CONTRIBUTION TO THE PATHOLOGY OF
HEART DISEASES.

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CASE OF DISEASE OF THE AORTIC VALVES: ITS ETIOLOGY.

THIS case of diseased aortic valves, which was presented to the Pathological Society, is interesting, because it illustrates, as I believe, one of the modes of origin of valvular diseases, not frequently observed. The aortic valves are all incompetent. Two of them are partially destroyed by ulceration; the eroded edges presenting appearances as though the ulceration were still progressing at the time of the patient's death. Two of the valves, again, are fused together at their adjoining angles, and much puckered; a calcareous nodule, the size of a pea, projecting from the upper surface of one of them. The heart is much hypertrophied and dilated on the left side; but the muscular tissue is perfectly healthy. The hypertrophy is manifestly a secondary fact, resulting simply from the diseased condition of the aortic valves. The aorta itself, the lining membrane of the heart, and its mitral and tricuspid valves, are in a perfectly healthy condition.

The original disease of the heart, therefore, appears in this case to have been limited to the aortic valves. What was its nature? During life, I had considered that the aortic disease (indicated by a double bruit over the sternum) resulted from atheromatous degeneration; inasmuch as the patient had never suffered during his life from rheumatism or kidney disease, or from any other disorder with which we occasionally find valvular diseases associated. The *post mortem* examination, however, rendered this explanation unsatisfactory, for the diseased condition of the valves was clearly not of an atheromatous nature. I consequently made a more strict inquiry of the patient's wife, as to his state of health previous to the time when he first presented symptoms of heart disease; and I thereby obtained the following particulars, which appear to throw some light on the origin of the valvular affection.

The patient was 44 years of age at the time of his death. Ten years previously, he had been in the London Hospital for some affection of the elbow-joint, and left with the arm slightly, but permanently, contracted. Four years later, a piece of bone was removed from his jaw in St. George's Hospital. Since that period, he seems to have been generally somewhat ailing, losing his appetite, and becoming thinner. But he was, withal, very active, being an excellent walker and runner, and accustomed to take strong exercise; and would often brag of his good wind. His breath up to this time, therefore, was unaffected.

About eight months before his death, he was suddenly seized, while running quickly on a message, with a violent pain in his left side, and in consequence with difficulty regained his home. The pain, however, gradually left him after he had reposed himself for a time; but from this moment his breathing became affected. It seems, therefore, not unreasonable to date the injury of the heart's valves from this period; inasmuch as hitherto the patient had never experienced anything wrong in his respiratory or circulating organs.

From this date, however, his health gradually became worse; and he sought advice, for the first time, about four months after the accident referred to; and on the occasion, it would appear, of his being seized with violent spasms, resembling angina in severity. About a month later, I saw him for the first time. He was then suffering under confirmed symptoms of heart disease. A double bruit was heard over the sternum, clearly indicating serious injury of the aortic valves. There were also the ordinary signs present of hypertrophy of the heart. He gradually sank; the angina-like attacks, accompanied with rending pain at the epigastrium, becoming more frequent and severe.

Is it not fair to assume from the history here given, and from the nature of the pathological changes of the aortic valves, that the original injury of the valves dates from the moment of the sudden pain which followed the exertion? The injury, in such case, would probably be rupture, partial or complete, of one of the valves, resulting from the inordinate pressure to which the valves were exposed by the increased rapidity of the circulation. The puckering and adhesions and ulcerations of the valves may be supposed to have resulted from the inflammatory action, and from the attempts at reparation, consequent upon the injury. Cases of this kind have been recorded by Dr. Latham and Dr. Peacock. Dr. Watson

remarked: that he had frequently met with instances of disease of the heart where the patients had attributed the first signs of the affection to some violent exercise of the respiratory and circulating organs.

We may perhaps reasonably suppose, that the aortic valves, in a state of perfect health, would hardly suffer rupture, however great might be the distension of the aorta, and consequently the pressure of the blood upon them during the ventricular diastole. And it is possible, that in the present case some congenital or acquired weakness of the valves may have existed; there being manifestly a scrofulous taint of the constitution, indicated by the disease of the elbow-joint and the jaw-bone.

CASE OF PECULIAR AND FATAL HÆMORRHAGE
FROM THE MUCOUS LINING OF THE
VAGINA: WITH REMARKS.

By HENRY OBRÉ, Esq.

[Read before the Harveian Society, April 16th, 1857.]

