

Comparison of the features recorded in the course of the Royal Free epidemic with those seen in a previous outbreak of hysterical over-breathing among schoolgirls brings to light some lines of resemblance.⁵ But an exception was provided by the feelings of panic elicited in 25% of the schoolgirls for which there was no counterpart in the Royal Free epidemic. This reflects some of the limitations of retrospective epidemiological inquiry; much of the positive psychiatric evidence required for a conclusive judgement on the nature of the epidemics under reappraisal is inevitably lacking.

The authors have performed a valuable service in drawing attention to the possible psychological origins of some outbreaks of illness that are disseminated in an explosive manner and for which a physical explanation is apt to be readily assumed. Communities of young women living in relative seclusion appear to be particularly susceptible, but meeting with other people may lead to a fresh crop of cases and cause the spread and recrudescence of the disorder. In some epidemics the infection appears to have spread in a striking manner by physical contagion.⁶ Dramatic public announcements detailing the features of the illness will often initiate fresh outbreaks, even in places far removed from the parent epidemic.⁷ An atmosphere of fearful anticipation generated by news of serious disease in the neighbourhood or vague rumour of danger enhances the morbid tendency. Anxiety and closely associated physical symptoms such as headache, malaise, vertigo, vomiting and diarrhoea, tachycardia, palpitations, and attacks of unconsciousness that cannot readily be fitted into any organic category, and feelings of fear and panic, tend to be prominent in the clinical picture. They stand in striking contrast to the absence of pyrexia, and objective evidence of physical disease is nebulous or lacking. Hyperventilation is common, and attacks of unconsciousness, tetanic spasms, and other involuntary movements elaborated from them are likewise frequent. Among the most severely affected cases a previous history of neurotic symptoms, instability, recurrent illness of uncertain origin, or actual breakdown may be elicited. Whether or not prominent conversion symptoms such as hysterical convulsions, paralysis, aphonia, disorientation, and dissociative episodes are observed may depend on whether some leading or popular member of the group, who happens to have been an early case, responded in this manner and thus provided a pattern for simulation. The term "hysteria" is not properly applicable to these epidemics, partly because the many uses of this term have blunted its meaning and partly because anxiety or panic appears to have been the central feature of most of the epidemic cases. Motivated, self-dramatizing, and importunate behaviour, conversion symptoms, and dissociation of consciousness are inconsistent, often fleeting, and may be secondary to anxiety. The pejorative meaning that has come to be attached to "hysteria" adds to the reasons for the use of terms such as "epidemic anxiety state" or "epidemic neurotic reaction" and for referring to "epidemic hysteria" only when strictly justified.

The bearing of these observations on the explosive spread of some presumed infectious conditions requires further investigation, and the assumption that the underlying agent is invariably a micro-organism should not be too readily made, particularly where evidence of physical infection is lacking. In the early stage of epidemics occurring within enclosed communities under the conditions described, a precise diagnosis should be arrived at as soon as possible and made widely known. Psychiatric possibilities should be discreetly borne in mind. Patients who show conspicuously dramatic or bizarre symptoms should be separated from other members of the group. A psychiatric opinion is advisable in the early stages of epidemics in which a wide discrepancy is evident between symptoms, disturbed emotion, and behaviour on the one hand and objective physical signs and evidence of physical infection on the other.

General Practitioners and the District Hospital

The fact that general practitioners in Great Britain, unlike many colleagues overseas do not normally enjoy direct access to beds in major hospitals has often been cited as an important cause of emigration. Not surprisingly they have fought long and bitterly for this right, for most were trained exclusively in a hospital environment where the possession of beds was equated with higher status.

Three recent reports¹⁻³ suggest a renewal of interest in the subject. The stimulus to their appearance probably comes at least in part from the relative shortage of doctors in hospitals below the consultant grade, a shortage which has led to the present dependence on overseas graduates and to a failure to provide proper time off for postgraduate education. But this explanation is unjust to genuine reformers who see a rearrangement of medical work as a means of strengthening the bridgehead between hospital and family practice. General practitioners could contribute to the hospital by caring for some of their own patients and by sessional work in a clinical team. Both approaches require careful examination before the profession agrees to large-scale changes.

Progress has been made in obstetrics with the development of maternity units having general-practitioner and consultant beds alongside each other, an arrangement which appeals to many. The Oxford survey³ has shown that some 28% of family doctors would like clinical control of patients in acute medical beds, and more wish to care for patients admitted on social grounds. Yet consultants remain hostile largely because they fear unrestricted access might prejudice standards of patient care by allowing into the wards practitioners of widely uneven competence. Given imagination and goodwill this objection could be overcome. There is scope for experiment with measures to preserve standards. For example, a group might agree that one or two members with particular skills should look after all partners'

¹ Cohn, N., *Pursuit of the Millennium*. London, Secker and Warburg, 1957.

