children with congenital adrenal hyperplasia. Under reporting, as may have occurred in the case above, is likely to obscure the true incidence of this complication.

Wilkins, reviewing Johns Hopkins's experience, reported that two of his 140 patients with congenital adrenal hyperplasia had "a tendency to hypoglycaemia."[4] One of our patients (case 2) had two episodes, and Gemelli *et al* have reported a patient who suffered recurrent episodes of hypoglycaemia during feverish illness and on one occasion was treated with anticonvulsants alone.[2] Thus only a subpopulation of patients may be at risk. All our patients and most in published reports have had salt losing congenital adrenal hyperplasia, but hypoglycaemia has been reported in a non-salt losing patient.[5] Pending definition of a subgroup that is at risk we believe that physicians and parents must maintain a high index of suspicion for hypoglycaemia during feverish illness in all children with congenital adrenal hyperplasia.

Our policy has been to warn all parents of this possibility, and we have advocated frequent drinks containing glucose as well as increased doses of glucocorticoids during all minor illnesses. The patient reported by Gemelli *et al* had six further episodes of clinical hypoglycaemia despite similar measures. An alternative solution would be to recommend admission to hospital at any minor sign of illness. This drastic measure might, however, be avoided if parents were taught to monitor their children's blood glucose concentration during illness, as now widely performed in the home management of diabetes mellitus. We have now started to instruct our patients' parents in the use of blood glucose strips, but this can only serve as an adjunct to the increased awareness of the problem on the part of parents and professionals that is required if similar tragedies are to be prevented.

We thank our colleagues for permission to report on patients under their care.

Dr F R J Hinde is a Novo Laboratories research fellow.

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Medical Education

Teaching terminal care at Queen's University of Belfast

II—Teaching arrangements and assessment of topic

W G IRWIN

Last week, in my first article on teaching terminal care at Queen's, Belfast,[1] I referred to a fourth year interdisciplinary course lasting 12 weeks, of which a three hour session on terminal care forms an early part.[2] Here I discuss the methods of teaching and assessing students taking part in that session.

Teaching format

The departments of community medicine, general practice, geriatric medicine, and mental health all play a part in the three hour teaching session on terminal care, which is followed by a session on bereavement. Students are taught in groups of 50. The coordinator arranges for the following panel of professional workers and spiritual advisers to be present: (1) a Roman Catholic priest, a Methodist minister, a Church of Ireland minister, and a Presbyterian minister; (2) a senior lecturer in general practice; (3) a consultant or lecturer in oncology; (4) a consultant or lecturer in geriatric medicine; (5) a psychiatrist; and (6) the professor of psychology related to medicine.

When this panel of experts is assembled I introduce the learning objectives concisely. The systematic use of the closed circuit television facilities for clinical teaching has been described previously.[3] In the past a video recorded case study of terminal illness in the general practitioner's surgery was used to elucidate various aspects of caring for terminally ill patients. More recently, in September 1983, Professor Eric Wilkes, then professor of general practice and community care at the University of Sheffield, accepted an invitation to come to the Belfast department to give an introductory talk on the topic in question.

The closed circuit television facilities in the seminar room were used to video record his 20 minute presentation of data from a randomised study in Sheffield on 270 patients, aged 17-65, who died after a terminal illness. Two thirds died in hospital or a special unit, but most spent the greater part of the last month at home. Deficiencies in communication were shown between doctors and patients, and pain was inadequately controlled in 25% of cases of terminal cancer according to the study nurse. With the consent of Professor Wilkes, we continue to use his recorded talk as a suitable means of introducing the topic, greatly appreciated by panel and students alike.

SMALL GROUP WORK

After this introduction the main body of students (50) is divided into four small groups. These assemble in separate seminar rooms, each having two tutors from the panel, one of whom is usually a priest or minister of religion. The doctor acts as a catalyst and is usually the group leader and main resource person. Students are encouraged to read relevant material beforehand, especially the range of drugs available to relieve common symptoms. Teaching time is better spent understanding the principles of pain relief in terminal cancer and of psychological management of the dying patient as well as the need for better communication, counselling, and support of the patient and family.

The students are taught to avoid inappropriate treatment and

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how to cope with the emotional isolation of the dying by being made more aware of their psychological and spiritual needs; the phases of dying that patients may experience; their own attitudes to death and dying and those of doctors, patients, and their families; support available in the community, including hospice and local hospital services; the roles of the clergy and other health and social workers; the importance of easy accessibility of the patient to the general practitioner and other professionals in the support team; and the need for effective communication between doctor and patient and between primary care and secondary care services.

