

both arms, of twelve months' duration. During the last ten weeks the symptoms were more severe, and were accompanied by considerable flatulence. The heart sounds and the cardiac area were normal; there was no cough or spit; the respiratory murmur was fairly good; the temperature was normal; and there was no albuminuria. He suffered from diarrhoea and melæna six years before his death, and from slight rheumatism which never laid him up.

Summary of post-mortem: Extreme atheroma of the aorta; complete occlusion of the orifice of the right coronary artery; partial obstruction of the left; thickening and incompetency of the aortic curtains; calcification of the middle coat of the femoral artery. It is unnecessary to record the report by Dr. Coats in detail, but I may simply refer to one or two of the more important points. There was the most advanced fatty degeneration of the heart muscle; and the musculi papillares presented very distinct tendinous transformation. On microscopic examination there is seen to be a very extensive fatty degeneration of the muscular fibres; in addition, where the fatty condition is less distinct, there is a clear translucent appearance presented by the muscular fibres, which in these places are devoid of transverse striæ. On testing the anastomoses with soluble Prussian blue, it is found that the pervious coronary artery communicates with the impervious somewhat freely. This is determined in the case of a branch situated close to the obstructed end; this branch is distributed to the right auricle, and it communicates freely with a branch of the other artery distributed to the left auricle. It is also determined that the branches distributed to the ventricles communicate.

CASE 16. *Generalised fatty degeneration; occlusion of one coronary artery, with narrowing of the other; atheroma of the aorta.*—John C—, aged thirty-six, a dock labourer, was admitted on Nov. 22nd, 1886, to Dr. Tennent's wards, complaining of shortness of breath and cough. Six months before he had been seized with a weight in the chest on exertion and palpitation, which were soon followed by cough and spit, tinged with blood. He died suffering from extreme orthopnoea, with oedema and dropsy. There were distinct ventricular-systolic and ventricular-diastolic murmurs over the sternum, with displacement of the apex downwards and to the left.

Summary of post-mortem: Atheroma of the aorta; complete occlusion of one coronary artery, narrowing of the other; thickening and partial destruction of aortic curtains; general venous hyperæmia. The general facts of the necropsy were similar to those recorded in connexion with the last case. Injection with soluble Prussian blue showed pretty free communications between the two arteries, and the fluid did not return by the veins. Communications were determined for the auricles and ventricles. The cardiac muscle presented the typical mottled appearance of fatty degeneration, especially that of the right ventricle.

The injection experiments described in connexion with the last two cases were carried out by Dr. Joseph Coats at the time of the post-mortem examination. Soluble Prussian blue is practically as thin as water; and hence such an experiment is liable to the objection I have previously urged, that with a thin fluid we can fill the other artery by means of the capillary or arteriolar (?) anastomoses. Therefore, unless the anastomosing branches can be actually traced with the naked eye, such an experiment does not refute Hyrtl's assertion that the coronary arteries do not anastomose by means of their primary and secondary branches.

In the foregoing lectures I have endeavoured to demonstrate the intimate etiological relationship existing between disease or obstruction of the coronary arteries, and certain lesions of the myocardium, especially fibroid degeneration, and to make it plain that the terms "chronic interstitial myocarditis" and "fibroid degeneration" (pure and simple), are not synonymous terms. I have also in the course of the lectures shown that multiple embolic lesions of the heart-wall may play a most important part (which should never be overlooked) in determining the clinical course of certain cases of valvular disease of the heart. Since the publication of my first lecture, Dr. Quain has kindly directed my attention to the articles on Connective Tissue Hypertrophy and Fibroid Disease of the Heart in the Dictionary of Medicine. The subject matter of the former article, which is by Dr. Quain himself, has scarcely come under consideration, as it refers to a general increase of the connective tissue of the whole

organ; but in reading it I observe that the inflammatory theory stated in the Lumleian Lectures has been departed from. "This, and similar cases," he writes, "exhibit no appearance of chronic inflammatory action, and thus differ altogether from examples of that form of fibroid degeneration which is described under a separate heading (see Heart, Fibroid Disease of)." In the latter article by Dr. Mitchell Bruce, we have a most careful exposition of the subject of fibroid disease. The atrophic nature of the lesion and its association, in some instances, with degenerative changes in the vessels are pointed out. The term "fibroid disease," however, is still regarded as synonymous with chronic myocarditis; and the inflammatory theory of the affection seems, on the whole, to predominate in the writer's mind.

Clinical Lecture

ON

A METHOD OF EXCISING THE TONGUE.