MISS T., an only child, aged 14 years and three months, tall, with fair hair and complexion, of general good health, had not had any severe illness since childhood: she had constantly been under the domestic care of her mother, and was never absent from home, and had had few or no companions of her own age to associate with. In the beginning of June 1852, she was seized with a discharge of blood from the vagina, which continued a few days, and was considered by her mother to be the first catamenial flow (having herself begun to menstruate at the daughter's age). It was, however, unaccompanied by pain. Ten days subsequently two or three spots of blood were observed on the girl's dress, and she resumed her usual good health and spirits. On Saturday, June 27th, the supposed catamenial discharge recurred; and although the loss was profuse, it caused no anxiety to the parents until the morning of Thursday, July 10th, when I was first consulted. I found her in bed with the face and hands pale, and the general aspect of a person who had lost a considerable quantity of blood. She complained of no pain or uneasiness except slight headache. There had been a large amount of bleeding during the night, accompanied with dark clots of blood of varied size. The hæmorrhage had for the last few hours been to such an extent as at times to saturate the sheets which were used to receive the blood; but at my visit, though the attendants stated it to have been much lessened, it was very considerable, requiring a change of applications every half hour. She was much anæmiated; the tongue and lips were blanched; the pulse above 100, weak and compressible. There was no pain on pressure over the uterus or abdomen, which was flat; the mammae were small and undeveloped. The bowels had been relieved immediately before my visit. I considered it at first to be an extreme case of menorrhagia, and prescribed sulphuric acid in the infusion of roses to be administered every hour. Iced acidulated drinks were also ordered.

July 11. She had been very restless during the last twenty-four hours. The bleeding was not so considerable, but still very alarming, and demanded continual changes of linen. Small clots of blood were continually passed from the vagina. The facial pallor was extreme; the tongue soft and trembling; the pulse more frequent and feeble. The stomach had become irritable, and there had been vomiting. The mother and nurse had, by my directions, examined the external parts of generation, and no peculiar appearance was detected by them. I passed my little finger into the vagina, but could not reach the os tincæ. Half a drachm of the tincture of matico was added to each dose of the acid mixture; and napkins soaked in iced water were applied externally to the pubes and the vulva. In the evening, the bleeding not having subsided, I introduced, with some difficulty (the hymen being perfect), my fore finger into the vagina, and distinctly perceived the os uteri to be of a natural size and closed. The uterus felt normal; but I was unable to make a satisfactory examination. The vagina contained some clotted blood, which I did not remove, so that it might promote further coagulation.

July 12th. The bleeding had been very materially diminished. The blood had lost its bright colour, and had become pale and serous. She was much exhausted; the anæmic whiteness of the body was increased; the pulse 130 to 140, feeble and fluttering. There was occasional nausea with vomiting; and she complained of pain in the lumbar region and down the thighs. The intestines were distended with flatus, and

there had not been a dejection from the bowels for three days. Effervescing medicine with hydrocyanic acid, and a castor oil draught, were prescribed; and water ices, and brandy occasionally taken.

July 13th. The exhaustion had increased. She threw herself about with her arms extended. The sickness was greater. The bowels had been relieved; during the effort she fainted, and a large clot of blood passed from the vagina, but the continued stream had quite stopped since yesterday. The stomach was unable to bear nutriment. Cold beef tea, thickened with arrowroot, was injected into the lower bowel, and a teaspoonful of brandy in water was frequently administered.

Evening. Depression was not so extreme as in the morning. The blood effused was brighter in colour, but still not of an arterial character; more clots had passed, and a great pulsation was felt along the course of the abdominal aorta; it was strong and jerking, and raised the hand placed on the abdomen. No bruit was to be heard. The pulsation of the arteries of the head and extremities was feeble; at the wrist 160. I proposed, as the bleeding had recurred, that the vagina should be plugged by a sponge wetted with the tincture of matico; but, before doing so, I had the advice of Dr. Murphy. On examination, he found the os uteri slightly open, but not sufficiently to induce him to believe that the bleeding came from the uterine cavity. The vagina was now plugged with pieces of sponge moistened with the matico tincture, and an ether mixture was prescribed.

July 14th, 8 a.m. The patient had objected to taking the ether, disliking the smell. Early in the morning the bleeding had returned, and the prostration had been extreme. Large quantities of brandy and other stimulants had been used during the night to keep her from sinking. I removed the vaginal sponges, which were covered with clotted blood and had a slightly putrid fœtor, and replugged the passage to such an extent that the patient complained of a desire to evacuate the bowels.

11 a.m. Dr. Murphy again visited the patient, and we decided upon applying pressure over the abdominal aorta, and the last resort of transfusion was agreed on. On the operation being explained to the parents, they expressed a desire that Dr. Ashburner should be called in consultation. At 12 o'clock he arrived; the previous as well as the present state of the patient was described to him, and he named some drugs that might be beneficial in such a case. We now entered the patient's room, and Dr. Ashburner immediately sat on the bed and commenced Mesmerising her by pressing the last phalanx of his thumbs tightly against hers, and looking steadfastly into her face. He continued in this attitude a few minutes, and then made perpendicular passes with his hand before her face. The exhausted sufferer tossed herself from side to side with the arms extended and cast about in a listless and unconscious manner. Her contracted features, the blanched face, the dilated pupils, and her general restlessness, were too indicative of her dangerous state. I immediately considered it right to request Dr. Ashburner to retire into another room where we might discuss the proper measures. Dr. Ashburner said if we were hurried we might leave him for an hour; but on our declining to do so he acquiesced in withdrawing with us. Dr. Murphy and myself of course objected in the most decided manner to sanction Mesmeric treatment. Dr. Ashburner expressed the greatest confidence as to the favourable result to be derived from a continuance of it; and doubtless with sincerity. There being no chance of any reconciliation of our opinions, it was deemed best to explain fully to the parents our different views, and leave it to them to decide which mode of treatment was to be adopted under the circumstances. Dr. Ashburner had spoken so decidedly of the effect he anticipated from Mesmerism, that the parents were anxious he should be permitted a few hours for his treatment, Dr. Murphy and I asserting our readiness to resume the charge of the patient when called on.