² Hecker, J. F. C., *Epidemics of the Middle Ages, 1833*. Trans. B. G. Babington. London, Woodfall and Son, 1844.

³ Penrose, L. S., *On the Objective Study of Crowd Behaviour*. London, Lewis, 1952.

⁴ Yap, P. M., *Journal of Mental Science*, 1952, 98, 515.

⁵ Moss, P. B., and McEvedy, C. P., *British Medical Journal*, 1966, 2, 1295.

⁶ Knight, J. A., Friedman, T. I., and Sulianti, J., *American Journal of Public Health*, 1965, 55, 858.

⁷ McEvedy, C. P., Griffiths, A., and Hall, T., *British Medical Journal*, 1966, 2, 1300.

¹ *The Functions of the District General Hospital*. London, H.M.S.O. 1969.

² *The Responsibilities of the Consultant Grade*. London, H.M.S.O. 1969.

³ *The General Practitioner and the Hospital Service in the 1970s*. Oxford Regional Hospital Board, 1969.

⁴ *The Annual Report of the Chief Medical Officer of the Department of Health and Social Security for the Year 1968*. London, H.M.S.O. 1969.

⁵ Duncan A. H., *British Medical Journal*, 1969, 1, 632.

⁶ *British Medical Journal Supplement*, 1969, 4, 53.

patients in hospital. The divisional system should encourage more flexible use of beds by senior staff, and it could be subject to an effective medical audit applied to general practitioners and consultants alike. Whatever method is considered, this form of participation should be given more thought and encouragement, since it is clearly what many general practitioners themselves want most of all.

Many doctors, mainly general practitioners, are clinical assistants. In England and Wales there were 4,718 part-time appointments amounting to 996 whole-time equivalents in 1968.⁴ A weekly session in a specialty of clinical relevance to general practice can be of interest and educational value, though the number of appointments may be limited because the most suitable are apt to be in medical specialties that are well staffed already. This kind of appointment assumes that the practitioner works mainly in general practice, but if the individual doctor's commitment to general practice is to be substantially reduced new problems will arise. For instance, in Livingstone, West Lothian, he looks after a restricted list of 1,500 patients in general practice and spends five sessions weekly as a clinical assistant at a district hospital.⁵ But since hospital work "would be at a level appropriate to their professional experience and registration"² the career opportunities for brighter graduates in this type of scheme look disappointing. If any scheme of specialist registration came in, doctors might have to be registered in both general practice and a hospital specialty to guarantee reasonable clinical responsibility. Few are likely to be able to attain this double qualification, and even if they did they would find it difficult as part-time hospital doctors to progress beyond the hospital practitioner grade.⁶ Moreover, if general practice evolves a unique content of its own, they might acquire second-class status in that specialty too for the same reason.

It may be unrealistic to believe that general practitioners can or will always want to make more than a marginal contribution to staffing the hospital service. Perhaps a better form of participation may come in a way least discussed at the moment—namely, in situations where the family doctor can offer the hospital team a skill based on his special knowledge and experience. That he should be able to do so is the more important now that early discharge from hospital is common and the relevance of environmental and psychosocial factors to the patient's illness is becoming clearer. Properly used, this special skill could bring him into contact with all clinical specialties in hospital. Furthermore, his advice would be sought and given in the spirit of one expert to another, surely a firm foundation on which to foster intra-professional relationships.

Septic Shock

Circulatory failure associated with infection was described by Laennec before the era of bacteriology and by E. Boise¹ in 1897. But the syndrome of septic or bacteraemic shock does not seem to have been widely recognized before B. A. Waisbren² in 1951 distinguished shock-like states in patients with Gram-negative bacteraemia. Since then many reports have been published. A recent article by A. E. Baue³ reviews present knowledge of this condition with particular reference to treatment.

Though the clinical presentation of septic shock is dramatic, it is variable and often misdiagnosed.⁴ The commonest pre-existing infections are those of the urinary tract, followed in

frequency by those of the respiratory tract, the peritoneal cavity, burns, infusion sites, and abortions. Catheterization and other forms of urethral instrumentation are conducive to its developing. Infusion of contaminated blood is another well-recognized cause.

