOME OF FIRST TRIMESTER THREATENED ABORTION

* *HC Han, MBBS*
** *KH Tan, MBBS, MRCOG*

Synopsis

A retrospective analysis of 133 patients with first trimester threatened abortion was performed with regards to clinical and ultrasonic prognostic factors and outcome. 55.3% of them resulted in unsuccessful pregnancy requiring an evacuation precedure. An increased maternal age, heavy vaginal bleeding, presence of abdominal pain, the later onset of vaginal bleeding and a uterus small than expected for the gestation were associated with a poorer prognosis. The detection of fetal life signs by ultrasound after threatened abortion signified a successful outcome for 91% of the pregnancies. The incidence of preterm delivery and low birth weight infants in those with a successful pregnancy were 14.3% and 16.7% repectively.

Keywords:

Threatened abortion, first trimester, ultrasound, vaginal bleeding

INTRODUCTION

First trimester threatened abortion is a common problem faced by both the family physicians and gynaecologists. The incidence of first trimester threatened abortion varies from 11.8% (Evans & Beischer 1970) to 16% (Hertig & Livingstone 1944). It can be a symptom of early pregnancy failure, or it may proceed well and end with a live birth.

Although first trimester threatened abortion is regarded by some clinicians to be a minor problem, it is important to be aware of misdiagnosis and to exclude the possibility of a molar or ectopic pregnancy. The former is important in view of the potential risk of choriocarcinoma and the latter is a potentially life threatening condition for the mother. The clinician would also have to contend with the fact that approximately half of pregnancies clinically diagnosed as threatened abortion would result in inevitable or incomplete abortion requiring an evacuation procedure.

To the prospective mothers the occurrence of threatened abortion can be very alarming and distressing. They wonder whether the fetus is normal and are very worried that a congential anomaly may have been the cause of the symptoms or the bleeding may have damaged the baby. Those with previous experience of an unsuccessful pregnancy are particularly anxious to know if they will miscarry again. Uncertainty is the most important cause of anxiety. Therefore, every effort should be made by

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both the family physician and the gynaecologist to determine not only her exact condition but also the prognosis of threatened abortion as quickly as possible.

Ultrasound scan has attained a central role in the diagnosis and prognosis of patients with first trimester threatened abortion. The detection of a gestation sac in the uterus, the reliable diagnosis of fetal life signs and the differentiation of the pathologic form of early pregnancy like hydatidiform mole from the normal ones are of great help to the clinicians. Another important useful task is to predict the subsequent outcome of the pregnancy. The detection of the fetal heart activity signifies a successful outcome in 87% to 93% of the pregnancies after threatened abortion (Robinson 1975, Anandakumar et al 1987). The family physician who is often the first recourse to whom the patient will turn to, may not have ready access to ultrasound. Therefore clinical diagnostic and prognostic factors although less conclusive are still the mainstay of primary care. Subsquent management is frequently dictated by these clinical disgnostic and prognostic factors.

AIM

The aim of this study is 2 fold: firstly, to identify and evaluate the clinical and ultrasonic prognostic factors and secondly, to establish the outcome of pregnancy complicated by first trimester threatened abortion.

PATIENTS AND METHODS

The Admission Room in Kandang Kerbau Hospital functions as its emergency department for patients with acute gynaecological complaints. It handles more than a thousand cases of threatened abortion annually.

A retrospective study of all patients of the Department of Gynaecological Oncology and Urology who were seen at the Admission Room in Kandang Kerbau Hospital between 1.7.90 and 30.11.90 with the complaint of bleeding per vaginum in the first 12 weeks of pregnancy was performed. All patients had their pregnancies confirmed by positive urine pregnancy tests performed either by the private practitioners or by us on the day of consultation. This study was confined to patients who did not give history of passing out tissue or product of conception and in whom on vaginal examination, the cervical os was closed thereby excluding incomplete or inevitable abortions. All patients with suspected ectopic pregnancy were also excluded. There were 133 patients in the series. They were followed up until abortion or delivery.

In the study the following variables were assessed: maternal age, gravidity, marital status, employment status, previous history of spontaneous abortion and termination of pregnancy, weeks of amenorrhoea at onset, severity and duration of bleeding, the uterine size and any associated abdominal pain.

Those with utrasonic diagnosis of non-viable pregnancy including missed abortions, incomplete abortions, ectopic pregnancies and molar pregnancies had an evacuation of uterus sunsequently. Those with utrasonic diagnosis of viable pregnancy were followed up in the gynaecological outpatient clinic. Those with utrasound diagnosed as unsure viability had their rescans 2 weeks later to ascertain the fetal viability. They were then treated accordingly.

The products of conception were sent for histological examination in most patients with spontaneous or missed abortion. Molar pregnancy was diagnosed based on the histological evidence. If the patient continued her pregnancy to delivery the actual birth weight of the infant and the gestational age at delivery were noted.

The "statistical analysis" was performed with the "Epistat" statistical package. Analysis of variance was used for continuous variables and chi-square analysis for categoric variables. Statistically significant differences required a p value of < 0.05.

RESULTS

A. THE CHARACTERISTICS OF THE STUDY GROUP AND FIRST TRIMESTER THREATENED ABORTION

a) Incidence

There were 133 women during the 5-month study period from 1.7.90 to 30.11.90 with the diagnosis of "First Trimester Threatened Abortion" after the consultation. There were 2106 deliveries in the

department during the study period and thus the incidence of first trimester threatened abortion is estimated to be 6.3%. However, the true incidence is higher as not all patients with first trimester threatened abortion were seen at the Admission Room. Some of them were seen in the gynaecological outpatient clinics and some were seen by other private gynaecologists in other hospitals. It is also true that not all patients with first trimester threatened abortion sought medical attention.

b) Patients' characteristics

There were 82 (61.7%) Chinese, 26 (19.5%) Malays, 20 (15.0%) Indians and 5 (3.8%) others in the study group. As compared to the racial composition of the pregnant population in our department, there were relatively more Chinese and Indians and less Malays in the study group (Table 1).

Seventy patients (52.7%) were in the 21-30 year age group and 56 patients (42.1%) were in the 31-40 year age group. Only 4 (3.0%) were below 21 years of age and 3 (2.2%) were above 40 years of age. As compared to the age distribution of the pregnant population in the department, there were more women over 30 years of age in the study group (Table 2).

It is noted that majority of the patients (97%) in this study were married.

