ABC of Poisoning

THE ELDERLY

Although the elderly form a relatively small proportion of those admitted to hospital for acute self poisoning, the poisoning which ensues is often more serious, complications are more frequent, and a fatal outcome is more common. The elderly also form a large proportion of those admitted with iatrogenic poisoning. The "normal" physiological changes of aging, the presence of concomitant and often multiple physical, psychiatric, and social problems, together with possible difficulties in the diagnosis of poisoning may all combine to make the management of the elderly more complicated than that of younger poisoned patients.

What the elderly take

People poison themselves with what is readily available. Elderly people are more likely than younger patients to have direct access to prescribed drugs because they are more likely to have physical ailsments. The drugs prescribed for elderly patients are also different because the elderly suffer from different diseases from younger patients. Digoxin, drugs for angina, and oral hypoglycaemic agents are all potentially toxic drugs that are likely to be found in the homes of elderly people. Despite the efforts of CURB (the campaign to restrict the use of barbiturates) and others, there are still many old people taking barbiturates, although the numbers are steadily being reduced. Drug addicts tend not to reach old age, and elderly people do not usually take socially abused drugs (except alcohol).

The elderly are likely to use old fashioned household products and these are sometimes ingested in an attempt at self poisoning. Corrosive substances such as oven cleaner, kettle descaler, and disinfectants may be ingested. One potential hazard results from the use of solid denture cleaners in tablet form, which may be mistaken either for sweets or for effervescent analgesics. These products are caustic and may cause burns in the mouth and oesophageal ulceration, although this is unusual in Great Britain.

Why the elderly become poisoned

An elderly person taking an overdose is more likely to be suffering from a formal psychiatric illness than a younger patient. The incidence of depression rises with age, and depressive symptoms may easily go unrecognised by the patient's doctor. Presentation with somatic complaints is not uncommon and may result in the inappropriate prescription of drugs, which are then taken in overdose.

Both acute and chronic confusional states are common and may lead to the patient getting into a muddle over his or her medication. Accidental self poisoning due to the patient's forgetting whether he has taken the drugs may then occur. One drug may cause a confusional state which in turn leads
to the patient taking an overdose of the same or another drug. The risk of developing acute drug side effects increases with age because:

(a) the elderly are prescribed more drugs;
(b) drug interactions are more likely if multiple drugs are prescribed;
(c) there are age related changes in pharmacokinetics;
(d) there are age related changes in drug sensitivity; and
(e) there may be poor compliance (this usually results in underdosage, but overdosage can ensue from misunderstood instructions).

Some 10-15% of admissions to geriatric units are due to iatrogenic drug poisoning.

Diagnosis of poisoning

There are three main difficulties in diagnosing acute poisoning in the elderly. Firstly, it may not be readily apparent that the patient has taken an overdose; secondly, the presence of pre-existing physical disease may confuse the clinical picture; and, thirdly, the drug may cause physical signs that resemble common problems of old age. For example, if an old man with a pre-existing hemiparesis is admitted to hospital in coma it is easy to assume that he has had another stroke. Examples of drugs which in overdose might mimic other physical diseases include sedative and hypnotic drugs (hypothermia), paracetamol (liver failure), major tranquillisers (Parkinson’s syndrome), tricyclic antidepressants (epilepsy, stroke, bundle branch block), and monoamine oxidase inhibitors (stroke).

Laboratory analysis may prove helpful in confirming the presence of drugs but interpretation can prove difficult if the patient has been taking the drug therapeutically. Thus a high concentration of dextropropoxyphene in the plasma might be due to an acute single overdose, accumulation after continuous therapy, or an acute overdose on top of long term treatment.

Severity of poisoning

Elderly people often take more poison than younger patients and they metabolise many drugs in different ways. Drugs which are detoxified by renal elimination, such as digoxin and phenobarbitone, are removed from the body much more slowly in the elderly, even in the absence of obvious renal disease. As a result drug concentrations are often much higher than in younger people for a given dose and therefore the severity of poisoning is much greater. A prolonged half life means that it will take longer for the patient to recover. For drugs which are converted in the liver to inactive compounds the position is less clear cut, but the metabolism of many compounds is impaired. Patients with chronic physical diseases are likely to show an even greater impairment of drug metabolism.

