DISCUSSION.

The Kahn test is not usually regarded as of itself sufficient evidence of an infection with syphilis, but in view of the clinical findings the specificity can hardly be in question here. The positive Kahn in the presence of a negative Wassermann is a well recognized finding in early syphilis, the former reaction being more sensitive.

The orderly sequence from negative through "strong positive" back to "negative" parallels the clearance of the primary focus of infection and while this cannot be taken as indicating the clearance of remote scattered penetrations of the Spirocheta, the rapidity with which the reversal was effected leads to the hope of complete eradication.

[Footnote.—The reactions of the blood are similar to those which occur when arsenicals are used and are presumably of the same nature as a Hexheimer reaction. It was not the result of the Kahn tests which confirmed the diagnosis but the demonstration of T. pallidum. The positive Kahn tests were, presumably, the result of the flooding of the circulation with antigens from the Treponema killed by the penicillin, this causing the tissues to produce anti-body.—Ed.]

ANEURYSM (SYPHILITIC) OF THE COMMON CAROTID BIFURCATION TREATED BY DOUBLE PROXIMAL AND DISTAL LIGATURE.

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Few surgeons have occasion to treat sufficient cervical aneurysms to acquire dogmatic views on the best treatment; the occasional case seen by any individual surgeon each has special features, so that it seems worth while reporting any that occur.

Sapper J. S., of a Railway Company, Indian Engineers, a Telugu Hindu, aged 30, was first admitted to a forward Medical Unit on December 16, 1943, for a pulsating tumour of the left side of the neck of three months' duration. He was, evacuated to an I.B.G.H. (I.T.), and admitted to the Venereal Wards on December 23. I was asked to see him on January 3, 1944. There was a mass on the left side of the neck, 2 by 1½ by 1½ inches, with its centre at the hyoid level, deep to but not attached, to the sterno-mastoid, with a little horizontal but no vertical mobility; it gave an obvious expansile pulsation synchronous with the heart beat, but no thrill. Pressure of the common carotid artery against Chassaignac's tubercle stopped the pulsation to a large extent, but not completely. There were no symptoms of pressure on veins or nerves; the function of all was intact.

The diagnosis of carotid aneurysm was obvious.

The patient, intelligent and co-operative, gave a frank history of recent syphilis and gonorrhoea; Wassermann and Kahn were positive. He stated that he had first noticed the swelling towards the end of September; it had grown steadily, causing some discomfort and stiffness in the neck with difficulty in turning to the right, but no pain or tinnitus; swallowing had at times been a little difficult. The cardiovascular, respiratory and genito-urinary systems were normal.

Four weeks were given to antisyphilitic treatment, which produced no change in the local swelling.

Operation was carried out under intratracheal gas, ether and oxygen anaesthesia on February 5. A 4 inch incision was made along the anterior border of the sterno-mastoid; a transverse incision would have been more in keeping with the principles of cervical surgery and would have given as good exposure. Division of the deep cervical fascia, clearing and backward retraction of the sterno-mastoid, exposed the pulsating tumour. No attempt was made to dissect out the sac; it lay approximately at the carotid bifurcation, which is described as the site of election of cervical aneurysms. Some tributaries of the internal jugular vein (doubtless the superior thyroid and facial veins) were divided between ligatures. The main
internal jugular was stretched as a flat ribbon over the surface of the tumour, but it was patent with blood flowing along it. The common carotid artery was exposed above the omohyoid and a ligature passed loosely around it; tension on this ligature at once stopped all pulsation. The common carotid artery was then exposed with difficulty above the tumour, below the posterior belly of the digastric, and a ligature passed loosely; tension on this produced no effect on pulsation. The common carotid was then tied with No. 2 chromic catgut in two places, and a narrow segment of the vessel resected. The external carotid was next tied in two places with No. 2 chromic catgut, but, there being no room to resect a segment, it was divided. It was not possible with the surrounding induration to be sure of the exact level of section but it was probably above the superior thyroid, lingual and facial branches. Following the double ligature all pulsation was arrested for good. The deep fascia was united with interrupted catgut and the skin with an intradermic nylon suture.

The wound healed by first intention though a small hematoma, which developed at the centre of the scar, was quickly absorbed and did not need aspiration.

Twenty-four hours after operation the patient said that his right arm was weak and he found difficulty in lifting his feeding cup off his bedside locker; this transitory weakness cleared up entirely in five days.

Ten days after operation he complained of some dimness of vision of the right eye. Examination by an Ophthalmologist revealed nothing abnormal and a week later he said full sight was restored.

On March 30 he complained for the first time of weakness of the voice; laryngoscopy revealed "left vocal cord lies in the cadaveric position and does not move on phonation. Right cord is moving well and compensating; left recurrent laryngeal palsy." This was not present before or immediately after operation. There was no thoracic aneurysm or other mediastinal lesion, and neither the recurrent laryngeal nor external laryngeal nerves were anywhere near the operation field. Possibly there is a syphilitic peripheral neuritis, as the slightly weak hoarse voice has persisted to date.

There has never at any time been any sign of recurring pulsation; the indurated mass of the aneurysmal sac has slowly absorbed, and to-day, May 12, there is a small lump about $\frac{1}{2}$ by $\frac{3}{4}$ by $\frac{1}{2}$ inch, which feels like a slightly enlarged lymphatic gland.

**Conclusions.**

1. A case is described of a small, early, idiopathic (i.e. syphilitic) aneurysm, practically symptomless and producing no pressure effects.

2. Treatment was by combined proximal, as near the sac as possible, and distal, with some large intervening branches, ligature. Excision of the sac was not attempted, as this would have entailed a difficult and dangerous, and perhaps not a possible, dissection.

3. Double ligature with division of the artery and, where possible, resection was preferred to simple ligature in continuity.

4. The main vein was not tied; only small branches which might have interfered with the dissection.

5. No effort was made to define the limits of the sac, which was almost certainly at the carotid bifurcation.

6. Only slight transient after-effects, quickly recovered from, followed the cutting off of the blood supply of the left side of the brain; the laryngeal palsy had another, if obscure, explanation.

7. Treatment was successful; no recurrence after three months.

Under Service conditions I have no opportunity to refer to the literature.

I am grateful to my Commanding Officer, Colonel R. K. Misra, I.M.S., for permission to forward this case, which occurred in his hospital.