TABLE 1: RACIAL DISTRIBUTION OF PATIENTS WITH FIRST TRIMESTER THREATENED ABORTION (n = 133)

Race	Number	Percent*	Pregnant Population (%)
Chinese	82	61.7	50.2
Malay	26	19.5	36.6
Indian	20	15.0	9.4
Others	5	3.8	3.8
Total	133	100	100

* $p<0.05$

TABLE 2: MATERNAL AGE DISTRIBUTION OF PATIENTS WITH FIRST TRIMESTER THREATENED ABORTION (n = 133)

Age (Years)	Number	Percent	Pregnant Population (%)
20 or less	4	3.0	5.1
21-25	30	22.6	22.2
26-30	40	30.1	36.2
31-35	38	28.6	25.8
36-40	18	13.5	9.3
41 or above	3	2.2	1.4
Total	133	100	100

Eighty four patients (63.2%) were working. Eighty three patients (62.4%) were multigravidae as compared to the 70% in our pregnant population. Hence there were more primigravida in the study group.

Thirty six patients (27.1%) had a past history of termination of pregnancy and 27 patients (20.3%) had a past history of spontaneous abortion.

c) *Characteristics of first trimester threatened abortion*

Seventy one patients (53.4%) had the onset after 8 weeks of amenorrhoea. Fifty five patients (41.4%) presented with spotting only and 51 patients (38.3%) complained of mild bleeding per vaginum. The remainder (20.3%) had moderate or severe bleeding per vaginum.

Seventy six patients (57.1%) reported a duration of bleeding per vaginum for one day or less and up to 80% of them had bleeding per vaginum for 3 days or less. Seventy three patients (55.3%) did not complain of any associated lower abdominal pain.

B. OUTCOME OF PREGNANCY

Seventeen of the 133 patients had defaulted follow-up and 4 patients had opted for termination of pregnancy. Sixty two of the 112 patients (55.3%) ended in spontaneous abortion,42 (37.5%) progressed to live birth, 2 (1.8%) each had ectopic pregnancy and molar pregnancy repectively and 4 (3.6%) were not pregnant.

C. THE CLINICAL PROGNOSTIC FACTORS

The patients were stratified into 2 main groups: live-birth versus spontaneous abortion. Patients with ectopic pregnancy and molar pregnancy were included in the spontaneous abortion group. The live-birth group consisted of 42 patients and the spontaneous abortion group consisted of 66 patients (Table 4).

The following variables in the 2 groups were compared: maternal age, gravidity, job status, martial status, previous termination of pregnancy, previous spontaneous abortion, gestational age at onset of bleeding, duration of bleeding, association with abdominal pain, uterus smaller than dates and severity of bleeding.

The mean maternal age was 31.7 years in the spontaneous abortion group and 28.1 years in the live-birth group. Increasing maternal age entailed an increased risk of a non-viable pregnancy.

TABLE 3: OUTCOME OF PREGNANCY AFTER FIRST TRIMESTER THREATENED ABORTION (n = 112)

Outcome	Number	Percent*
Spontaneous abortion	62	55.3
Live birth	42	37.5
Ectopic pregnancy	2	1.8
Molar pregnancy	2	1.8
Not pregnant	4	3.6
Total	112	100

* Based on a total of 112 patients, after excluding 17 who had defaulted follow-up and 4 who had opted for termination of pregnancy.

Of the 50 primigravida, 34 (68%) had aborted. There were 34 primigravida (51.5%) in the spontaneous abortion group as compared to the 16 (38%) in the live-birth group. Primigravity in this study signified an increased risk to spontaneous abortion.

Three of the 4 single women (75%) had abortion. There was 1 single woman (2.4%) in the live-birth group as compared to the 3 (4.5%)

TABLE 4: THE VARIABLES AND THE PROGNOSTIC FACTORS IN PREGNANCY WITH FIRST TRIMESTER THREATENED ABORTION

Variable/prognostic factor	Live-birth (n = 42)	Spontaneous abortion (n = 66)
Maternal age (years) *	28.1 +/- 4.83	31.7 +/- 5.95
primigravida (%)	16 (38%)	34 (51.5%)
Working mother (%)	29 (69%)	37 (56%)
Single mother (%)	1 (2.4%)	3 (4.5%)
Previous termination of pregnancy (%)	14 (33.3%)	15 (22.7%)
Previous spontaneous abortion (%)	11 (26.2%)	12 (18.2%)
Weeks of amenorrhoea at onset **	8.0 +/- 1.84	9.4 +/- 2.17
Duration of bleeding (day)	2.8 +/- 3.32	3.0 +/- 3.97
Association with abdominal pain (%)*	12 (28.6%)	37 (56.1%)
Uterine size < dates (%)*	3 (7.1%)	21 (31.8%)
Moderate and severe bleeding	4 (9.6%)	15 (22.7%)

* $p<0.05$
* $p<0.001$

TABLE 5: WEEKS OF AMENORRHOEA AT ONSET AND OUTCOME OF PREGNANCY

Weeks of amenorrhoea at onset	Live birth (%) (n = 42)	Spontaneous abortion (%) (n = 66)
6 or less	8 (19.0)	4 (6.1)
6.1 to 8	15 (35.7)	20 (30.3)
8.1 to 10	12 (28.6)	10 (15.1)
10.1 to 12	7 (16.7)	32 (48.5)
Total	42 (100)	66 (100)

in the spontaneous abortion group. Pregnancy in a single woman was associated with an increased risk to spontaneous abortion.

The mean gestational age at onset of bleeding was 8.0 weeks in the live-borth group as compared to the 9.4 weeks in the spontaneous abortion group. Seven patients (16.7%) in the live-birth group compared to 32 patients (48.5%) in the spontaneous abortion group had onset of bleeding after 10 weeks. Late onset of bleeding entailed an increased risk to spontaneous abortion. (Table 5).

Fifteen patients (22.7%) had moderate or severe bleeding in the spontaneous abortion group as compared to the 4 (9.6%) in the live-birth group. Fifteen of the 19 patients (79%) with moderate and severe bleeding compared to 51of 89 patients (57.3%) with mild bleeding or spotting had spontaneous abortion. Therefore moderate or severe bleeding were associated with an increased risk to spontaneous abortion (Table 6).

The average duration of bleeding was 2.8 days in the live-birth group and 3.0 days in the spontaneous abortion group. However, 5 of the 6 patients (83.0%) with bleeding for more than 7 days compared to 61 of 102 patients (59.8%) had spontaneous abortion. Bleeding for more than a week entailed an increased risk to spontaneous abortion (Table 7).