By RICHARD BARWELL, F.R.C.S.,

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GENTLEMEN,—I removed seventeen days ago the tongue of this patient, and in a few more days he will leave the hospital cured. I will give you immediately a short history of his case, but firstly I call your attention to the fact that since the operation the man has had no high temperature, has been able to take food easily, and—remark especially this—he has virtually had no pain. All these advantages are attributable to the mode of operation which I devised and perfected about seven years ago. You saw me perform it, and will remember that it was almost entirely bloodless—a very great and decided benefit, more especially when the disease has caused difficulty in taking food, and therefore debility.

The method is this. Strictly in and along the middle line an opening is made about one-third of an inch long immediately in front of the hyoid bone, through the raphe of the mylo-hyoid. The genio-hyoid and genio-hyoglossus muscles are separated with the handle of the scapula until the deep surface of the mucous membrane forming the floor of the mouth is reached. By means of Liston's needles carried under this membrane to, or even beyond, the last molar teeth, threads are passed on each side into the buccal cavity, which in their turn draw flexible wire-twist,¹ first into, then out of, the mouth, in such wise as to surround the base of the tongue as far back as one will. An écraseur working with this wire severs that part of the organ. Then the loop of another écraseur is passed between the teeth, pressed well down on the first incision, and divides the structures beneath the tongue.

In this way then, I operated on Aug. 6th on George G—, aged forty-seven, who had a large epithelioma on the left side of the tongue, behind its middle; the induration, however, extended very far back and across to the other side of the organ. No enlarged glands could be felt. The ulcer was extremely sensitive: eating and even swallowing caused pain and trouble to him, while the very foul condition of the mouth took away all desire for food. During the operation but very few drops of blood were lost. Very soon after recovery from the anæsthetic he wrote on the slate that he was pretty comfortable.—Aug. 8th: There had been a copious flow of saliva and other secretion from the supra-hyoid wound. The patient daily took a large quantity of milk and beef-tea, with, he says, more ease than he had done for a long time. The wound was frequently syringed and the mouth rinsed with a 1 in 60 solution of carbolic acid, and the breath was hardly at all tainted.—24th: On the 16th the man could comfortably eat finely minced meat, and had gained flesh since the last report.—30th: He left the hospital, the tongue wound being firmly cicatrised on the 27th. He was able to eat very well, and for the last ten days had been able to enunciate with considerable distinctness.

I may also allude to another of my cases operated on in the same way, and which one or two of you, I believe, saw. It was that of a gentleman, aged fifty-one, who had in the

¹ See my paper in the Clinical Society's Transactions, vol. xiv., p. 147.

early part of 1885 a large epithelioma unusually far back in the tongue; he also had an enlarged gland close to the jaw, and about the middle of its body. After excising the tongue, therefore, I made an incision over the suspicious gland and removed it; this wound healed rapidly, and did not, I think, retard convalescence, which was rapid, enabling him to sit in an easy chair on the ninth day. Throughout this case also the stump of the tongue was painless. No sign of recurrence has shown itself.

Let me explain this painlessness, and point out certain other advantages of this operation—viz., its bloodlessness and its great security against septic pneumonia. The former of these is, I conceive, a very great gain. Three or four drops of blood come from the skin of the supra-hyoid wound, and only enough should be produced from the tongue to stain slightly the saliva. It is, however, right that I should tell you of an objection that has been urged against this procedure—viz., that if in the first section by the *écraseur* any considerable hæmorrhage should occur, the bleeding vessel would be inaccessible, the tongue being yet in the mouth. The matter, however, lies entirely in the hands of the surgeon, for the fact is that unless the *écraseur* be worked with culpable rapidity there is never any bleeding worth mentioning, since no large vessels are here divided. Moreover, the tightening of the *écraseur* wire produces that very compression of the base of the tongue which Mr. Heath has shown can be effected by two fingers introduced into the pharynx, and which he points out will check hæmorrhage. I have operated by Whitehead's and by Baker's method, and have more often seen those operations performed. One of my objections to both is that an unnecessary amount of blood is lost. The former method especially requires a particularly good light, and a patient quiet under anæsthesia, and able to open widely the jaws—a condition not by any means always present. Moreover, neither of these operations provides for draining the cavity; therefore foul saliva and pus accumulate at its back and in the fauces, is even apt to dribble down the larynx, and at least infects the passage through which the breath passes to the lungs. In my operation the supra-hyoid wound forms, if the patient's head be slightly raised, the funnel-like bottom to a cavity perfectly drained through that opening. I have never found it followed by septic pneumonia, and am glad to hear my patients complain, as they always do, that the mouth is dry. It has also been urged that this method does not provide for excising diseased glands. Well, that is true both of this and of the other two procedures I have mentioned. Superficial glands must be removed separately; the only plan which is adapted for the removal of the tongue and of deep glands is Kocher's exceedingly severe operation.