Each tutor has a list of the educational objectives and covers these comprehensively by raising a series of questions to clarify the knowledge, skills, and attitudes to be acquired. The box contains examples of some typical questions posed to the students and covering the four areas already defined.[1]

PART 1

How would you define terminal care?
What types of disorders are likely to cause terminal illness?

PART 2

What do you already know about patients' fears of death and dying?
How do you feel about these matters yourself?
How impersonal are doctors about death?
How, when, and what do we tell patients who seek information about impending death?
Are doctors bad at communication?
"I'm afraid there's nothing more we can do": should a doctor ever say this to a patient?

PART 3

What types of pain have to be relieved?
Is there often a need for sedation?
What principles should be applied in pain relief in advanced cancer?
What common symptoms are encountered and which drugs are commonly used to relieve them?
What do you know about the medicinal use of morphine and diamorphine in the relief of chronic pain?
What other means of pain relief are available?

PART 4

What are the main reasons considered by the doctor for admitting a terminally ill patient to hospital?
How do you see the role of the hospital or hospice in the care of the dying?
What community resources are available to the general practitioner to provide the best care?
What do you know about the roles of other health and social workers in the care of the dying?

Many similar questions arise naturally during discussions. Alcoholism, disability, epilepsy, terminal care, and bereavement are some of the topics covered in the first week of the joint course. Students perceive that they all require much explanation and counselling by the doctor. To date teaching counselling skills to medical students has been absent from the Belfast Medical School curriculum. The department of general practice and the department of further professional studies in education at Queen's have been responsible each year for introducing the theory and practical skills of counselling to groups of trainees in general practice in the Northern Ireland vocational training scheme for general practice. Unfortunately, only one three hour session is offered, and experience would suggest that three years after qualification is too late to introduce the topic. By this time many of these young doctors have become set in their clinical ways, although they perceive the need for counselling in certain clinical situations. For these reasons the departments of general practice and mental health are jointly planning a three hour teaching session on counselling skills, to start in September 1984 to follow the sessions on terminal care and bereavement. This should help to fill a gap in undergraduate medical education at Queen's.

PLENARY SESSION

A plenary session, during which lively debate develops between the students and members of the panel of tutors, follows the small group discussions. I act as chairman and catalyst of the proceedings. Great interest is generally shown in terminal care and in the roles and attitudes of different professional workers. (Later a further half day in the course is devoted to integrated and multidisciplinary teaching of the work of the primary care team, nurse, health visitor, social worker, and general practitioner.) Experience suggests that discussion, always lively, is most vigorous in relation to doctor, patient, and family attitudes to death; pain and its relief in terminal care; and provision for terminal care in different environments.

Methods of assessment of learning

Learning is assessed at the end of the 12th week of the joint course. Assessment consists of a three hour short answer written paper and oral examination for the failures. The four departments contribute equally, and their respective questions are in separate coloured booklets, clearly identified for marking. Details of the examination have already been published.[2] Over the years the department general practice has often included questions relevant to terminal care. The box contains an example.

Write short notes on:

(1) The general principles of pain relief in advanced cancer.
(2) Control of pain by narcotic analgesics in advanced cancer.
(3) The role of the general practitioner in the pastoral care of the dying.
(Each student has 45 minutes to answer this and another separate and unrelated question on general practice.)

Our experience shows that questions on terminal care are usually answered well, certainly with only a few complete failures each time. This may reflect the degree of student interest because the topic consistently achieves a high student rating when the topics are assessed later. The students' marks are included as part of continuous assessment and go forward to the examiners at the final MB examination.

Students who fail the oral examination have to repeat the whole examination. If further failure occurs the head of the department concerned has the sanction to stop an unsatisfactory student from proceeding into his final year.

Conclusion

The Wilkes Report recommended that a terminal care component and instruction in basic counselling should be included in undergraduate medical training.[4] Here and in my previous article I have outlined how the Belfast Medical School has been attempting to teach these subjects within the limitations of time imposed on staff by an overcongested curriculum. The need to include instruction in basic counselling is acknowledged, and, as stated, a new three hour session on counselling will be developed from September 1984 onwards.

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