Thirty seven of the 49 patients (56.1%) in the spontaneous abortion group had associated abdominal pain as compared to the 12 of the 42 (28.6%) in the live-birth group. The presence of abdominal pain signified an increased risk to spontaneous abortion.

Twenty one patients (31.8%) in the spontaneous abortion group had uterine size smaller than dates as compared to the 3 (7.1%) in the live-birth group. The finding of a uterus smaller than dates was associated with an increased risk to spontaneous abortion. (Table 8).

However, the other 3 variables: the employment status, history of previous termination of pregnancy and history of previous spontaneous abortion did not show

TABLE 6: SEVERITY OF BLEEDING AND OUTOCME OF PREGNANCY

Severity of bleeding	Live-birth (%) (n = 42)	Spontaneous abortion (%) (n = 66)
Spotting	19 (45.2)	25 (37.9)
Mild	19 (45.2)	26 (39.4)
Moderate	4 (9.6)	14 (21.2)
Severe	0 (0)	1 (1.5)
Total	42 (100)	66 (100)

TABLE 7: DURATION OF BLEEDING AND OUTCOME OF PREGNANCY

Duration of bleeding (days)	Live-birth (%) (n = 42)	Spontaneous abortion (%) (n = 66)
1 or less	26 (61.9)	34 (51.5)
2-3	4 (9.5)	20 (30.3)
4-7	11 (26.2)	7 (10.6)
>7	1 (2.4)	5 (7.6)
Total	42 (100)	66 (100)

TABLE 8: UTERINE SIZE AND OUTCOME OF PREGNANCY

Uterine size as compared to dates	Live birth (%) (n = 42)	Spontaneous abortion (%) (n = 66)
Uterus < dates	3 (7.1)	21 (31.8)
Uterus = dates	38 (90.5)	44 (66.7)
Uterus > dates	1 (2.4)	1 (1.5)
Total	42 (100)	66 (100)

any correlation with the outcome in this study.

D. THE ROLE OF ULTRASOUND SCAN

Ultrasound scan was done in 111 patients. Of the 48 patients with viable pregnancy, 35 continued the pregnancy to delivery, 2 had spontaneous abortion, 10 defaulted follow-up and one opted for termination of pregnancy. Thirty five of the 37 patients (95%) with ultrasound-detected fetal heart activity continued the pregnancy. Of the 9 patients who had repeated ultrasound scan 2 weeks after an inconclusive first scan, 75% of the (6 of the 8 patients, 1 defaulted) had ultrasound-detected fetal heart activity with subsequent continuation of pregnancy. By combining the 2 results, the prognostic value of ultrasound scan in this study was 91% (41 out of 45 patients) in signifying a successful pregnancy outcome.

All the 34 patients with non viable pregnancy as detected in the first scan had an evacuation of the uterus. Of the 8 patients with empty uterus one had complete abortion, 2 had ectopic pregnancy, 4 were not clinically pregnant even though initially they were told to have positive urine pregnancy tests (either a false positive pregnancy test or an early biochemical pregnancy which failed) and one had defaulted follow-up.

Of the 66 patients who had spontaneous abortion eventually, 43 (65.2%) of them were diagnosed by ultrasound. This included the 34 patients mentioned above.

E. THE PERINATAL OUTCOME

Forty two patients had their pregnancies continued to delivery. 6 of them delivered before 37 completed weeks of gestation. The incidence of preterm labour in the study was 14.3%. 3 patients delivered between 31st and 33rd week, another 3 delivered between 34th and 36th week.

Seven patients had infants of birth weight less than 2501 gms. The incidence of low birth weight infants in the study was 16.7%. Of the 3 infants with birth weight less than 2001 gms, all of them were at 32nd week gestation. Of the 4 infants with birth weight between 2001 and 2500 gms, 2 were at 36th week gestation and another 2 were at 38th week gestation.

DISCUSSION

The racial distribution of the study group showed relatively more Chinese and Indians than Malays as compared to the racial composition of the pregnant popualtion in our deparment. The Malays tend not to seek or to be late in seeking treatment and also to ignore bleeding per vaginum. This is perhaps because they usually have big families with busy family commitments and majority also belong to the lower socio-economic class.

In this study 62 patients (55.3%) presenting with first trimester threatened abortion ended in a spontaneous abortion while 42 (37.5%) had a live birth. These figures are similar to those obtained in the study by Johannsen (1970a), Poland et al (1977) and others. Two patients (1.8%) had ectopic pregnancy while another two (1.8%) had molar pregnancy. Although small in numbers ectopic pregnancy and molar pregnancy are two very important differential diagnosis which must always be borne in mind.

Increasing maternal age signified an increased risk of spontaneous abortion. This is similar to that reported by Resseguie (1974) who found an increased pregnancy loss in patients above the age of 35 and Johannsen (1970a, 1970b), who found that the frequency of abortion was higher in the older age groups. This must be seen in relation to the fact that the number of abnormal fetuses increases with age (Lauritsen 1976).

Primigravidae showed an increased frequency of spontaneous abortion in our study. This is in contrast to the study of Johannsen (1970b) who reported that spontaneous abortion was relatively more frequent among the multigravidae.

However as the incidence of spontaneous abortion also increases with increasing maternal age, Johannsen (1970b) had made an attempt to correct for age. After correction for age, he found that the incidence of spontaneous abortion only increased among those with 4 pregnancies and above.

Late onset of bleeding in this study was associated with an increased risk to spontaneous abortion especially if the onset was at 10 to 12 weeks. This is in contrast with that reported by Johannsen (1970a) who reported that the risk of abortion was greater the earlier in pregnancy the bleeding occurred. However, Jouppila (1980a) reported that there was a tendency to abortion with a late onset of bleeding.

A uterus clincially smaller than dates by 2 weeks or more entailed an increased risk of spontaneous abortion. This finding was also reported by Jouppila (1980b).

Moderate and severe bleeding was associated with an increased risk of spontaneous abortion. The similar finding was also reported by Evans and Beischer (1970) and Johannsen (1970a). The presence of lower abdominal pain signified an increased risk of spontaneous abortion.

The risk of spontaneous abortion increased in single women as was reported by Johannsen (1970b). The risk of spontaneous abortion also increased in those with bleeding for more than 7 days in our study. Jouppila (1980a) reported that bleeding for 3 days or more was associated with an increased risk of spontaneous abortion.

As for the remaining 3 variables, the employment status, the history of previous termination of pregnancy and previous spontaneous abortion, they did not show any correlation with the risk of spontaneous abortion in this study although the last 2 factors have been shown to increase the risk of subsequent spontaneous abortion in other studies (Warburton and Fraser 1964, Poland et al 1977).