At three o'clock in the afternoon, when the time expired which Dr. Ashburner requested for his treatment, the family expressed themselves perfectly satisfied with it. At a quarter past 5 I was sent for by Dr. Ashburner, who was anxious that I should be convinced by my own observation of the improvement he conceived had taken place. The pulse was hardly to be felt; the jactitation continued; the features more sunken and paler if possible; the pupils were dilated to the utmost; and the intellect was wandering;—in fact, all the appearances were presented of pending death, which I (to the astonishment of Dr. Ashburner and the friends) declared to be fast approaching. In the strength of his hopes the doctor replied, "All that

is now required is a continuance of manual labour to complete the recovery." I left the patient with the conviction that she was sinking fast, attributing the cerebral phenomena wholly to the loss of blood. She breathed her last at half past six o'clock.

At 8 o'clock on the morning of July 16th I made a *post mortem* examination in the presence of Dr. Murphy. I had previously sent word to Dr. Ashburner of the proposed inspection, but unfortunately he was unable to attend. The surface of the body was anæmic to the last degree, apparently as if all its blood had drained away. The abdomen and pelvis were the only cavities examined. The intestines were distended with flatus; all the abdominal organs were of healthy structure. The liver, kidneys, spleen, and remaining viscera were empty of blood. The uterus with its appendages and vagina were removed. The uterus was not enlarged, but of a natural size; its cavity was empty and unstained with blood, as were also the Fallopian tubes. The os uteri was closed; and the vagina was filled with the sponge that had been introduced during life. It was saturated with blood, and many clots were in the passage. On removing the contents there was presented a general softened state of the mucous lining; in some parts it was quite removed from the adjacent muscular coat, and this structure was pale and easily separable by the edge of the knife; ecchymosed spots of blood were seen under it in many parts. There was no appearance of vascular erosion or of injury from violence; indeed, the diseased state of the lining of the vagina, which was general, negatived such a presumption. The abdominal aorta and vena cava were nearly empty; their coats were healthy.

REMARKS. I should have laid the details of this remarkable case before the Society and recorded it earlier, if it had not been so much opposed to my general experience, and to the notice of authors, as to induce me to wait for a further illustration and explanation of it in practice or the observations of others. But I have as yet failed to meet with any exemplification of it by my friends or in books, and I am disposed therefore, as at its close, to regard it as an unique case, both as relates to the cachexia or blood disorder, which must have favoured such a profuse and irremediable hæmorrhage, and the limitation of it to the mucous surface of the vagina; for though we cannot but consider the approach of puberty as the determining cause of the seat of hæmorrhage, it assuredly did not come from the uterine cavity or the Fallopian tubes, nor was it the result of ovulation. What the exact change be of the nutrition, or structure of the vaginal lining that was clearly indicated by the inspection, and of its circulation and capillaries which caused the great exudation of blood from these, and what the peculiarity of the blood itself which prevented the arrest of bleeding in the usual way that nature provides, must be left to the demonstration of future observers, and of such as may be afforded the opportunity of establishing the conditions by the aid of the microscope and of chemistry. Certainly no recognised state of purpura, or of the hæmorrhagic diathesis, or of mere menorrhagia, can suffice to explain the phenomena of this very interesting, anomalous, and melancholy case. The antecedents of the child's history and appearance are not in accordance with any common or usual causes of a bleeding that was altogether rare and peculiar.

Gulstonian Lectures:

ON

DIABETES AND SACCHARINE CONDITIONS OF THE URINE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS,
FEBRUARY 25TH, 27TH, AND MARCH 4TH, 1857.

By ALFRED B. GARROD, M.D., Fellow of the Royal College of Physicians; Professor of Materia Medica, Therapeutics, and Clinical Medicine, at University College; and Physician to the Hospital.

LECTURE III (concluded).

5. MUCH has been said within the last few years of the value of the alkaline plan of treatment in diabetes, and of the influence of certain alkaline mineral waters, more especially those of Vichy. Many patients suffering from this affection flock there annually during the summer months both from this country and from the continent; so that I trust it may not be considered