Royal College of Nursing, and the British Psychological Society to set up a joint working party to formulate ethical guidelines for the conduct of such programmes. Another point made in the report is that when an experimental form of treatment is introduced it should be possible for general practitioners in the area served by the hospital to refer patients for conventional treatment if they would prefer it. Perhaps the most important lesson of the affair, however, is that clinical consultants should not work in isolation. The Cogwheel system of divisions was intended to encourage the development whenever possible of a clinical concensus within a hospital. The medical audit system used in many parts of North America is not readily applicable to the National Health Service, since the sanction of temporary withdrawal of hospital privileges has no parallel within a salaried state service. Hospital ethical committees, multidisciplinary meetings, and clinicopathological conferences can be effective in achieving the same sort of critical examination of therapeutic regimens; but they require an atmosphere of mutual trust and respect. The first step is to encourage more discussion among consultants of their differences in approach to difficult clinical problems.

[1] *Report of the Professional Investigation into Medical and Nursing Practices on Certain Wards at Napsbury Hospital, nr. St. Albans.* London, H.M.S.O., 1973.

Immunological Aspects of Osteosarcoma

The general experience of the treatment of osteosarcoma indicates that surgery is still the method of choice. However, the results have shown little improvement during the past 30 years, and the five-year survival rate is likely to be only between 5 and 20%. If treatment is to improve, a better understanding of the disease is needed, and in this respect immunological studies are bringing to light new ideas about this tumour.

Evidence now accumulating strongly suggests that osteogenic sarcoma is to be included among the growing list of neoplasms, such as melanoma, neuroblastoma, and Burkitt's tumour, that possess specific tumour-associated antigens. Recently C. A. Reilly and his co-workers[1] have used an indirect immunofluorescence test to demonstrate the presence of antibody in the serum directed against sarcoma-specific antigens. They found that 57 of 58 sera from patients with osteosarcoma reacted with sections of human osteosarcomas, while only two of 24 sera from healthy persons reacted with the tumours. Furthermore the sera also reacted with osteosarcomas raised in hamsters by injecting cell-free extracts of osteosarcomas into newborn animals. F. R. Eilber and D. L. Morton[2] have shown that antitumour antibodies, as well as occurring in the sera of patients with osteosarcoma, can be detected in the sera of the patient's healthy relatives and close associates.

Both these groups of workers suggested that this evidence, which is backed up by appropriate negative controls, indicates that human osteogenic sarcoma may have a viral aetiology. At present it is too early to say whether this theory will be substantiated. The recent history of cancer research is punctuated with claims that a variety of human tumours have a viral aetiology. The present state of thinking on the likely role of herpesviruses in Burkitt's tumour and nasopharyngeal carcinoma[3] shows the complexity of the problem. But that should be no deterrent to following up this lead, though clinicians may find the story will take some time to unfold.

Already trials have been made to exploit the antigenicity of the osteosarcomas as a basis of immunotherapy in support of primary surgical treatment. Last year B. Marsch and colleagues[4] described how they extracted tumour-specific antigen from osteosarcoma and raised antibodies against this material in rabbits. Fluoresceine-labelled antibody showed a preferential binding to osteosarcoma cells when injected into tumour-bearing patients. They were unable to modify the course of the disease by immunising the patient with the tumour antigen or by passive immunotherapy, though they believe the quantity they used may have been too small. They also reported the preliminary results of an attempt to raise allogeneic lymphocytes sensitized against osteosarcoma cells. The method was to take small pieces of tumour from the donor at the time of primary amputation and implant them into a recipient, usually suffering from disseminated osteosarcoma. Fourteen to 21 days later, when the implant was being rejected, leucocytes were collected from the recipient by leucophoresis and transferred into the donor. The authors considered that these sensitized cells might be able to attack tumour cells before they in turn were destroyed by the host's immune defence, and that the passive immunity might be perpetuated if a transfer factor was released at the time of killing of the tumour cells. As yet the follow-up period is too brief to know whether it has influenced the course of the disease.

Osteosarcoma is a disease in which entirely new concepts in therapy are required, though it is clear from experience of other forms of malignancy that immunotherapy as it is practised today is still an unproved remedy.

[1] Reilly, C. A., Pritchard, D. J., Biskis, B. O., and Finkel, M. P., *Cancer*, 1970, **26**, 603.
[2] Eilber, F. R., and Morton, D. L., *Cancer*, 1970, **26**, 588.
[3] *Oncogenesis and Herpesviruses*, ed. P. M. Biggs, D. de The and L. N. Payne. Lyon, W. H. O. International Agency for Research on Cancer, 1972.
[4] Marsch, B., Flynn, L., and Enneking, W., *Journal of Bone and Joint Surgery*, 1972, **54a**, 1367.

Tuberculous Peritonitis and Laparotomy

An association between active pulmonary tuberculosis and preceding abdominal surgery has been reported,[1-5] though the statistical evidence for it has never been strong. Loss of weight and debility after gastrectomy or other major operations have been held to lead to reactivation of old lesions or to new and active primary disease,[1 2] but in many instances an interval of several years between the operation and the tuberculosis casts doubt on any association other than coincidence.

The evidence that tuberculous peritonitis may follow laparotomy is scantier but perhaps more convincing. In four cases recently reported tuberculous peritonitis followed within 8 to 12 weeks of laparotomy carried out for other intra-abdominal conditions.[6] The authors cite several similar cases from the literature, and speculate whether the association

might be based on a decrease in the patient's cellular resistance after laparotomy, on coincidence, or on mechanical reactivation of latent peritoneal tuberculosis. They favour the last possibility.