Ultrasound has revolutionised the management of first trimester threatened abortion. The demonstration of a normal intrauterine pregnancy and the fetal heart activity is a good prognostic sign. In this study it signified delivery in 91% of the patients. This figure corresponds to the earlier observations from some other reports (Jouppila 1980a, Robinson 1975, Anandakumar et al 1987). This high predictive value accords the primary importance to ultrasonic examinations in the diagnostic evaluation of problems in first trimester threatened abortion.

Ultrasound is also useful in the diagnosis of missed or incomplete abortions. In this study, 34.8% of the spontaneous abortions were diagnosed clinically whereas the majority (65.2%) were diagnosed by ultrasound. It has been argued that all these pregnancies will ultimately be obvious clinically and abort spontaneously. However, ultrasound allows earlier diagnosis and this converts what may have been an emergency precedure to be carried out electively with increased safety for the patient. Further considerations are the reduction of psychological stress to the patient of awaiting a spontaneous abortion, the decrease in the duration of bleeding and the amount of blood loss, and the saving from the cost of hospitalisation as a result of a shorter stay.

The use of ultrasound scan especially the transvaginal scan in clinically diagnosed threatened abortion has the added advantage of detecting unsuspected ectopic pregnancy. Indeed, it picked up two ectopic pregnancies in this study.

Many reports have shown that pregnancy complicated by first trimester threatened abortion is associated with a suboptimal pregnancy outcome. In the older reports, the chief complications (increased perineal mortality, prematurity, low birth weight infant and congenital malformation) seemed to occur significantly more often in pregnancies complicated with threatened

abortion than in control pregnancies (South & Naldrett 1973, Turnbull and Walker 1956). Later observations however have only confirmed the increased frequency of prematurity establishing the other pathologic parameters as secondary due to the premature delivery (Jouppila 1980a, Huisjes 1984, Hertz and Heisterberg 1985).

There is an increase in preterm delivery in women with first trimester threatened abortion. The incidence was 14.3% in this study which is in agreement with the 12.7% reported by Funderburk et al (1980). Huisjes (1984) reported that the incidence of preterm delivery developing in 8 to 16.7% of such women. The incidence of preterm delivery in developed countries generally reported vary between 5 and 9 % (Rush et al 1976). Hence the risk of preterm delivery is approximately 2-3 times higher after a first trimester threatened abortion.

There is an increase in low birth weight infants in mothers with first trimester threatened abortion. The incidence was 16.7% in this study which is similar to the 20.9% and 17.4% reported by Turnbull and Walker (1965) and Funderburk et al (1980) repectively. The incidence of low birth weight infants in England and Wales is only 7% (Office of Population Census and Surveys 1988). Hence the risk of low birth weight infants is estimated to be 2 times greater in patients with first trimester threatened abortion.

SUMMARY

First trimester threatened abortion constitutes a common diagnostic and prognostic problem for the gynaecologist. It also causes great anxiety and distress to the patients. The rate wastage after bleeding is about 50%. The rate was 55.3% in this study.

Ultrasound scan is a major advance in the management of the patients with first trimester threatened abortion. The most useful finding of prognostic significance is fetal life detection. It signified a successful continuation of pregnancy with 91% delivery rate in this study. Ultrasound scan also allows early diagnosis of blighted ovum and missed abortion hence evacuation of uterus can be done early. This decreases the duration of bleeding, reduces the psychological stress of the patient and results in a notable saving of costs. However, due to the logistic and administrative problems, it may not always be possible to perform an ultrasound scan as early as one would like. Ultrasound is also operator and equipment dependent and requires expertise.

There are certain bad clinical prognostic factors which have been shown in this and other studies. They are an increasing maternal age, the presence of abdominal pain, an uterus size smaller than dates by 2 weeks or more, the later onset of bleeding and the presence of moderate or severe bleeding. It is hoped that with the help of these factors an improved and more specific prediction of the risk of miscarriage can be provided to each individual patient.

There is an increased incidence of suboptimal pregnancy outcome in patients with first trimester threatened abortion. This study has shown an increased risk of preterm delivery and low birth weight infant in patients with first trimester threatened abortion. Thus pregnancy complicated by first trimester threatened abortion constitutes a high risk group demanding careful follow-up by family physicians and gynaecologists and anticipation of the problems that may arise.

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DIZZINESS IN THE ELDERLY - AN APPROACH

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Summary

Dizziness is a common complaint among old people. History is very often confusing, especially if we do not know what to ask. The common causes of dizziness in old people are discussed, and a simple approach to the problem is presented as a guideline towards management.

Keywords:

Dizziness, Giddiness, Vertigo, Elderly

DIZZINESS IN THE ELDERLY

Dizziness is a common problem, yet difficult to diagnose. The history given by the elderly or their families is often incomplete, or confusing. A complaint of dizziness is very significant because it may be associated with falls[1] , and a fall is a geriatric emergency.

I shall discuss the symptom first, and then proceed to plan a practical approach to the problem.

DIZZINESS

This is a very non-specific complaint, and has a different meaning to different people:

1. dizziness,
2. sensation of floating in the air or walking on a cloud,
3. actual sensation of spinning around (true vertigo), or
4. lightheadedness.

Therefore, it is very important to know exactly what the patient means when he complains of feeling dizzy.

HISTORY TAKING

1. What is the patient's description of the symptom - is it vertigo?

   Can the patient describe the sensation without using the word 'dizzy'?

2. What are the precipitating factors for each episode of dizziness?

   Is it posture-related (postural hypotension)?

   Is the vertigo precipitated by coughing or sneezing (middle ear disease)?

   Is there any relation to meals (dumping syndrome, hypoglycemia)

   Is it related to micturition or after a bout of coughing?

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3. Are there any associated symptoms like:
   - hyperventilation (hyperventilation syndrome)
   - diplopia, blurred vision, dysarthria and ataxia (brainstem dysfunction)
   - hearing loss (Meniere's disease)
   - recent viral upper respiratory tract infection (acute viral labyrinthitis, vestibular neuronitis).
   - change in position of the neck (BPPV-benign paroxysmal postural vertigo).
   - Valsalva's manoeuvre (posterior fossa or foramen magnum lesion).
4. Are there any regional and systemic symptoms like:
   - tinnitus and hearing impairment (inner ear dysfunction)
   - deafness, hemifacial paresthesia, unilateral limb ataxia (cerebellopontine angle pathology)
   - diplopia, dysarthria, bilateral facial and limb paresthesia, or paresis (brainstem involvement)
   - imbalance and falls, urinary incontinence or dementia (frontal lobe disorder).
5. Is the patient taking any drugs that can cause dizziness? (antihypertensives, anti-depressants, antianginals or anticonvulsants).