As well as these pharmacokinetic changes the elderly are more sensitive to a given amount of drug than younger patients—for example, they require less diazepam to send them to sleep.
Management

The principles of management of the elderly poisoned patient are the same as those for younger patients. Most patients need only supportive care. Careful attention needs to be paid to preventing cerebral anoxia and respiratory complications, especially if there is a pre-existing disease. Antidotes should be given in the same dosage as in younger patients. Forced diuresis should be avoided because of the increased risk of fluid overload leading to pulmonary oedema. Haemoperfusion has been successfully used in the elderly without added hazard.

Age alone should never be seen as a bar to any form of treatment. If the patient has a severe disabling illness or terminal disease symptomatic treatment only may be appropriate but even then antidotes should be given when indicated. It is always better to agree as early as possible after the patient’s admission how intensive his management should be. Unfortunately this is not always possible since the patient’s medical history may not be known. The initial management should always be active until the contributions of drug induced damage and pre-existing organic disease are established.

Recovery

Head offices of voluntary organisations which provide local services for patients and families of elderly people who have taken or are at risk of taking overdoses.

Age Concern, Bernard Sunley House, 60 Pitcairn Road, Mitcham, Surrey CR4 3LL. 01-640 5431

Samaritans, 39 Walbrook, London EC4. 01-626 2277

National Marriage Guidance Council (for all relationship problems, not just those of married couples) Herbert Gray College, Little Church Street, Rugby CV21 3BP. 0788-73241

Mind (National Association of Mental Health), 22 Harley Street, London W1. 01-637 0741

CRUSE (widows and widowers), 126 Sheen Road, Richmond, Surrey TW9 1UR. 01-940 4818

Contact (for people who are isolated), 15 Henrietta Street, London WC2E 8QH. 01-240 0630

Local authority provision:

Meals on wheels
Home helps
Day centres
Social workers
Occupational therapists
Health authority provision:

Day hospitals (geriatric and psychiatric)
District nursing service
Community psychiatric nursing service
Relief admissions

Once the patient has recovered a special effort must be made to inquire into the circumstances of the overdose. Patients should be asked about symptoms such as sleep disturbance, weight loss, lack of energy, as well as about their mood symptoms. Social isolation, bereavement, alcoholism, and physical illness make the likelihood of further overdose more probable. Remaining drugs should ideally be removed from the patient’s home. Simple tests of mental function can pick out confusional states. If there is any doubt a psychiatric opinion should be sought. The family should be contacted and encouraged to visit the patient in hospital. As with all elderly people, preparation for discharge should concern all members of the team, including the social workers. Admission to hospital gives an opportunity of reassessing the patient’s physical state and capabilities and whether any support is required at home.

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A 58 year old man has recurrent problems with a prolapsed lumbar intervertebral disc. Can he be reassured that his condition will remit due to natural shrinkage of his discs with age?

Sadly, the information that would allow a single word answer to this question is not available. I know of no longitudinal study of the clinical course of patients with prolapsed lumbar intervertebral discs. Intervertebral discs are constructed of a semifluid nucleus contained within a tough annulus. The healthy nucleus consists of a lattice of collagen fibrils enmeshing a matrix of mucopolysaccharides. The whole behaves as a hydrophilic gel, maintaining a high pressure by virtue of a high water content. This high pressure not only enables the nucleus to act as a shock absorbent ball bearing but also contributes to the propensity of the disc to bulge through a damaged annulus. This being the case, the many physicochemical changes that occur with damage to the nucleus, or with aging, lead to loss of water content, a lowering of pressure, and thus, on the credit side, a lessening of this propensity to bulge. On the debit side are problems that increase with age in the spine. The reparative changes that accompany degeneration may lead to hypertrophy of soft tissues and to the formation of osteophytes and consequently to encroachment on the lateral recesses and intervertebral foramen, and narrowing and loss of depth of the spinal canal itself. All these conditions increase the risk of nerve root compression syndromes, including claudication of the cord. The patient may be reassured that there is a reasonable chance of remission of the features due to recurrent disc bulging. Nevertheless, the clinician must watch for reliable neurological problems.—J A MATTHEWS, consultant physician (rheumatology), London.