

0.8 mg./kg., was given. Of the 10 patients treated, four were completely relieved, five were partially relieved, and only one showed no response. The speed of response varied from one to 10 days. Symptomatic improvement was notable. The duration of relief varied from four weeks to eight months. Recurrence of superior vena caval obstruction needing further treatment was seen in two of these patients, and another patient died of recurrent superior vena caval obstruction.

It is felt that the results of this small series warrant further consideration of this readily available method of treatment as an alternative to radiotherapy.

LUNG TRANSPLANTATION

LLOYD D. MACLEAN Important lessons in transplantation, in general, gleaned from 100 cadaver renal transplants are reviewed. The problems of suitable donors, likely recipients, and the importance of histocompatibility matching and the difficulties in the use of anti-lymphocyte serum are discussed in relation to lung transplantation.

Experimental as well as clinical lung transplantation indicate several unsolved problems that include the blood supply to the bronchus of the transplanted lung, the need for bilateral pneumonectomy in some potential recipients with the attendant risk to normal respiration and cough reflex, lack of a proven index of rejection, and the necessity to transplant a contaminated organ. These problems in relation to a personal lung transplant are reviewed.

THE PROBLEM OF GENERAL ANAESTHESIA IN PATIENTS WITH CHRONIC RESPIRATORY DISEASE

J. A. THORNTON Opinions vary regarding the advisability of general anaesthesia in subjects suffering from chronic respiratory disease. If general anaesthesia is decided upon, there is a further division of opinion as to whether ventilation should be spontaneous or controlled.

Twenty-one subjects with severe chronic obstructive disease of the lung have been subjected to a detailed analysis of respiratory function before, during, and after general anaesthesia. The findings are briefly presented, and recommendations are made in relation to the selection and management of these subjects for operative surgery.

During general anaesthesia, ventilation should always be controlled, the ventilatory requirement being adjusted to take into account the increased dead space of these subjects. Oxygen enrichment of the inspired mixture is necessary to maintain adequate oxygenation of arterial blood. Provided that the anaesthetic and surgical teams are prepared to offer ventilatory support to these patients in the immediate post-operative period, few patients will need to be barred from surgery.

THORACIC MANIFESTATIONS OF BEHÇET'S SYNDROME

A. G. DECROIX The case of a 52-year-old man with thoracic manifestations of Behçet's syndrome is described. The disease presented with an arthritis of the left knee which cleared spontaneously within one month. Later there were aphthous lesions of the mouth and genitalia, bilateral uveitis with hypopyon, and thrombo-phlebitis of the subclavian and innominate veins, associated with superior vena caval obstruction. At the same time diffuse bilateral pulmonary opacities were observed in the chest radiograph. Biopsy of the lung revealed diffuse fibrosis with many new vessels within the fibrotic areas. Capillaries were enlarged and engorged with red cells. Thromboses, haemorrhages, and peri-arterial infiltrations with lymphocytes and plasma cells were also noted. Similar histological changes have been observed in other sites in patients with Behçet's syndrome.

MEDICAL INVESTIGATIONS AMONG THE INDIANS OF BRAZIL

P. HUGH-JONES The upper Xingu region of Central Brazil is of great anthropological and medical interest because, until the time of the aeroplane, it had remained completely isolated by the vast areas of the Mato Grosso to the south and by numerous waterfalls as the Xingu river goes into the Amazon to the north. A proposed road between Brasilia and Manaus will go across the upper Xingu.

The Royal Society-Royal Geographical Society expedition from 1967-1969 was made primarily to study the ecology of the area, but incidentally provided interesting medical and anthropological material.

There has been about a 50% mortality among Indians soon after their first contact with civilization which appears to be from respiratory virus infection. Methods of obtaining blood samples and of their preservation for the study of this problem are discussed, and a brief review of life among the Indians in this region is given to outline the social, medical, and anthropological interest of these Indians.

THE SMALL PULMONARY ARTERIES IN PRIMARY PULMONARY HYPERTENSION AND EMPHYSEMA

P. G. I. STOVIN The frequency distribution of injected pulmonary arterial branches of different diameters was studied in one normal 36-year-old man, in one woman of 32 years with primary pulmonary hypertension, in a 58-year-old woman and a 69-year-old man with panacinar emphysema, and in one 60-year-old man with centrilobular emphysema. The data are presented to try to assess the extent to which arteriolar contracture, hypertrophy, and loss of branches individually and together have played a part in the pathology of the lungs in these cases.