PHYSICAL EXAMINATION

A complete physical examination must be performed. In addition, the following points must be noted:

1. Nystagmus - nystagmus is a sign of the symptom vertigo. See Table 1.

   Central causes of nystagmus usually include brainstem or cerebellar lesions while peripheral causes usually include vestibular or labyrinthine disorders.

2. Nylen-Barany's manoeuvre

   The patient is moved abruptly from a seated to prone position with his head hanging 30 or 45 degrees below the horizontal and 45 degrees to one side. He is observed for the development of nystagmus and vertigo for about 20 seconds. The procedure is then repeated with the head turned to the other side[2].

   A positive test indicates benign paroxysmal positional vertigo (BPPV).

3. Blood pressure - postural changes noted.

TABLE 1: COMPARISON BETWEEN CENTRAL AND PERIPHERAL CAUSES OF NYSTAGMUS.

CENTRAL	PERIPHERAL
Multidirectional	Unidirectional
Vertical nystagmus is usually central	Rotatory or torsional nystagmus is usually peripheral
Not gaze-dependent	Gaze-dependent
Cannot be fatigued	Fatigues
Cannot be suppressed	Suppressed by gaze fixation
Tends to persist	Transient

Cardiac examination - heart rate, rhythm, carotid pulses, bruits.

4. Head turning - sitting, standing with eyes opened and closed and sudden turning when walking.
5. The patient is told to hyperventilate for 2 to 3 minutes and asked if that is the sensation that he is describing.
6. Tests of cerebellar function.
7. 'Specialized tests'- caloric testing for labyrinthine function
   - Valsalva's manoeuvre

LABORATORY TESTS:

1. FBC, Urea, Creatinine, Electrolytes, Sugar, Total Protein, Albumin, Thyroid Function Tests
2. Urine analysis
3. X rays - Chest, Cervical spine, CT Scan brain
4. ECG, EEG
5. Optional tests - OGTT, Holter monitoring
   Psychometric tests

CAUSES:

The causes of dizziness were studied by Drachman et al in 1972[3] and the major causes of dizziness found are shown in Table 2.

Among the **common disorders** causing dizziness are:

1. Otitis media - acute and chronic. Cholesteatoma may produce erosion of the ossicle resulting in a mixed conductive sensori-neural hearing loss.
2. Bacterial labyrinthitis (may result in irreversible loss of vestibular and auditory function but this is uncommon now with antibiotics), viral labyrinthitis, syphilitic labyrinthitis.
3. Vascular disorders - vertebro-basilar insufficiency, lateral medullary syndrome, ponto-medullary syndrome, labyrinthine infarct, brain stem or basilar artery migraine, intra-labyrinthine haemorrhage, acute cerebellar haemorrhage[4,5].
4. Meniere's syndrome - fluctuating hearing loss and tinnitus, episodic vertigo and a sensation

TABLE 2: CAUSES OF DIZZINESS: MAJOR ETIOLOGIES

	%
Peripheral vestibular disorders	38
Hyperventilation syndrome	23
Multiple sensory deficits	13
Psychiatric disorders	9
Uncertain diagnosis	9
Brainstem cerebrovascular accident	5
Neurological disorders, others	4
Cardiovascular disorders	4
Others – Multiple selerosis	2
– Visual disorders	2
– Endocrine disorders	1
– Excessive awareness of normal sensation	1

of fullness or pressure in the ear. Typically the patient develops a sensation of fullness and pressure along with decreased hearing and tinnitus in one ear. Vertigo repidly follows reaching a maximum intensity within minutes and then slowly subsiding over the next several hours. The patient is usually left with a sense of unsteadiness and dizziness for days after the acute vertiginous episode. In the early stages the hearing loss is completelly reversible but in later stages a residual hearing loss remains. The main problem appears to be distension of the entire endolymphatic system. The membranous labyrinth progressively dilates until the saccular wall makes contact with the stapes footplate and the cochlear duct occupies the entire vestibular scala.

The cochlear and vestibular end organs and nerves show minimal pathologic changes. Membranous labyrinth herniations and ruptures are common, the latter frequently involving Reissneer's membrane and the walls of the saccule, utricle and ampullae.

5. Degenerative disorders of labyrinth - benign paroxysmal positional vertigo.
6. Hyperventilation
7. Trauma
8. Toxins and drugs
9. Multiple sclerosis, cervical spondylosis, epileptic vertigo, visual disorders, multi-sensory dizziness, tumours - NPC, Acoustic neuroma

Among the **elderly patients**, the following are the commonest causes of dizziness:

a. Central causes resulting from cerebral ischaemia,

b. Cardiac causes from low blood pressure or arrhythmia,

c. Cervical spondylosis due to cervical mechanoreceptor dysfunction of apophyseal joints, and

d. Common drugs like anti-hypertensives, anti-depressants, anti-convulsants and some over-the-counter drugs.

MANAGEMENT:

The broad principles of management are:

1. treat the underlying cause(s)
2. reassure patients. For example, those with BPPV can be reassured that symptoms will subside within one year in 90% of cases. In viral vestibular neuronitis, symptoms usually clear after six months, while in Meniere's disease, the course is variable.
3. physical therapy as described by Brandt and Daroff[6] may be effective for BPPV. Exercises are repeated till vertigo is fatigued, and therapy is stopped only after two vertigo-free days.
4. prescription of drugs like prochlorperazine (Stemetil), cinnarizine (Stugeron) and betahistidine (Serc) are useful for symptomatic relief if the symptom of dizziness is due to middle or inner ear disease.

APPROACH TO DIZZINESS

With prior knowledge of the above, the approach to dizziness can be summarized as follows:

1. *Define The Symptoms*

   - is it vertigo, lightheadness, disequilibrium or pre-syncopal attacks?

2. *Define Onset*

   - Acute? Acute - cerebellar - infarct
     - haemorrhage
     - Meniere's disease

   - Chronic? - Provoked?
     - Unprovoked?

