CLINICAL NOTES.

(Reported from the Practice of Dr. WILKS, at Guy's Hospital.)

V.—JAUNDICE FROM MENTAL EMOTION.

THE following case is reported by Mr. Blenkarne.

Mary Ann J., aged 23, was admitted under Dr. Wilks on February 8th, 1870. She was a married woman, and had always enjoyed good health until six weeks ago, when, in crossing the street, she was nearly run over by a cab. She was much frightened, and never completely recovered the shock. Four or five days afterwards, she observed her skin becoming yellow. She at the same time had headache, nausea, and slight diarrhoea. She noticed that her urine was of very deep colour, and her motions pale. She had had no pain. On admission, the patient was deeply jaundiced. She made no complaint, except of being weaker than in health. There was no pain or tenderness over the liver; nor, on percussion, was there any perceptible difference in size of the liver. The tongue was clean; pulse 100. The urine was in good quantity, of specific gravity 1023, full of bile, showing abundance of colouring matter by addition of nitric acid, but none of the biliary acids by Pettenkofer's test. The motions were like pipe-clay. She was ordered ten minims of dilute nitric acid in compound infusion of gentian three times a day, and five grains of pill of mercury and rhubarb every night. On February 14th, she was no better. The medicine was changed to three grains of benzoic acid and two grains of extract of conium in a pill every six hours. On the 23rd, she seemed better, and expressed herself as not feeling so ill. The skin was less yellow, and the motions somewhat darker. Hippuric acid was found in the urine. After this, she gradually improved. On March 9th, the yellowness had almost disappeared; and on March 26th she went out well.

CLINICAL REMARKS BY DR. WILKS.—The term simple jaundice is applied to the case, where the circulation of bile through the system constitutes the only phenomenon of the disease; for, were it not that the bile is coloured and stains all the tissues yellow, it would constantly happen that the liver would never be suspected as being the cause of the patient's illness. In such a case it is that the pathology of the disease is so difficult to discover; for in the more important, and especially in the fatal forms, the explanation is clear. For example, the most evident and effective cause for jaundice is the obstruction of the bile-ducts, whereby the secretion does not flow into the bowel, but is taken up and carried through the system. In most cases which are fatal, an obstruction is found; and likewise, in a very large number of instances in which recovery occurs, we are sure, from the symptoms, that a temporary blockage has occurred. From these striking facts, it would be an easy interpretation of all cases, could it be justly maintained that jaundice was always due to a mechanical impediment to the flow of the bile; and, taking the analogous case of obstruction in the air-passages of the lungs, we might even go so far as to suppose that, besides the more obvious causes of obstruction, there might exist a catarrh of the passages, or even a spasm having its origin in the nerves. If this could be proved to our satisfaction, the dictum might be maintained that, for the production of jaundice, a healthy liver is required, combined with obstruction of the main duct; and this would be supported by the opposite fact, that jaundice is not a symptom of disease of the organ itself. This theory is intimately bound up with the physiological question as to the precise seat of the formation of the bile. If the statement above given were absolutely true, it would afford the best proof that the bile is formed in the liver, and not in the blood; for, if it were not so, jaundice would exist in proportion to the amount of destruction of the true hepatic structure; and it would, in all probability, exist in those cases where the portal vein is occluded. But it is not met with under these circumstances. And, again, in the lower animals, as the frog, the liver has been excised without the production of any jaundice. The only case where jaundice occurs in connexion with any organic disease is in that remarkable affection known as acute atrophy; but here the change in the secreting tissue is so rapid that it is possible the amount of bile which is seen circulating through the system may have been already formed before the destruction begins. It is this disease, however, which has given rise to the opinion that some constituents of the bile may be formed in the liver, and the others in the blood; that the taurocholic and glycocholic acids may be formed by the liver, but that the colouring matter is produced in the blood. Under these circumstances, jaundice might arise either from obstruction of the ducts or from disease of the liver itself; and thus it would be only in the one variety that the biliary acids would be formed, and therefore found in the urine along with the salts. Dr. Wilks stated that these had often been sought for in the urine, but never yet been found in any single

