"Stress" Ulcers and Heparin Prophylaxis

SIR,—Ming¹ and Margaretten and McKay² observed that acute peptic (stress) ulcers revealed thromboses in the mucosal and submucosal blood vessels in high incidence. This prompted a review of our material to compare the incidence of these ulcers in our non-heparinized operative postmortem material of the past 25 years with a large number of operative patients given preoperative small doses of subcutaneous heparin prophylactically to prevent thrombosis and embolism.³ Such comparison could confirm the thrombotic aetiology and simplify means of control of this lesion. Since Billroth's first description⁴ of these ulcers in 1867 their aetiology has defied explanation^{5,6} making their prevention and treatment difficult. Complicating surgery they often cause exanguinating haemorrhage and perforation.

The necropsy material of the past 25 years disclosed 47 instances of stress ulcers in 429 postmortems representing 40% of deaths in 19,233 non-heparinized operative procedures. In 10+ years 1,075 often elderly at-risk individuals were given small doses of subcutaneous heparin preoperatively in a very successful ongoing programme to prevent leg vein thrombosis and possible fatal pulmonary thromboembolism. Twenty-eight deaths occurred, with permission for postmortem granted in 13. Massive gastro-intestinal haemorrhage was observed in two instances. Both these patients died following cholecystectomy and necropsy disclosed a perforated acute gastric ulcer in one and an exanguinating haemorrhage from a chronic duodenal ulcer in the other. No other significant gastro-intestinal haemorrhages were observed in the other patients, nor acute ulcers in the 11 remaining postmortems. The 47 postmortems in the non-heparinized patients had available histology in 31 with 21 revealing mucosal or submucosal thromboses. In six instances perforation and peritonitis was observed. Thus the non-heparinized patients disclosed one acute ulcer in 164 instances calculated on the 40% postmortem rate, whereas the heparinized patients disclosed one confirmed acute ulcer in 1,075 cases.

It would appear that this complication of surgery is caused by thrombosis and that preoperative heparin prophylaxis may prevent this serious complication in addition to preventing postoperative thrombosis and embolism.—We are, etc.,

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that this is so. We are obliged by regulations to attend at least five sessions a year of postgraduate lectures if we wish to qualify for our seniority awards.

Many general practitioners in Britain live in or near large towns and cities, and for them it is a comparatively easy matter to attend nearby postgraduate centres. But there are quite a large minority of us who are not so fortunately placed. In my opinion for a general practitioner to have to travel more than 10 miles (16 km) to attend postgraduate lectures is an unfair burden, and when the distance is considerably more, say, 30 or 40 miles (48-64 km), then it is intolerable.

It is for this reason that a group of us in North Wales decided to form our own postgraduate medical society in Portmadoc, 30 miles (48 km) from Bangor, the nearest postgraduate centre. The journey to Bangor takes an hour by road in favourable conditions. In winter in bad weather and in the dark it takes much longer each way and places a great strain on busy general practitioners, often tired after a hard day's work.

Our group is called the Madoc Medical Society and has a properly constituted committee. Most of the organizing is done by the secretary, a general practitioner in Portmadoc, and our activities are guided by the dean of postgraduate studies for Wales, who lives in Cardiff. He has been of the greatest assistance to us from the start, and even came up to give us one of our lectures.

The number of doctors involved is approximately 40; 30 are in practice, and the others retired or women doctors doing part-time work. Judging by the great interest in our activities the number involved will undoubtedly increase. We ask a consultant to come down every few weeks and give us a lecture, which is usually illustrated. We have a buffet supper in the hotel, and then the consultant gets a barrage of questions to answer. Often the question session turns into a sort of debate and is as interesting as the lecture itself. So far we have had speakers from Bangor, Liverpool, and Cardiff.

In addition, every month we watch the postgraduate lecture on B.B.C.2, which we follow by a discussion among ourselves. If it can be arranged this can be done in co-operation with a drug house representative, who will provide refreshments for us while he puts on his own tape-slide as well. We are allowed one-third of a session for these TV lectures. The evening lectures count as half or a whole session, depending on their length.

As a supplement to these meetings we publish our own magazine—the *Madoc Medical Bulletin*—every two months or so. It is printed for us by a retired printer in the area at cost price. It is a mixture of medical articles, society news, and articles of a more general interest in the area. One of the unexpected benefits we have acquired is that we are entitled to quite a considerable grant from the postgraduate authorities towards expenses. With this money we propose to buy our own film projector and tape-slide projector in the near future for which we can hire films from the excellent film library available.

Quite apart from the educational side of our activities we all enjoy the social side. We meet colleagues we have never met before or rarely met in the past. And already we have had a meeting to which wives were invited and are shortly to have a dance and dinner party. As far as qualifying sessions

are concerned in the nine months since we began anyone who has attended all the meetings will have notched up seven or eight sessions. So there will be no difficulty in keeping up to the required annual quota without budging from the Portmadoc area.

Most important of all, we feel, is that for the first time a group of general practitioners is arranging for its own postgraduate lectures when convenient. This is as it should be. We know better than hospital-based consultants what our requirements are. I hope we are setting a precedent for other rural areas whose general practitioners are in similar difficulties.

If anyone is interested to know more about our activities I should be delighted to give them any help and information.—I am, etc.,

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Convulsions during Anaesthesia

SIR,—Convulsions during anaesthesia must be an unusual event in the United Kingdom nowadays. However, they may occur in tropical countries, as the following case report indicates.

A 2-year-old Ghanaian boy weighing 10 kg was admitted to hospital for the exploration of a swelling of the left eyelid. His haemoglobin concentration was 8.6 g/100 ml (genotype AS). His preoperative temperature was 37°C. He was given atropine 0.3 mg intramuscularly one hour before operation. Anaesthesia was induced with oxygen 35%, nitrous oxide 65%, and ether. Intubation was performed after suxethonium bromide 30 mg had been given. Anaesthesia was maintained with nitrous oxide, oxygen, and ether, using a T-piece circuit with spontaneous ventilation. After 65 minutes there were profuse salivary and bronchial secretions (atropine 0.3 mg was given intramuscularly) and 70 minutes after induction the child had a generalized convulsion. Diazepam 5 mg was given intramuscularly (venepuncture having been unsuccessful). Several convulsions occurred after another five minutes. A further dose of diazepam 5 mg was given and the convulsions ceased after a few minutes. The child was ventilated with 100% oxygen and the operation was concluded rapidly. The child regained consciousness 15 minutes after the end of the operation. He was discharged on the eighth postoperative day, apparently quite well. At the onset of the convulsions the rectal temperature was 39.5°C and the operating room temperature was 29°C. The patient's temperature remained raised for 18 hours, gradually returning to normal.

Convulsions during anaesthesia do not occur only when ether is being used. It is likely that the convulsions in this case were due to the rapid rise in body temperature caused by the high ambient temperature, and the patient's inability to lose heat. It is known that when the operating-room temperature is above 24°C patients tend to gain heat.¹ In 1967, in this hospital, a patient's central temperature reached 40°C during a partial gastrectomy, when the operating room temperature was 30°C.² Apart from this patient, the rise in this child's central temperature was more than has hitherto been recorded in these operating rooms, where the temperature is almost always above 25°C.—I am, etc.,

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- 1 Lunn, H. F., *Guy's Hospital Reports*, 1969, **118**, 117.
- 2 Oduro, K. A., personal communication.

Rural Postgraduate Medical Society

SIR,—The encouragement of continuing postgraduate education of all general practitioners is a splendid ideal. Whether it should be compulsory is another matter. However, we must accept for the time being