3. *Examination*

   - CNS - Nystagmus - central
     - peripheral

     - Cranial nerves, long tract signs, cerebellar signs

   - ENT - Hearing tests - audiometry, Weber, Rinne's test
     - Barany's positional test
     - Caloric testing

- CVS - Rhythm - regular, irregular
  - Blood pressure - any postural changes?
  - Heart - any murmurs?
  - Bruits? - Carotids

- Patient to hyperventilate - same sensation as experienced?

- Evidence of multiple sensory deficit?

4. *Investigations*
   - Basic blood, urine, ECG and Xrays.
   - More specific tests - Caloric tests, CT Scans etc.

About 9% of all patients investigated will have no diagnosis.

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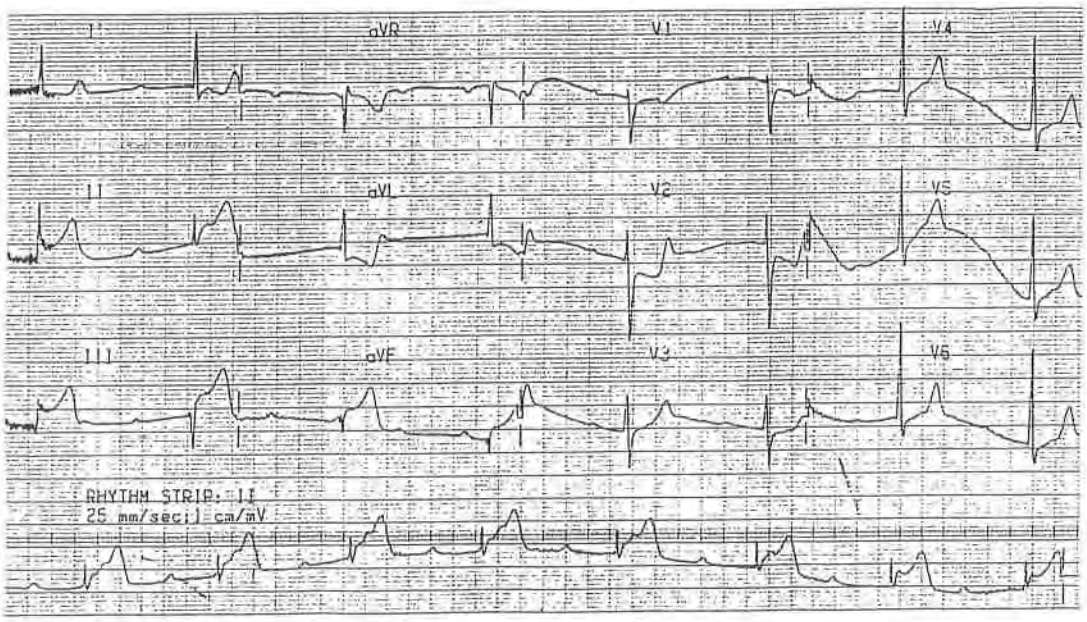
1) Livesley B. Fall in older age. Br Med J 1984; 289: 568-9.
2) Venna N. Dizziness, falling, and fainting: Differential diagnosis in the aged (Part 1). Geriatrics 1986; 41: 30-42.
3) Drachman DA, Hart CW. An approach to the dizzy patient. Neurology 1972; 22: 323-33.
4) Duncan GW, Parker SW, Fisher CM. Acute cerebellar infarction in PICA territory. Arch Neurol 1975; 332: 364-8.
5) Heros RC. Cerebellar Haemorrhage and infarction. Stroke 1982; 13: 106-9.
6) Brandt T, Daroff RB. Physical therapy for benign positional vertigo. Arch Otolaryngol 1980; 9: 121-6.

ECG QUIZ

Contributed by Dr Baldev Singh,
MBBS (S'pore), M.Med (Int Med), MRCP (UK), FRCP (Glasg.), Assc. FACC (USA)

The ECG shown below belongs to a 64-year-old male Chinese who was admitted for severe retrosternal pain. What are the abnormalities seen and what can you diagnose from these? How would you manage this patient?

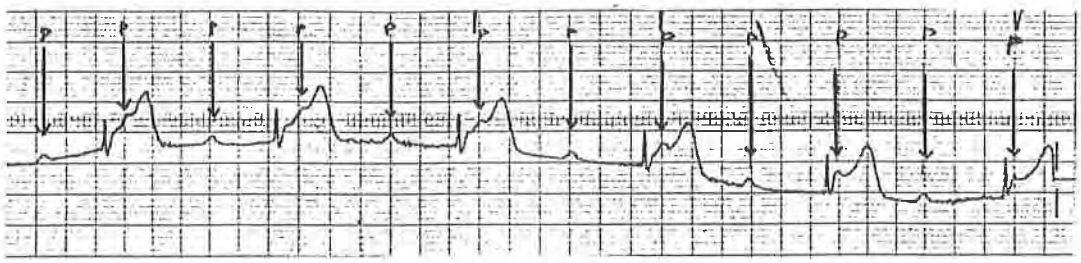


Answers on next page

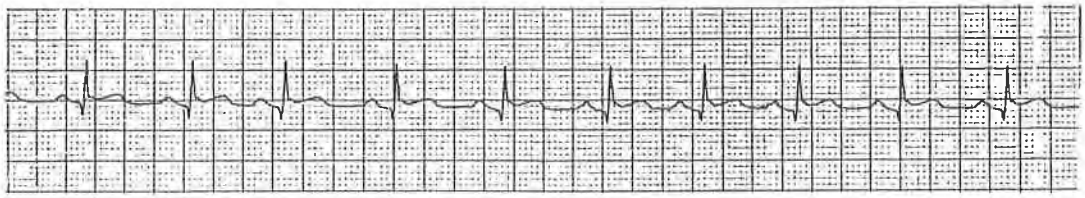
ANSWERS TO ECG QUIZ

First the ECG shows elevated ST segments in leads II, III and AVF. Reciprocal ST depression is seen in I, AVL, V1 to V3. These changes indicate an acute evolving inferior myocardial infarction.

Secondly the heart rate is slow - less than 50 min. This would immediately alert one to look out for an A-V block. As noted in the rhythm strip below P wave activity is present at about 100 beats/min and is totally independent of the QRS complexes. Hence there is complete A-V dissociation. The ventricular complexes are narrow indicating that the ventricular pacemaker is high in the HIS bundle or in the A-V node.



This patient had arrived in the hospital soon after onset of chest pain. He was admitted to ICU and an infusion of Streptokinase 1.5 million units was started after ascertaining that he had no contraindication to thrombolytic therapy. He was given IV fluids. IV Morphine sulphate, transdermal nitrate and an infusion of Isoprenaline was started and titrated to keep his heart rate and BP up. He made a remarkable recovery and within 2 hours his pain had gone and he was restored to sinus rhythm. Fortunately a temporary pacemaker was not required. Following Streptokinase infusion he was kept on IV Heparin. Following recovery he should have coronary angiography.



