

as the latter is too irritant. Fifteen to twenty punctures are made with a triangular skin-needle on the inner aspect of the lower part of the legs and the dorsum of the feet. The needle is placed against the skin and quickly pressed into it, and the point is pushed obliquely upwards into the subcutaneous tissue and withdrawn. The whole movement should be done quite smartly, and is practically painless unless the needle is jabbed into the skin. Veins can be felt and avoided, but bleeding, if it occurs, is easily controlled by a little pressure. Fluid will flow out from the punctures and collect in the receptacle placed under the feet. In male patients the scrotum should be supported by means of a folded bed-sheet placed across the thighs; this will help to reduce the size of the distended organ and render puncture of it unnecessary. If the ascites tends to diminish rapidly it is advisable to apply an abdominal binder as after paracentesis. Light massage of the limbs may be employed to promote drainage and overcome the stiffness of joints. When it is decided to stop the drainage all that is necessary is to put the patient to bed and wrap the legs and feet in an absorbent dressing for two or three days while some oozing from the punctures remains.

### Summary

1. Mechanical removal of oedema fluid by acupuncture is a useful addition to the therapeutic measures available for the treatment of obstinate oedema.
2. This method possesses several advantages over the use of Southey's tubes.
3. Certain precautions are necessary to avoid complications; these are stressed.

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A report of the proceedings of the Sixth Joint Conference of Cemetery and Crematorium Authorities, held at Torquay from June 28 to July 1, has now been published. The report includes the addresses and papers read, and can be obtained from the publishers, the National Association of Cemetery and Crematorium Superintendents and the Federation of Cremation Authorities in Great Britain, 47, Nottingham Place, London, W.1, at the price of 2s.

## Clinical Memoranda

### Tricuspid Stenosis and Pulmonary Tuberculosis

A combination of pulmonary tuberculosis and a congenital heart lesion is sufficiently unusual to make it worth while recording the following case.

A youth aged 19 was admitted to the Hull Royal Infirmary on April 3, 1937, on account of a severe haemoptysis. There had been numerous smaller haemorrhages during the previous year, but he had paid little attention to them. He suffered from a slight cough.

He was born during an air raid and was three months premature. He had always been rather blue in the face, and at the age of 13 had been diagnosed as a case of congenital heart disease. At that time he was not expected to live much longer. The patient, however, was very cheerful, and refused to lead a life of invalidism. He actually played football till quite shortly before his admission. There was no history of any illness suggesting rheumatic fever or bacterial endocarditis.

On admission the patient's temperature was 97°, with an evening rise to 99°; pulse rapid but of good volume, respirations 24 per minute. His cheeks and lips were very cyanosed, while the fingers showed marked clubbing. The apex beat of the heart was in the anterior axillary line in the sixth space. The sounds were heard loudly all over the chest and there was a diastolic murmur with a presystolic crescendo audible particularly well over the mitral area. The percussion note was resonant all over the lungs, but the breath sounds were faint. No clinical evidence of pulmonary tuberculosis was discovered although he was examined carefully several times. No other abnormal signs were elicited. Three days after admission the patient had a further large haemoptysis and died.

*Post-mortem examination* revealed evidence of active tuberculosis at the apices of both lungs, which contained several small cavities with ragged walls. The pleura in these situations was thickened and adherent. The bronchi and trachea contained much fresh blood and the tracheo-bronchial glands were enlarged. The heart also was grossly enlarged, particularly the right side, which was much thicker than the left. The tricuspid valve was stenosed and incompetent, being covered with numerous firm granulations, but all the other valves were quite normal. There was a patent foramen ovale, which admitted the tip of the little finger with ease. The spleen was three times larger than normal, but all the other viscera appeared natural except for congestion.

### DISCUSSION

Congenital tricuspid stenosis is a very rare abnormality and when present is usually associated with pulmonary stenosis and/or a patent foramen ovale. Although in this case the history suggested that the condition was in the nature of a congenital malformation the presence of granulations indicates that it must almost certainly have been of inflammatory origin, and reference to the literature on this subject shows that it is so in a large proportion of the reported cases. Thus in the sixteen cases collected by Rachfuss (cf. Osler and McCrae, 1927) five were due to imperfect development, five were definitely inflammatory, and six were of doubtful origin.

A persistent communication between the auricles is relatively common, the figures varying between 30.5 per cent. (Herxheimer) to 14 per cent. (Adami) (Rokitansky, 1855), but the opening is usually only in the form of a valvular slit, and a definite foramen is much rarer. It has been suggested that a cause of the patency may be a rise of

pressure in the right chamber after birth preventing firm apposition of the valve-like fold from the left auricle, thus accounting for the increased incidence of this abnormality with pulmonary and tricuspid stenosis (Osler and McCrae, 1927). The presence of a patent foramen ovale is in all probability advantageous in these cases, as it allows blood from the pulmonary circulation to enter the systemic side and so eases to some extent the back pressure in the right auricle. This may account for the fact that the patient managed to live to the unusual age of 19, since most of those with severe tricuspid stenosis die in infancy.