An earlier study of the natural history of tuberculous peritonitis lends support to this theory.[7] In 47 patients the diagnosis was established by percutaneous biopsy in 30, by peritoneoscopy in 10, and by laparotomy in 7. Culture of ascitic fluid was positive for acid-fast bacilli in 39. The patients were very fully investigated by chest radiography, barium enema and barium meal studies, intravenous pyelography, and salpingography. In three patients only there was evidence of a tuberculous lesion in the lung parenchyma, but there was no evidence at all of infection in the intestine or Fallopian tubes. Pleural effusions were present in 15, and in 6 there was evidence of pericarditis. It seemed probable to the authors, therefore, that the tuberculous peritonitis was not caused by spread of the infection from other organs but was more likely to be due to activation of latent tuberculous disease of the peritoneum or mesentery,[7] a conception of the aetiology of tuberculous peritonitis which had been suggested some years earlier.[8]

The onset of abdominal swelling, fever, and ascites some weeks after an abdominal operation might suggest intra-abdominal abscess, obstruction, bacterial or amoebic peritonitis, or some inflammation of the liver or interference with portal circulation.[6] It may be wise to consider also the possibility of tuberculous peritonitis, the diagnosis of which may be confirmed by needle biopsy or other form of peritoneal investigation before resorting to a second laparotomy.[6 7 9]

[1] Befeler, B., and Baum, G. L., *American Review of Respiratory Disease*, 1967, **96**, 977.
[2] Pearson, R. S. B., *Postgraduate Medical Journal*, 1954, **30**, 159.
[3] Stead, W. W., *American Review of Respiratory Disease*, 1965, **91**, 811.
[4] Allison, S. T., *New England Journal of Medicine*, 1955, **252**, 862.
[5] Warthin, T. A., *American Journal of Medical Sciences*, 1953, **225**, 421.
[6] Rafoth, R., Morse, R., Edwards, L. D., Jupa, J., and Levin, S., *Scandinavian Journal of Infectious Diseases*, 1972, **4**, 139.
[7] Singh, M. M., Bhargava, A. N., and Jain, K. P., *New England Journal of Medicine*, 1969, **281**, 1091.
[8] Nice, C. M., *Diseases of the Chest*, 1950, **17**, 550.
[9] Levine, H., *Archives of Internal Medicine*, 1967, **120**, 542.

Teachers and Patients

A patient going to a hospital, whether as an outpatient or an inpatient, is likely to be worried about his illness. To this concern is added the further threat of a new, strange, unfamiliar, frightening world. He is in danger of losing his bearings and his self-esteem, or unconsciously thinks he is. The situation may become even more threatening and unfamiliar if he goes to a teaching hospital, and few major hospitals today are not used for teaching undergraduates or postgraduates.

Now the Health Department has published a circular on teaching on patients.[1] The problems of a patient in a teaching hospital are only an extension of those facing a patient in any hospital, and the Department's circular is an attempt to minimize this extension. Criticism has rightly been levelled at teachers who are insensitive of their patients' fears, an insensitivity which must surely be unintentional and due to lack of imagination. But the same criticism can also be made against doctors who are not teaching. It is essential to create an ambience in which the patient can express his anxieties. This takes time. It may be quicker but in the long term is less therapeutically and less economically effective to prescribe an antacid and an antispasmodic and forbid smoking for a man of 30 with a duodenal ulcer than to seek and help modify his fears and aspirations, his frustrations at work and in the home, and the worries that may be gnawing at his guts.

Within the last decade the doctor-patient relationship in hospitals has improved by virtue of understanding, courtesy, good manners, and mutual respect. Further improvement will come with better education of the doctor, irrespective of his specialty, because every illness—even a broken leg—has its accompanying but often unexpressed fears: "Shall I ever be able to walk normally again? Shall I be handicapped in my work? Shall I be able to ski again? My uncle died of a lung clot after breaking a hip, shall I? Isn't a fracture worse than a broken bone?" These are aspects that the student, undergraduate or postgraduate, must learn and hear discussed between the teacher and his patient. Most doctors unconsciously anticipate these unvoiced fears, make the time to discuss them, and through identification with the sufferer risk the today unfashionable accusation of having a good bedside manner, which is not synonymous with being kind but incompetent.

Though teaching undoubtedly poses special problems, the presence or absence of students is of secondary importance to the relationship established between the patient and the teaching doctor. The Department's circular properly emphasizes the right of the patient to opt out of the teaching situation, but in tone it is rather a negative document of implied "don'ts," and some of its recommendations are so impractical as to prompt the question when its authors were last in a teaching hospital either as patients or as doctors. They may have consulted the Department of Education and Science, but did they consult any medical teachers?

It is safe advice that patients should be forewarned of what to expect in a teaching hospital, but in practice this is of limited value because all too readily the patient, more concerned with his own illness, forgets what he is given to read or is told. Under present pressures how many general practitioners can follow the recommendation to explain to their patients what may or may not happen at a teaching hospital; and how will a general practitioner know which outpatient clinics, when he refers a patient, are attended by students? Nor are hospital receptionists the right people to give sympathetic explanations to the patient. In urban areas, in the face of commercial competition in the labour market, these kind, often underpaid women seldom have the time or knowledge to explain the pros and cons of teaching to the line of patients, despite the appointments system, queueing at the reception desk of a busy clinic.

The Department's advice on how best to manage the situation when a patient attending an outpatient clinic elects to be seen without students being present is acceptable if due warning is given by the patient, but it does raise practical problems for which no solution is proffered. Should the consultant send the students away for a cup of coffee, or should he hunt around for a non-existent unoccupied room in the outpatient department? In practice it is less disturbing to all concerned if the patient is initially seen in complete privacy by a registrar and for the consultant to go in afterwards and review the history and physical findings with the patient and the registrar. This problem is understandably greater when the patient has a psychiatric disorder or when the letter of referral indicates that the disorder—