Bacteraemia is commonly, though not invariably, found. The organisms usually involved are Gram-negative bacilli, especially *Escherichia coli*, *Klebsiella aerogenes*, *Proteus* spp., and *Pseudomonas aeruginosa*. The increased importance in recent years of these organisms has been widely reported^{5,6} and attributed to various factors, in particular the prevalence of antibiotic-resistant strains and the enhanced susceptibility to such organisms of many patients, including those treated with steroid and immunosuppressive drugs.

The clinical picture commonly comprises pyrexia, often (though not always⁷) associated with rigors, followed by a sudden or gradual onset of shock, with cold, moist skin, peripheral cyanosis, mental disturbance, and hypotension. In some patients, however, the skin is warm and dry in the early stages, and there may be alkalosis with hyperventilation. Leucocytosis is usual, but some patients have a leucopenia. The mortality is high—for example, 82% in one series.⁸

Shock and death have been shown to follow the injection of endotoxin from the cell walls of Gram-negative bacilli into monkeys, dogs, rats, and mice. The same mechanism is probably responsible for the development of septic shock in man, but there are differences between different species in their response to endotoxin. Injection of endotoxin into human volunteers has given variable results. Some workers⁹ have reported chills, fever, leucopenia, and peripheral vasoconstriction, or no response, while others¹⁰ have found peripheral vasodilatation and a rise of cardiac output, associated with reduced peripheral resistance. Increased cardiac output has been shown to prevent the death of animals with postoperative abscesses.¹¹ In patients with severe infections increased cardiac output appears to be beneficial because it compen-

¹ Boise, E., *Transactions of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons*, 1897, **9**, 433.

² Waisbren, B. A., *Archives of Internal Medicine*, 1951, **88**, 467.

³ Baue, A. E., *Surgery*, 1969, **65**, 850.

⁴ Naqui, J., and Tranter, D. G., *Lancet*, 1965, **1**, 1357.

⁵ Finland, M., *New England Journal of Medicine*, 1960, **263**, 207.

⁶ Watt, P. J., and Okubadejo, O. A., *British Medical Journal*, 1967, **1**, 210.

⁷ McGowan, G. K., and Walters, G., *Lancet*, 1964, **1**, 107.

⁸ Shubin, H., and Weil, M. H., *Journal of the American Medical Association*, 1963, **185**, 850.

⁹ Ollodart, R. M., Hawthorn, I., and Attar, S., *American Journal of Surgery*, 1967, **113**, 599.

¹⁰ Grollman, A., *Cardiac Output of Man in Health and Disease*, 1932. Springfield, Illinois, Charles C. Thomas.

¹¹ Albrecht, M., and Clowes, G. H. A., *Surgery*, 1964, **56**, 158.

¹² Clowes, G. H. A., jun., Vucinic, M., and Weidner, M. G., *Annals of Surgery*, 1966, **163**, 866.

¹³ McLean, A. P. H., Duff, J. H., and MacLean, L. D., *Journal of Trauma*, 1968, **8**, 891.

¹⁴ McKay, D. G., *Disseminated Intravascular Coagulation*, 1965. New York, Harper and Row.

¹⁵ McHenry, M. C., and Martin, W. J., *Proceedings of the Staff Meetings of the Mayo Clinic*, 1962, **37**, 162.

¹⁶ McGowan, G. K., and Walters, G., *British Journal of Surgery*, 1963, **50**, 821.

¹⁷ Talbot, C. H., *Lancet*, 1962, **1**, 668.

¹⁸ McMurdoch, J., and Geddes, A. M., *Lancet*, 1965, **1**, 609.

¹⁹ Altmeier, W. A., and Cole, W. R., *Archives of Surgery*, 1958, **77**, 498.

²⁰ Walters, G., and McGowan, G. K., *Lancet*, 1964, **2**, 225.

²¹ Anderson, R. W., James, P. M., Bredenberg, C. E., and Hardaway, R. M., *Annals of Surgery*, 1967, **165**, 341.

²² Lillehei, R. C., Longerbeam, J. K., and Bloch, J. H., *American Journal of Cardiology*, 1963, **12**, 599.

²³ Weil, M. H., and Shubin, H., *Diagnosis and Treatment of Shock*, 1967, p. 168. Baltimore, Williams and Wilkins.

²⁴ Blair, E., Buxton, R. W., Cowley, R. A., and Mansberger, A. R., *Journal of the American Medical Association*, 1961, **178**, 916.

²⁵ Allison, S. P., Hinton, P., and Chamberlain, M. J., *Lancet*, 1968, **2**, 1113.

²⁶ Atik, M., Liu, P. V., Hanson, B. A., Amini, S., and Rosenberg, C. F., *Journal of the American Medical Association*, 1968, **205**, 134.