The cyanosis of morbus cordis organicus, which was a prominent feature of this case, is usually accepted as being due to deficient oxygenation of the blood; this may be brought about by the abnormal mixing of venous and arterial blood or by mechanical obstruction to the pulmonary circulation, and in this case both factors probably played a part, accounting for the intensity of the cyanosis which was present. Pulmonary stenosis as a cause of cyanosis is well known, and it is probable that tricuspid stenosis, by obstructing the flow through the heart even nearer to the systemic circulation, is more potent still in the production of this particular sign.

The incidence of pulmonary tuberculosis with congenital heart disease has long been a debatable subject, and although such an authority as Rokitansky (1855) stated that tuberculous infection of the lungs did not occur in cardiovascular diseases associated with cyanosis, subsequent writers are not in entire agreement. The subject has been clearly summarized by S. Roodhouse Gloyne (1935-6), who states that the two diseases are not by any means incompatible, although the combination is a rare one. It was stated by Fishberg (1932) that pulmonary tuberculosis was the cause of death in nearly all cases of congenital pulmonary stenosis in which childhood was reached, his suggested reason for this being that a relatively avascular lung provided a suitable nidus for the tubercle bacillus. If this opinion is correct one would expect that tricuspid stenosis, by obstructing the blood flow into the right ventricle, would have the same effect. These cases should therefore fall under the same category, although the number reported is too small for any accurate conclusions to be drawn from the figures available. The most remarkable feature of the case in question is that in the presence of these multiple and extensive lesions the patient should not only have lived to the age of 19, but should have led a comparatively normal existence, even to the extent of playing games such as football.

I am indebted to Dr. G. Eric Lewis, physician to the Hull Royal Infirmary, for his help in the preparation of these notes.

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The Public Health Committee of the Middlesex County Council has submitted proposals for the extension and modernization of North Middlesex County Hospital. The hospital, which at present accommodates some 1,370 patients, is used chiefly for acute, chronic, and maternity cases, and contains wards for mental cases. It is estimated that the proposed scheme will cost £2,000,000.

## Reviews

### DISEASE AT HIGH ALTITUDES

*The Pathology of High Altitude Climate. With Contributions to the Climatology of Highland Regions and to the Constitution of High Altitude Inhabitants.* By A. Loewy and E. Wittkower, M.D. Berlin, L.R.C.P. & S.Ed. (Pp. 212. 12s. 6d. net.) London: H. Milford, Oxford University Press. 1937.

The authors have used the term pathology mainly to cover statistics of infectious and non-infectious diseases. There is no morbid anatomy or pure pathology in the book. As the individuals dealt with spend all their lives at high altitudes they must be acclimatized, and therefore their climate cannot be considered a cause of any exceptionally drastic pathological change. The highest altitude under observation is about 16,000 feet, but there is not much information from this level. There is a fair amount of detail for La Paz, Bolivian Andes (12,350 feet) and a good deal of statistics from the highlands (mostly about 2,000 to 6,000 feet) of Switzerland, Spain, South Africa, and Central and South America. The information at hand is, however, by no means complete, and the authors are to be congratulated on the careful and restrained manner in which they have drawn conclusions from their material. Their own many researches were carried out mainly at Davos (about 5,000 feet), which under Professor Loewy has become well known as a research centre.

Among points of special interest are the short stature, muscularity, relatively large chest circumference, and longevity of some of the highland races; Scots and Tyrolese are, however, tall. At Davos the seated height is shortened in relation to the total height. Generally speaking, the volume of air respired is increased, as are also the red blood cells and haemoglobin. Residents acclimatized to any high level are liable to mountain sickness on proceeding 3,000 feet higher.

With regard to statistics, the infectious diseases, with the exception of scarlet fever, are responsible for a large part of the total mortality at high altitudes. The mortality rates for pneumonia are greater at these altitudes than in the lowlands. Also there is an extraordinarily high mortality from acute intestinal diseases. The total mortality for non-European highlands (but not South Africa) is remarkably high compared with European highland regions (except parts of Spain).

The highland climate is of therapeutic value in certain defined cases. We expect the authors are referring mainly to Davos and sanatoria at similar levels when they recommend this climate for patients of asthenic build, constitutional weakness, poor convalescence, post-operative anaemias and those that occur after infectious diseases, bronchial (not cardiac) asthma and other allergic conditions, chronic bronchitis and pleuritis, Graves's disease, acne, impetigo, lupus vulgaris, all forms of tuberculosis of the bones, joints, and glands, and also for the first and second stages of pulmonary tuberculosis. Dryness of the air is considered of importance for the last-mentioned. In the Union of South Africa the mortality from all forms of tuberculosis is half to one-third of that of Central Europe—for example, Switzerland.

The highland climate, such as that of Davos, is contraindicated in extensive pulmonary tuberculosis, in severe cases of intestinal and renal tuberculosis, and in cardiac insufficiencies. Statistics do not always reveal the ill effects upon the heart, probably because