had aneurysm of the coronary artery. Angina pectoris occurred in 10 cases and 3 patients died. Among 11 necropsies no gross changes were found in the kidneys. In 2 cases adherent pericardium was found. The weight of the heart ranged from 23 to 32 oz., all being much enlarged. It appears that syphilitic pericarditis is a clinical entity; it was diagnosed in yet another patient who did not die. In South Africa a haemorrhagic blood-stained pericardial effusion occurs in natives with a positive Wassermann reaction in the serum; this is relieved by tapping and antisyphilitic measures.

Distinction between the Aortic Regurgitation of Rheumatism and that of Syphilis.

Rheumatic cases generally appear in young adults; syphilitic cases in the middle-aged. A history of the rheumatic infection may often be found, whereas that of syphilis is most difficult to elicit; it was only present in 27 per cent. of this series.

In the great majority of rheumatic cases there is a definite stenosis, with the typical facies; the aortic valve is generally the first to be involved in acute rheumatism. Confusion is caused sometimes by the occurrence of the presystolic murmur at the apex in cases of pure aortic regurgitation (Austin-Flint murmur). The distinction may be made by (1) the facies; (2) the pulse pressure, which is greater in aortic regurgitation with the Austin-Flint murmur, smaller in mitral stenosis and aortic regurgitation; (3) the pulmonary second sound is accentuated in mitral stenosis.

As pointed out by Dr. Strickland Goodall, in rheumatic cases the general progress of the disease is from the left cusp of the mitral to the left posterior cusp of the aortic valve; they have a common blood supply, and the aortic wall is not affected as a rule. The diastolic murmur is therefore blowing in character, and its area of maximum conduction is down the left side of the sternum. In syphilis the aorta is roughened, and the cusp most often involved is the right posterior. Hence the murmur is harsh in quality and the maximum conduction is down the right side of the sternum. In syphilis the accompanying signs in the central nervous system are of great diagnostic value. The arteries are thickened in pure rheumatic cases only where the pulse pressure is extremely high from large degree of aortic regurgitation.

Treatment.

Large doses of potassium iodide were usually employed, and mercury by inunction of blue ointment; in some cases arsenobenzol compounds were given intramuscularly. The intravenous administration was followed by some fall of blood pressure. The impression received from the cases directly supervised was that arsenobenzol compounds were unsuitable for the later stages of cardio-vascular syphilis. Digitalis was used in conjunction with iodides and mercury where cardiac failure was present.

In two cases of aneurysm of the aorta pain was greatly relieved by the administration of doses of horse serum twice a week or of haemoplastin twice a week. The explanation offered is that clotting was produced in the sac.

Conclusion and Summary.

1. The age incidence, the sex incidence, and the latent period after infection are similar in cardio-vascular syphilis and tabes dorsalis.
2. Once the symptoms and signs of cardio-vascular syphilis occur the course of the disease is, as a rule, rapid.
3. Signs in the nervous system are important in making a diagnosis.
4. The initial symptom is not constant, but in the majority of cases is either shortness of breath or cardiac pain, and, less often, giddiness and palpitation.
5. Cyanosis occurs in a greater percentage of cases without aortic regurgitation, and pallor in a great percentage of cases with aortic regurgitation.
6. The superficial arteries are thickened in the majority of cases, but the blood pressure is rarely above 150 mm. of mercury. Such a thickening with a similar rise of blood pressure occurs in the senile form of cardio-vascular degeneration.¹ Systolic blood pressure in the leg is greater

than that in the arm, especially in cases with aortic regurgitation.

7. The heart is often much enlarged even in cases with no aortic regurgitation, and where the blood pressure is low.

8. A syphilitic myocardial degeneration may occur without valvular mischief, and sometimes without thickening of superficial arteries.

9. Cardiac pain is often mild in degree at the beginning and progresses to true angina pectoris.

10. Different portions of the heart and blood vessels are affected maximally in different cases.

11. There is often an inconstant albuminuria of no significance.

12. The electro-cardiograph findings which have a prognostic value are: (a) Changes in r wave in lead 2. (b) Occurrence of interference in auriculo-ventricular conduction. (c) Notching of the Q.R.S. complex. (d) Auricular fibrillation.

13. The signs of cardiac failure are also of prognostic significance.

14. The mortality of the disease is high, once it has passed out of the latent stage.

15. It is necessary to diagnose these cases in the latent stages so that treatment may be more successful.

16. The distinction between aortic regurgitation of syphilitic and of rheumatic origin is necessary on clinical grounds.

17. Haemostatic serum is useful in certain cases of aneurysm with pain.

My thanks are due to the honorary staff of the National Hospital for Diseases of the Heart, London, for permission to use their records, and particularly to Dr. Strickland Goodall for his kind advice and elucidation of several matters in the text.

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THE EFFECT OF POSTURE ON CASES OF PNEUMOTHORAX.

BY

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WHEN a patient with pneumothorax moves from side to side or from the recumbent to the erect position the intrathoracic pressure is altered, and the intrathoracic viscera and any effusion that may be in the pneumothorax cavity are also moved.

Intrathoracic Pressure.