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COUNCIL NEWS
January to March 1992

COLLEGE DIPLOMATE EXAMINATION 1992

The last Diplomate Membership (MCGP) Examination will be held on the following Sundays: 20 September, 27 September and 4 October 1992.

Registration closed on the 31st March 1992.

From next year, the Diplomate Examination will be replaced by the Master of Family Medicine (M. Med FM) Examination.

FAMILY MEDICINE TEACHING PROGRAMME

Module 8 of the Family Medicine Teaching Programme will be held weekly on Saturdays from 7 March 1992 to 25 April 1992. The topics include the pregnant patient, endocrine and metabolic diseases, and practice management.

CONTINUING MEDICAL EDUCATION

The Continuing Medical Education Programme, Update 1992 Module 1 commenced on 10 January 1992 and will be held weekly for 8 weeks. It covers topics ranging from travel medicine to orthopedic occupation-related illnesses to medico-legal issues.

DIABETES MELLITUS TRAINING PROGRAMME

The second workshop on Diabetes mellitus for primary health care doctors organised by the College in conjunction with the Ministry of Health and the Diabetic Society of Singapore was held on 12, 18 and 19 January 1992.

SEMINAR

A seminar on "Office management of common eye problems" was jointly held with the Singapore National Eye Centre on 25 January 1992. Lectures were given on common eye problems and this was followed by a hands-on workshop on the use of the direct ophthalmoscope.

WORLD HEALTH ORGANIZATION PUBLICATIONS

NEW BOOK ANNOUNCEMENTS

INTERNATIONAL TRAVEL AND HEALTH VACCINATION REQUIREMENTS AND HEALTH ADVICE

Situation as on 1 January 1991, 1991, 94 pages ISBN 92 4 158016 X

This annual guide, updated each January, issues authoritative advice on the medical and personal precautions needed to protect the health of travellers. Addressed to physicians, tourist agencies, airlines, and shipping companies, the book presents the latest information on general precautions to be taken by all travellers, health risks specific to different geographical areas, vaccinations recommended or advised by WHO, and vaccinations legally required for entry into each country in the world.

The book alerts readers to the main arthropod-borne, food-borne, and water-borne diseases commonly found in different parts of the world and more important health hazards for travellers, including sexually transmitted diseases and risks from food and drink, and explains what can be done to prevent them.

It also issues advice on recommended vaccinations and discusses the special situations of extended travel, of travelling during pregnancy, of health protection for children, and of health problems that are contraindications for travel.

WHO MODEL PRESCRIBING INFORMATION DRUGS USD IN PARASITIC DISEASES

1990, 126 pages ISBN 92 4 140102 8

This book provides model prescribing information for some 33 essential drugs used for the prevention and treatment of protozoal and helminthic infections, including filarial infections, the leishmaniases, malaria, schistosomiasis and the trypanosomiases.

Each disease or group of diseases is first introduced with concise information about its causes, mode of transmission, clinical features, and geographical prevalence, followed by general advice on prevention treatment. Prescribing information is then provided for first-choice and alternative therapeutic and prophylactic drugs. Some rarer parasitic diseases, such as *Babesia divergens* infections and meningoencephalitis due to *Acanthamoeba* spp, which do not respond to chemotherapy, are nonetheless presented and discussed in order to help prescribers avoid ineffective medications.

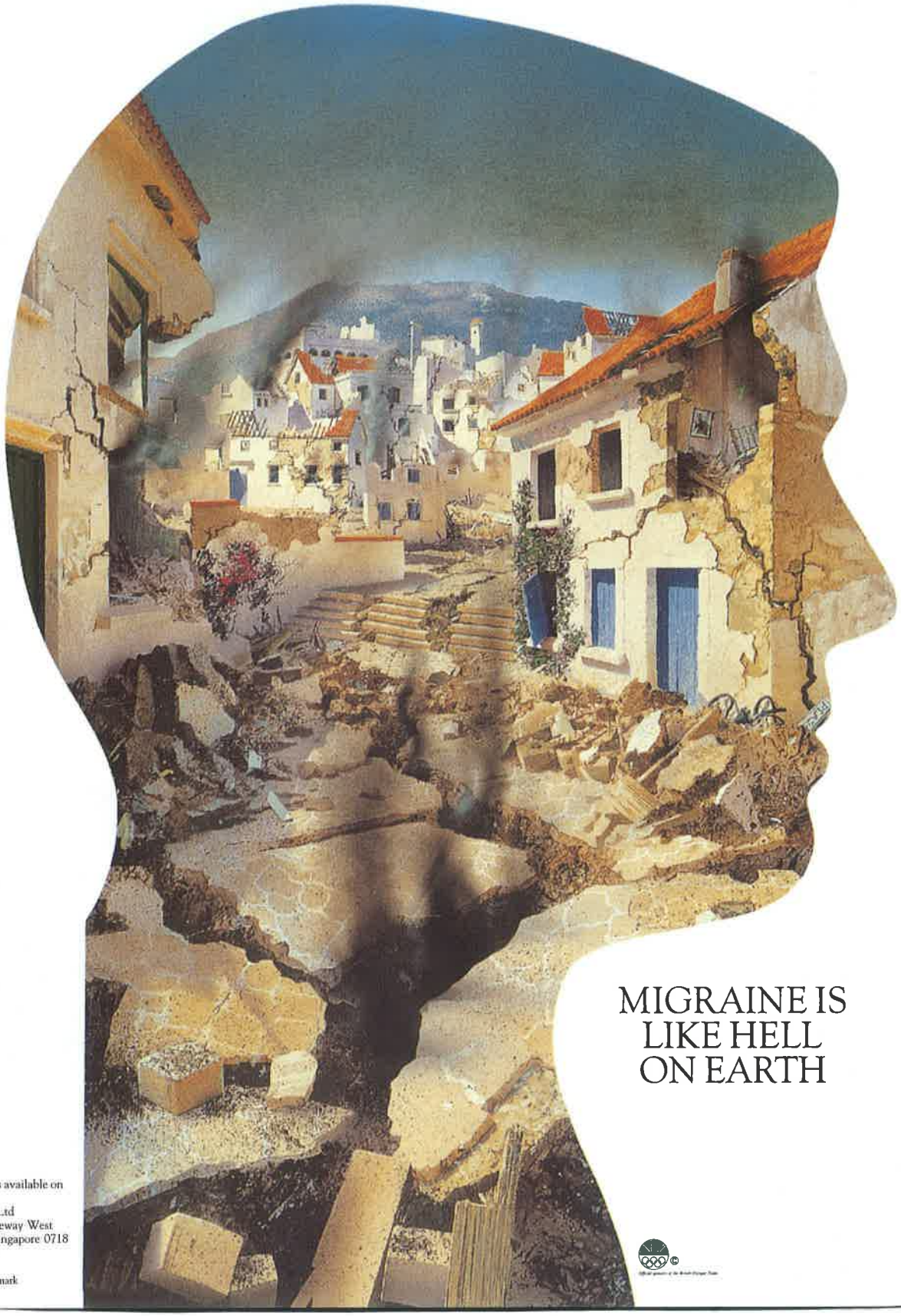
The book is part of a series of WHO publications intended to provide up-to-date and independent clinical information on essential drugs.