AN OPERATION FOR PECTUS EXCAVATUM

G. H. WOOLER The main force keeping the sternum forwards in an elevated position is the filling and contrac-

tion of the heart, and particularly of the right ventricle, when the heart is in its correct central position.

If during intra-uterine life the heart is not central and during development lies to the left side, leaving the mediastinum empty, there will be no positive force to elevate the sternum, but rather a negative pressure which will suck it in.

The ribs and sternum ossify early, but the costal cartilages and costochondral joints remain mobile and supple until late adolescence. If during this period of growth the heart is not central, the sternum will be sucked in during each inspiration, and overgrowth of the costal cartilages will take place to fill the empty mediastinum.

The operation consists of excising the deformed cartilages and suturing the heart into its central position, thus correcting the deformity.

LUNG SCANNING USING XENON

I. K. BROWN, A. SEATON, and D. GAZIANO The use of poorly soluble radio-active gases such as xenon-133 and nitrogen-13 in the measurement of regional ventilation and perfusion of the lungs is now well established. Equipment for the monitoring, recording, and display of radioactivity is readily available, but a suitable stand to carry the scintillation counters is not. A stand which can be simply modified to provide fixed or moving scans with the patient in the vertical, horizontal or intermediate positions is now described. Results obtained in normal subjects and in patients with mitral disease and chronic airways obstruction illustrate its use in practice. Patients with mitral disease were studied in the vertical position, and the relationship between pulmonary vascular resistance and the deflection of perfusion to the upper lung regions is reported. In patients with airways obstruction, the horizontal position was adopted in order to detect any reduction of upper zone perfusion, since this would not be apparent in the vertical position. An impairment of both ventilation and perfusion to the upper lung regions was found in patients with emphysema but not in those with chronic bronchitis and cor pulmonale.

LUNG SCANNING IN BRONCHIAL CARCINOMA

R. H. SECKER WALKER and J. L. PROVAN Scintillation scanning of the lungs provides a safe and effective way of demonstrating pulmonary arterial perfusion. In the last two years more than 600 lung scans have been performed and the results in more than 130 patients scanned for suspected carcinoma of the bronchus are reviewed.

A detailed analysis has been made of those patients who underwent thoracotomy. The lung scans have been compared to the chest radiographs, bronchoscopy findings, spirometry results, and the nature of the tumours. Mechanisms of the defects in perfusion and the value of

lung scanning in determining the extent of surgery, and in particular whether a neoplasm is inoperable or not, are discussed.

SURGICAL CORRECTION OF AORTIC COARCTATION IN CHILDREN

B. J. BICKFORD One hundred and four children under the age of 15 were operated upon for coarctation of the aorta at the Royal Liverpool Children's Hospital. There were 73 boys and 31 girls. Twenty-four had operations in the first year of life because of dyspnoea, feeding difficulties or congestive cardiac failure. Thirteen of these infants were less than 2 months old at operation. Mortality in infancy was 17% and, although operation was life-saving, 40% appeared to have some residual stenosis at follow-up. Half of the older patients were between 4 and 8 years old at operation; the mortality in this non-infant group was 6%. A graft was used five times and a plastic repair on eight occasions. One graft thrombosed three years later and was replaced. Reactive hypertension was observed after operation in 40% of patients but was over 200 mm. Hg in only eight of these. Reduction of blood pressure was rather greater in the infants (average from 175 to 125 mm. Hg) than in the older children (average from 150 to 120 mm. Hg). Persistent hypertension was found at follow-up in seven of the non-infant cases; three of these probably have some residual stenosis. Post-operative abdominal complications occurred in nine cases; these were severe in three cases and fatal in one.

PULMONARY ARTERIO-VENOUS FISTULA

B. P. MOORE Forty cases of pulmonary arterio-venous fistula have been collected from various centres. The chief features of the analysis of the 22 males and 18 females in this series are:

1. Telangiectasis is almost invariably accompanied by epistaxis.
2. The left lower lobe of the lung is the one most commonly affected.
3. Single fistulae were found in 27 cases and multiple fistulae in 13, of which only five were female.
4. Particular attention was paid to the complications of the primary condition and to associated disorders. Females were more prone to serious complications than males. Two patients developed massive haemothorax from intrapleural rupture, one in the fifth and the other in the eighth month of pregnancy.

Although the number is very small, this suggests that pregnancy may be a strong indication for operative treatment of the condition.

EXERCISE RESPONSE IN PATIENTS WITH SARCOIDOSIS AND INTERSTITIAL LUNG DISEASE

R. A. CLARK Shepard has pointed out that the relationship between oxygen uptake, arterial oxygen saturation,