In cases in which acute pulmonary oedema has complicated paracentesis thoracis the immediate prognosis is rather worse than in those in which it complicates cardiovascular disease; but it is not liable to recur unless paracentesis should again become necessary, when it is advisable to remove the fluid very slowly and at the same time replace with air the fluid withdrawn. In pneumonia and Bright's disease the sudden supervention of acute pulmonary oedema is usually a terminal event.

MASSIVE COLLAPSE OF THE LUNG

BY

G. E. BEAUMONT, D.M., F.R.C.P.

Active or massive collapse of the lung generally occurs as a medical emergency either within twenty-four to forty-eight hours after an operation, which is frequently an abdominal one, or after some injury to the chest or leg, or as a complication during the later stages of diphtheria.

Symptoms and Signs

The patient suddenly collapses, complaining of difficulty in breathing and of a feeling of faintness. The symptoms are chiefly those of distress rather than of pain. When active collapse takes place after an operation the first step in the treatment consists in making a correct diagnosis. The sudden onset of dyspnoea, with rise of temperature, rapid breathing, and increased frequency of the pulse, are suggestive of consolidation of the lung, and resulted in an erroneous diagnosis of post-operative pneumonia until Pasteur clearly differentiated the condition in 1908. The correct diagnosis is established usually by the physical signs, especially noteworthy being the displacement of the heart towards the affected side of the chest. Active collapse of the lung in diphtheria may be mistaken for heart failure if the diagnostic features of pulmonary collapse are not borne in mind.

Prophylaxis

Treatment is both prophylactic and curative. The prophylactic treatment consists in frequent changes of posture when the patient is confined to bed, and also in the taking of a series of deep breaths for a few minutes periodically during the day and on waking, in order to expand the bases of the lungs. Tight abdominal binders after operations should be avoided. The inhalation of oxygen containing 5 per cent. carbon dioxide for a few minutes at the end of an anaesthetic also encourages the patient to expand the lungs.

Emergency Measures

The immediate treatment is concerned with combating the shock and collapse of the patient. For this purpose a subcutaneous injection of strychnine sulph. 1/30 grain and atropine sulph. 1/100 grain should be given, and repeated in four hours if required. Bandages constricting the lower part of the thorax should be loosened. The patient should inhale through a nasal catheter a mixture of oxygen and 5 per cent. carbon dioxide for several hours. Cardiac stimulants should also be employed. Some preparation such as cardiazol, 1 c.cm., or coramine, 1 c.cm., should be injected subcutaneously and repeated every six hours if necessary.

If these measures do not afford relief there are two alternative procedures: (1) introduction of a bronchoscope in order to aspirate the thick mucus which is sometimes found obstructing the main bronchial tubes; or (2) introduction with a pneumothorax apparatus of 100 to 200 c.cm. of air into the pleural cavity on the affected side in order to raise the intrapleural pressure.

TREATMENT OF CANCER BY RADIUM

The Radium Commission has recently published a Preliminary Report on Radium Treatment in Cancer of Certain Sites.¹ In spite of the fact that it is only an interim report, this is nevertheless a document not merely of special but of general professional interest.

From time to time various attempts, upon a more or less limited scale, have been made to obtain some idea of the value of radium treatment in cancer; in the present case the statistical inquiry has been made upon a national basis. The systematized records of national centres in the university towns of England, Scotland, and Wales, as well as those from regional centres in other parts of the country, have been laid under contribution. As already stated, the present report is preliminary in character, and it only deals with a three-year survival rate. This indicates no intention on the part of the Commission to deviate from its announced policy of basing statistical inquiries upon a minimum five-year survival rate, but rather a desire to place before the profession generally what results are being obtained by the radium treatment of cancer in three important regions of the body—the breast, the cervix uteri, and the buccal cavity.

All the cases here considered were treated in the first instance in the year 1930; the details have been obtained from the standardized record forms and "follow-up" documents. Not the least of the many services rendered by the Radium Commission, in collaboration with other bodies—King Edward's Hospital Fund for London and the Medical Research Council—has been the provision for obtaining standardized records of all cases of cancer which have received treatment at the various national and regional centres.

CANCER OF THE BREAST

The 557 cases dealt with are graded in three categories according to the extent of the growth. In the first this is limited to the breast itself; in the second there is involvement of the axillary glands, while the third group includes those cases in which there is more widespread dissemination of the disease. It is an important but most unfortunate fact that 48.5 per cent. of these cases were in the third category at the time of applying for treatment; of the remainder 30.7 per cent. of the total were in the second group and only 20.8 per cent. in the first. The methods of treatment were: (1) by radium alone; (2) by combined radium and surgical excision; and (3) by combined radium and high-voltage x rays, with or without excisional surgery.

Taking all the cases in which radium, in some form or other, was used, the three-year survival rate was 37.7 per cent. Separating the three groups of cases, the respective survival rates are: Group I, 64 per cent.; Group II, 39.9 per cent.; Group III, 24.9 per cent. As the report says, a three-year survival rate of 37.7 per cent. for all cases treated is encouraging. Equally, the importance of early diagnosis and treatment stands out with unmistakable distinctness.

In considering the relative values of excisional surgery and of radium treatment, there was a certain amount of difficulty in obtaining a series of cases treated by the former method which might be strictly comparable to the series treated by radiation methods. Such a series would be drawn from different areas of the country and treated by many surgeons in order to obtain the average

¹ Appendix to the Fifth Annual Report of the National Radium Commission. Preliminary Report on Radium Treatment in Cancer of Certain Sites. Prepared for the Radium Commission by R. W. Raven, F.R.C.S., and A. E. C. Hare, M.A., Ph.D. London: H.M. Stationery Office. (9d. net.)