Dr. Lawson¹ pointed out that this pressure varies with posture in cases of artificial pneumothorax. The variation may be very considerable, and this should always be borne in mind when giving a refill. Some physicians give refills with the patient sitting in a chair, others with him lying flat on his back, and others with him lying completely or partially on one side. If we have records of previous refills it is usually possible to tell in what position they were given by putting a needle into the pneumothorax cavity and moving the patient until the usual pressure is found. If the patient lies on the pneumothorax side the weight of the viscera will render the intrathoracic pressure in the pneumothorax cavity higher than if he lies on the healthy side. In one of my cases the pressure was -4+2 with the patient lying on the left (pneumothorax) side, but -10-0 when he was lying on the right side. After a refill of 450 c.cm. of air the pressures were +1+3 and -5+2 respectively. In other words, when this patient was lying on the healthy side he could raise the pressure in his pneumothorax cavity as much by turning on to the treated side as by having a refill of 450 c.cm. It is possible, therefore, to use posture if we wish to stretch adhesions, for by making the patient lie on the healthy side a continual drag on the adherent areas would be produced. Of course posture will affect the

intrathoracic pressure more when the lung is free than in cases where it is bound to the chest wall by adhesions or adherent pleura. It will also have a greater effect if the mediastinum is freely movable.

Position of the Thoracic Viscera.

By making an x-ray examination of the patient in various positions it is possible to judge to what extent the mediastinum is movable and also to see exactly where the lung is held up by adhesions and where the visceral pleura is in contact with the chest wall but not actually

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

adherent. Fig. 1 shows a case of artificial pneumothorax with the patient in the recumbent position. Fig. 2 shows the same patient in the erect position, and it will be seen how great is the difference in the position and shape of the lung.

Effusion in the Pneumothorax Cavity.

Of course fluid is freely movable in these cases, and it can readily be shifted by making the patient lie on one side (Fig. 3), if it prevents a good x-ray examination of the diaphragm or base of the lung, as in Fig. 4; or if he is active and sufficiently well he may stand on his head, when the fluid will gravitate to the apex and a clear view of the base will be obtained by x rays (Fig. 5).

My thanks are due to Dr. Stanley Melville, who took the skiagrams from which these tracings are made.

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A CASE OF TUMOUR OF THE BRAIN WITHOUT SYMPTOMS.

BY

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THE case here recorded has a certain clinical interest and is of some importance from the medico-legal point of view.

An elderly male Egyptian was knocked down by a motor car whilst crossing the street, and was removed to hospital in a semi-conscious state.

On admission the pulse was 100, the pupils equal and reactive to light, there was no Babinski sign, and the deep reflexes of the legs were exaggerated. There was paresis of the left arm and spasticity of the other three limbs. The cerebro-spinal fluid was found to be of normal tension and was discoloured with blood.

The patient gradually got worse, and died five days after admission without regaining consciousness. His temperature gradually rose to 38.4° C. before death, and his respirations rose from 24 to 38 per minute.

On dissection a bruise was found in the temporal muscle above the right ear, and under this a linear fissure in the skull running forwards and downwards into the middle fossa and terminating in the right sphenoid bone. There was about 1 c.cm. of clotted blood between the dura mater and the bone in the region of the crack. The dura was thickened and adherent. The brain was intensely congested and the pia arachnoid looked blood-stained, although no actual extravasated blood could be observed. The brain was not damaged on the side of the injury, but on the opposite side there were two lacerations—one the size of a shilling on the left temporal lobe where it rested on the petrous temporal bone, the other about half the size towards the temporal pole adjacent to the small wing of the sphenoid. There were no other signs of violence, nor haemorrhage into the brain substance. On section, however, two tumours were found in the right hemisphere—one situated in the anterior part of the Sylvian fissure where the horizontal and ascending rami take origin, the other situated at the end of the sulcus temporalis superior in the gyrus angularis. Neither of these tumours could be seen on the surface, but on making serial horizontal sections the following relations could be ascertained.

A. The anterior tumour had no distinct boundaries, it took origin between the pia mater and the arachnoid, invaded the brain substance forwards into the frontal lobe and upwards into the pars triangularis, and reached the white matter of the middle temporal gyrus. The anterior extremity reached the roof of the anterior horn of the lateral ventricle. The grey and white matter of the island of Reil, the claustrum, and the external capsule were destroyed in their anterior half. The tumour touched the anterior extremity of the lenticular nucleus and destroyed the lateral part of the internal capsule at the level of the head of the caudate nucleus. Above the level of the basal ganglia there were several small cavities, one of which was 5 mm. in diameter.

B. The posterior tumour consisted of a well defined cheesy mass measuring 1.5 by 2 cm. and was enclosed in a capsule. It destroyed the grey matter of the angular gyrus and invaded the white matter as far as the forceps major.

On microscopical examination both tumours were found to be of syphilitic origin, invading the brain substance from the pia arachnoid. In and about the tumours the blood vessels showed intense infiltration with lymphocytes, and the brain tissue adjacent to the vessels was in a state of softening. The cavities mentioned above showed degeneration of the brain substance with a neuroglial wall and with a similar condition of the vessels around them.

From the clinical aspect the presence of such extensive invasion of the brain by tumours without apparent symptoms is rather a remarkable feature, and an effort was made to obtain the previous history of the victim. He was, unfortunately, an old man who lived by himself, and we could obtain no information about him except that he had been in a "debilitated" state for about three months, but used to look after himself without assistance and was able to lead an apparently normal life. We could not ascertain from his relatives or neighbours whether he had complained of any symptoms, and presumably he had not.

From the medico-legal aspect the case is important in that it shows that a person may be walking about leading an apparently normal life while suffering from an advanced disease of the brain. When an individual so suffering is the victim of an accident such as this person sustained the question of responsibility must arise, and it is at least an open question whether the central lesion did or did not play a part—first, in causing the accident, and secondly, in leading to a fatal issue after the accident.

We can readily understand that lesions of this extent might at any moment cause an oedema of the brain which might lead either to loss of consciousness or to loss of co-