A PROPOSED STANDARD INTERNATIONAL ACUPUNCTURE NOMENCLATURE REPORT OF A WHO SCIENTIFIC GROUP

1991, vi + 30 pages ISBN 92 4 154417 1

This book records the consensus reached by a group of 12 experts commissioned to develop a standard international nomenclature for identifying the meridians, points, and lines used in acupuncture. The nomenclature, which has been under development since 1981, is intended to facilitate communication among those engaged in both the practice of acupuncture and research into its modes of action and therapeutic efficacy.

The proposed nomenclature is set out in 18 pages of tables and figures. Each of the 14 main meridians used in classical acupuncture is identified by its name in the Chinese phonetic alphabet (Pinyin), its Han character name, a proposed name in English, and a two-letter alphabetic code derived from the English name. The 361 classical acupuncture points, organized under these 14 main meridians, are identified by an alphanumeric code, the Pinyin name, and the Han character. The book also proposes a nomenclature for eight extra meridians, 48 extra points, and 14 scalp acupuncture lines accompanied by diagrams showing their location. The book concludes with a series of recommendations for the standardization of other areas of acupuncture nomenclature and for further action pertaining to training for the practice of acupuncture, regulation by health authorities, safety, and research.



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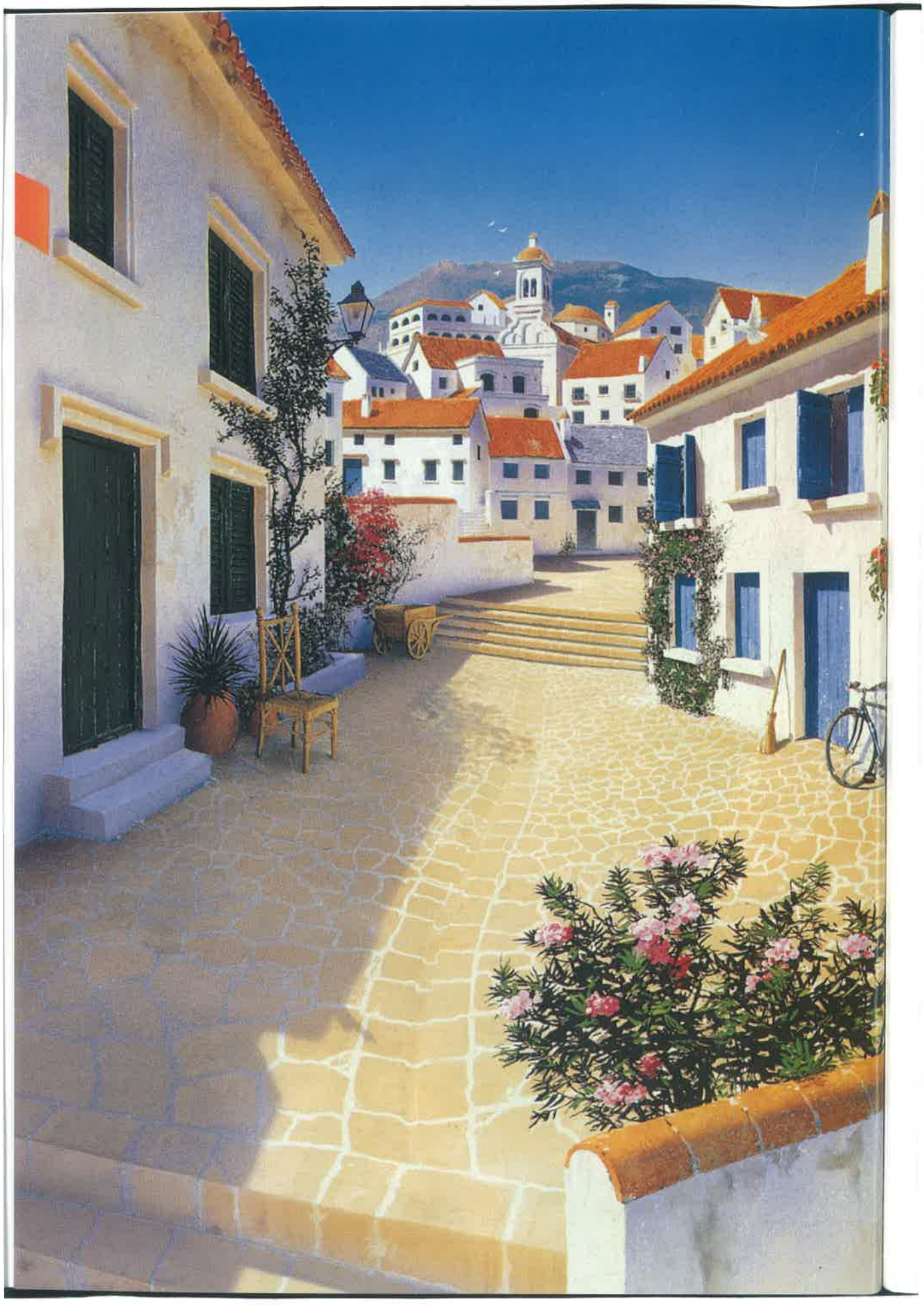

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Imigran (sumatriptan), the first available selective 5-HT_1 agonist, is highly effective at relieving migraine headache whether or not it is associated with aura. It also relieves associated symptoms, such as nausea, vomiting, photophobia and phonophobia, and is effective against migraine headache whether taken early in the attack (<4 hours), or later.[1]

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Ideal 5hr half-life provides a full night's sleep without residual effects.[1]
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