And now about the painless condition of the stump. The chief, if not the entire, tactile sensibility of the tongue is derived from the gustatory branch of the fifth, for this sense in the glosso-pharyngeal twig is very dull and obscure. The lingual gustatory reaches the tongue by passing down on the ramus of the lower jaw, and division of it in that part of its passage is a device for rendering the organ insensitive. Now the first cut of my *écraseur* divides these nerves from the point where they leave the jaw, or more often the wire does not cut them, but isolates them, leaving them as branched white threads loose in the mouth, in which case they are to be snipped off with scissors close to the bone; either way the stump has no sensory nerve, and thus is painless, to the great comfort of the patient.

YORKSHIRE ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—The annual meeting of the members of this Association was held at Huddersfield on the 22nd inst., when the twelfth annual report was read and adopted. The election of officers resulted as follows:—President, Dr. Britton, of Harrogate; vice-presidents, Drs. T. W. Hime, S. W. North, and J. S. Cameron; Dr. Giddings, treasurer; Dr. Wilson, secretary; and the committee as before, with the addition of Dr. Wade. Drs. Hime and Low were thanked for their services as president and treasurer during the year. Dr. Cameron read a paper on "The Relations between the Meteorological Conditions and the Respiratory Death-rates in Huddersfield during the past eight years." A discussion, in which several members joined, followed, and the meeting then closed.

At a meeting on the 16th inst. of the Gloucester Saturday and Sunday Hospital Collections Committee, it was announced that £334 was available for distribution.

NOTES ON THE TREATMENT OF SOME OF THE FORMS OF DISEASE INVOLVING THE AORTIC VALVES.

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(Concluded from p. 1263.)

I NOW propose to consider the treatment to be adopted in the cases of disease at the aortic outlet which are induced by atheroma—aortitis deformans. In these there is no history of acute or subacute rheumatism, the subjects are, in the great majority of cases, over forty years of age, and the disease has been of slow development, with no notable signs to mark its onset. In some cases there may be some difficulty in determining whether or not there has been an anterior endocarditis of rheumatic origin, for, as I have said, this affection may develop without arthritic or other signs of acute rheumatism. Generally, however, the differentiation presents no difficulty, for there are evidences of degenerative and senile changes, the arteries are hard and tortuous, the temporals are prominent and cord-like, and, except at the later stages, the pulse possesses nothing of the Corrigan (water-hammer) character, but manifests high tension; in fact, presents the characteristics so ably described by the late Dr. Mahomed.¹ Sometimes we are able to trace by clinical observation the course of the affection as it involves the aortic outlet. For instance, I had the opportunity of observing a gentleman, aged fifty-three, in whom symptoms of enfeeblement, fluttering of heart, and gradually increasing dyspnoea had been coming on for two years. He was the subject of gout, and generally had three attacks a year. The early observations of his heart showed the systolic murmur at the base of aortic obstruction. The pulse was typically one of high tension. Under treatment by alkalies and digitalis (in the form of the leaves) there appeared to be much improvement, and the general rate of the pulse was reduced from 104 to 60. Six weeks after the first observation an attack of gout occurred, and a slight diastolic murmur at the base became evident in addition to the systolic. There was no albuminuria. The diastolic murmur became more and more pronounced, the conditions of distress aggravated, and the patient died about five months after the first observation. This is, I consider, a fair type of a certain section of the cases. In some there is a very distinct association with chronic renal disease; in others with gouty arthritis or with conditions associated with lithæmia; in others with syphilis.

As in the rheumatic division, there may be evidences of considerable morbid change at the aortic outlet, and yet symptoms referable to the circulation may be entirely absent. I was consulted in May, 1878, by a gentleman aged thirty-eight for a painful condition of the nature of gouty arthritis, first about the right knee and afterwards the right hip. There was no complaint whatever of disorder of circulation or respiration, but a loud systolic and diastolic murmur at the base of the heart, with signs of hypertrophy, indicated considerable aortic disease. This gentleman had come from India on furlough, and returned to India to his duties in the Civil Service. I was consulted by him again on Sept. 2nd, 1886, after his return from India, where he had passed the intervening time, for pain referred to the soles of the feet. There was increased hypertrophy of the heart, with the former signs of aortic disease, but no symptoms whatever of cardiac difficulty; indeed, the patient looked upon it as a sort of folly that his heart should be examined, and insisted that I had not done so on the former occasion. My notes taken at the time verified the fact. In this case, therefore, there was advanced disease at the aortic orifice, with compensatory hypertrophy, which to my own knowledge had been in existence more than nine years without causing symptoms.

The unequal distribution of distress and danger in this form of aortic disease is shown by the histories of two cases

¹ Cf. Guy's Hospital Reports, vol. xxiv., 1879, p. 394.