respiratory failure. Triage may be a helpful concept to the relatively inexperienced, alerting them to what to do first when there are a number of demands being made simultaneously. Triage can be taught to casualty officers, but it can also be taught to the front-line staff—the ambulance men and nurses. Already ambulance men are taking proficiency certificates in resuscitation and intubation. Contrary to what many doctors may believe, it may be on these men and women that the responsibility lies for action—before the patient reaches casualty at all.

The concept of triage in civilian practice should mean that no considerations whatever—of administration, of hierarchy, or even of the doctors’ personal feelings—may be allowed to stand in the way of prompt recognition and immediate treatment of the patient at high risk.

4 Members of the Medical Staff of Three London Hospitals, British Medical Journal, 1975, 3, 727.
5 Freeman, J W, Medical Journal of Australia, 1976, 1, 114.

Psychiatry and homicide

Is the abnormal murderer less common in Scotland than in England and Wales? A recent paper in the British Journal of Psychiatry by Hunter Gillies1 has suggested so. He reviewed 400 psychiatric examinations of accused persons he carried out for the prosecution between 1953 and 1974 and found that he had classified 82% of them as having normal mental states, whereas in an earlier paper Driver, West, and Faulk2 had diagnosed 41% of 66 persons found guilty of murder or manslaughter in an English series as suffering from schizophrenia, psychopathic personality, or personality disorder. The latest review of the Homicide Statistics for England and Wales from the Home Office3 showed that on average 32% of English murderers are deemed abnormal by the law courts. Gillies strengthened his case for a low abnormality index in Scotland by pointing out that there were 43 cases of murder in Scotland with no suicides among the suspects,4 whereas in England5 on average 9% of homicidal incidents end up with suicide.

The differences between the countries may be more apparent than real. Reliability in psychiatric diagnosis is notoriously difficult to obtain,6 especially when questions of “personality disorder” are concerned.7 Gillies diagnosed 12 (3%) of his cases as schizophrenic; Driver et al also labelled 3% (2 out of 66) of their cases this way. The difference between the studies was that the English authors called 25 (38%) of their cases “personality disordered” as against only 7% (26) so labelled by Gillies. In the absence of clearly defined criteria and reliability data it is extremely difficult to interpret these figures. Nevertheless, one interesting finding from the Scottish study was that, as might be expected, most offenders were young men, many coming from social groups IV and V; many were defined as chronically unemployed; and 58% of the men were drunk at the time of the offence.

This last statistic does not mean that drink is a “cause” of murder,7 but there are good pharmacological reasons for thinking that it plays its part in terms of disinhibition. Gillies’s figures could be interpreted as showing that psychiatry plays only a small part in preventing homicide. This is clearly a sensible and modest view of the psychiatrist’s task. Doctors could, perhaps, take a more active role in the battle against excessive alcohol consumption (not just alcoholism), which is becoming one of the major public health issues of our time. Homicide prevention in a more specific sense could well turn on the issue of how much the psychiatric services should respond to the threatened homicide. There are no figures available to indicate what proportion of murderers consult a doctor before carrying out their act. An American study by MacDonald8 suggested that it may be a sizable minority. Gunn9 has recently suggested that the doctor has a crisis intervention role in preventing violent crime in general. Because of the laws of probability, predicting individual acts of violence will always remain a clinical judgment, taking into account previous history, the environment a person is living in, and his mental state—but one major aid to prediction, the homicidal threat, should not be ignored. A patient who is under stress and broadly hints that he may kill someone is rarely fooling—he is warning. Intervention by extra support, new medication, manipulation of the environment, or admission to hospital may save a life.

1 Gillies, H, British Journal of Psychiatry, 1976, 128, 105

Ectopic secretion by tumours

We now know that malignant tumours may secrete hormones which in the normal state are not secreted by tissue from which the tumour originates. This process is known as ectopic secretion, and in 1962 Liddle et al1 described a syndrome due to ectopic production of corticotrophin (ACTH) by malignant tumours of non-pituitary origin; two years later research groups in the United States2 and in Britain3 isolated antidiuretic hormone (ADH)-like material in the tumour and an excess in the urine and plasma of patients with bronchial carcinoma. Subsequently the British group extended its work and tried to establish that this activity was due to arginine vasopressin.4 During the next ten years virtually every known polypeptide hormone was recognised as an ectopic secretion of malignant tissue, including corticotrophin-releasing substances5 and growth hormone-releasing substances.6

A tumour may secrete more than one hormone—ACTH and ADH, for example—in which case the typical clinical syndrome of inappropriate secretion of ADH may not be present, since the excess cortisol may obscure the clinical picture of excess ADH.7 Thus in none of the tumours from 25 cases of oat cell carcinoma without the syndrome of inappropriate secretion of ADH was any ADH-like material detected.8 Nevertheless, there have also been reports of the syndrome’s being present without any apparent rise in the bioactive concentrations of ADH in the plasma9 or in the urine.10 Thus the syndrome is not invariably due to excess production of ADH alone. Similar
difficulties have arisen in the interpretation of hypercalcaemia, which is probably the commonest metabolic abnormality associated with cancer, and which may occur in the absence of osteolytic metastases. Despite the fact that parathyroid hormone (PTH)-like substances have been extracted from some tumours, this is probably the rarest cause of hypercalcaemia, since osteolytic substances such as prostaglandins or other osteoclast-activating substances may occur more commonly. The detection of prostaglandins by Tashjian et al has indeed resulted in a more rational approach to treatment of such patients—for example, by using aspirin and indomethacin, which are inhibitors of prostaglandin synthesis. More recently, high plasma calcitonin concentrations have been found in patients with a wide variety of neoplasms, and immunoreactive calcitonin has been detected in several cases of lung and breast carcinoma. This is of particular importance since breast cancer has hitherto lacked a satisfactory tumour marker.

The ectopic production of polypeptides by tumours is presumably a manifestation of activation or derepression of genetic information contained in nuclear DNA which should ordinarily be inactive. Since the activity is purposeless and undirected, production of simply coded polypeptides and proteins might be expected to be relatively common, whereas production of those hormones such as steroids which are synthesised as a result of sequential enzymatic action would be rare: and this seems to be the case. The number and specificity of tumour-produced enzymes which would be needed to produce steroids would probably require a far from random process of derepression.

The active hormonal substances produced by tumours often differ chemically from the normal hormones—examples include melanocyte stimulating hormone (MSH), ACTH, and alpha subunits of glycoprotein hormones. Despite the great diversity in the range of tumour products, specific tumours tend to produce a particular type of hormonal or nonhormonal protein: squamous cell carcinoma of the bronchus often produces PTH-like substances, but very seldom produces ACTH, MSH, or ADH—which are often produced by oat cell carcinoma. Similarly, alphafetoprotein is commonly secreted by liver tumours, and carcinoembryonic antigen (CEA) is produced mostly by carcinoma but seldom if ever by lymphomas or leukaemias.

Apparently, the normally repressed segments of the genetic code which become activated or derepressed in tumours are selected according to relatively predictable patterns which are characteristic of each cell type. This does not imply that every tumour of a given type will produce the same pattern but that when abnormal proteins are produced they tend to occur in clusters.

Rees has recently criticised the use of the term ectopic secretion; but it seems likely that by common usage it will continue to be used. Included in the concept should be not only hormones but also enzymes, hormone subunits, and non-hormonal proteins—which may be complex substances such as carcinoembryonic antigen. She drew attention again to the possible value of assays for tumour products in the detection and monitoring of malignant disease. Thus Bagshawe has shown the value of measurements of human chorionic gonadotrophin in the treatment of choriocarcinoma and teratoma.

The prospect now seems to be that the development of a pattern-recognition approach to diagnosis, in which measurements are made of the various tumour-produced proteins, may lead to the recognition of specific diagnostic and prognostic trends. Furthermore, these chemical substances may be released to the detriment of the patient's general metabolism and immune response, when specific intervention may be needed. At one time the initial interest in ectopic secretion was academic and descriptive, for at that time the condition was regarded as a medical curiosity. Now it has come to be regarded as a fundamental feature of the malignant state. Its study, which has provided insights into the biology of cancer, may offer diagnostic possibilities greater than any since the introduction of radiology and also indicate a more rational approach to treatment.

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Internal fixation for fractures in childhood

While the virtues and vices of operative fixation of fractures in adults are still controversial, few would challenge the view that fractures in children should generally be treated conservatively. These fractures unite rapidly, and even if perfect alignment cannot be achieved or maintained by external splintage remodelling and further growth will correct lesser degrees of malunion with angulation. Even when complete rather than greenstick, fractures of the long bones retain some intrinsic stability because of the relative thickness and strength of the periosteum in childhood. As a result external fixation by plaster may be used successfully in fractures—for instance, of the radius and ulna—which in adults would almost always require internal fixation.

Some authorities roundly condemn internal fixation of almost any fracture in childhood, suggesting that all manner of dire consequences—non-union, delayed union, altered growth, infection, or ugly scars—may arise. It is right that the thoughtless use of screws, plates, and pins should be strongly discouraged in treating fractures in children but it is equally wrong to deny their application altogether. Never say never—there are always laudable exceptions. A useful guide is the longstanding aphorism that operative treatment for a fracture is indicated when conservative treatment cannot achieve an acceptable result.

Open reduction and internal fixation by sutures, pins, or occasionally by a screw is commonly indicated in fracture-separations of capitellar, trochlear, and medial epicondylar epiphyses with displacement. Fractures of the shaft of the