case in the hospital; and that, therefore, on such a doubtful point as to their existence or not, we could not form a diagnosis as to jaundice being a disease of suppression or retention. There is every reason, at present, to believe that none of the biliary ingredients are formed elsewhere than in the liver; and, if so, we have rather a difficult task to undertake in explanation of such a case as the one under discussion, where there is no evidence of obstruction to the passage of bile—the case, for example, where a woman, from a sudden fright, has an attack of jaundice. The only explanation which appears tenable is, that the constituent colouring matter of the hepatic cells is retained and absorbed, instead of being carried out into the ducts. An analogous and opposite instance of this perverted action of the cells may be seen in one of the theories of diabetes, which supposes that the amyloid matter naturally retained in the hepatic cells is taken up into the circulation, and somewhat changed in nature. It is known that, if the fourth ventricle be pricked with a needle, diabetes is produced. Now, if this condition be owing to a changed action wrought on the liver through the nerves supplying it, whereby a material which should be retained passes out, it is no more difficult to understand how a nervous influence exerted on the secreting tissue of the liver should also prevent some of the material which naturally passes out from escaping; and, if this material be the colouring matter of bile, a jaundice results.

Enough has been said to show what a large field of investigation is opened to us by a discussion of the subject of jaundice; since, for its true interpretation, we ought to have a knowledge of the seat of the formation of the bile, and, indeed, of the true function of the liver. It is remarkable that, considering the importance of the largest secreting organ in the body, very little positive knowledge exists of its function, and also of its diseases. Although almost every other patient whom we have to treat is ready to talk about his liver, it may be truly said that its deranged conditions are less recognised than those of all other important organs; and, even in the common affection known as cirrhosis, its existence is never more than conjectured until the blood can no longer pass through it; and, as regards the various conditions which produce jaundice, it is probable that many of them would be wholly unrecognised, were our diagnosis not aided by the bile being of a yellow colour.

As regards treatment, this is for the most part empirical; for it is often merely a conjecture whether the arrest of flow of bile is due to the obstruction of the fluid, to catarrh of the ducts, to spasm, to paralysis, or to an abnormal transference of bile, from the regulating nervous influence being suspended or misdirected. In recent forms of jaundice, the old and approved remedies are mercurial purges, with alkalies, etc. In more chronic forms, taraxacum and nitric acid have long been in use. Dr. Wilks considered the former a very harmless remedy, but had a considerable liking for the latter. He also used the nitro-muriatic bath, and had every reason to believe that it was eminently useful. He judged so from recovery having taken place in several cases where all other measures had been unsuccessful. A remedy suggested for theoretic reasons is benzoic acid, it being considered to unite with glycine to form hippuric acid, and thus break up the noxious biliary mass. Dr. Wilks had given it in other cases, and again in the present one. The woman recovered whilst taking it, but whether as a consequence would be too much to assert.

CASES OF THE OCCLUSION OF ARTERIES BY EMBOLI.*

By R. H. MEADE, F.R.C.S.,
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CASE 1.—In April 1864, I was sent for one morning in haste, to see a gentleman about 40 years of age, who had been labouring for some time under an aggravated form of heart-disease, accompanied by anasarca; and who also suffered from severe and sudden attacks of dyspnoea and faintness. On the morning in question, he had one of these attacks, of a more perilous character than usual, in which his attendant thought he was dying. Upon my arrival at his house, I found that he had rallied from the attack, but was complaining of the most severe pain in the right leg, particularly in the calf. The pain continued for some hours, though gradually decreasing in intensity, and was followed by coldness of the limb and stoppage of pulsation in the arteries, which was quickly succeeded by gangrene of the whole leg as high as the knee. This patient lived for nearly a month after the attack; and partial separation between the dead and living structures took place before he died. Death occurred from exhaustion; the diseased state of the heart and system, generally, negating any proposal of amputation.

* Read before the Yorkshire Branch, March 15th, 1870.

CASE II.—In February 1868, I saw a stout middle-aged man in consultation with Mr. McLachlan, of Shelf, near Halifax, who had complete mortification of one leg as high as the knee. He had a rather feeble heart, but there were no signs of valvular disease; and he had appeared in good health up to the time of the present attack, which began suddenly, a week before the date of my visit, while he was walking home one evening a short distance, after attending a lecture. It commenced, as in the former case, by severe pain in the calf of the leg, which was succeeded by coldness and rapid death of the limb. When I saw the case, the mortification was apparently extending; so there was nothing to do but to wait, and endeavour to keep up the strength. I said, should the gangrene stop, and the dead parts separate from the healthy structures, it would become a question whether amputation should be performed.

I did not see this patient again, but heard, some weeks afterwards, that the limb had been removed, and that the man had died.

CASE III.—In January 1869, I saw (with Mr. Terry, of Bradford), a delicate lady, about 30 years of age, who was of a very feeble constitution, but had never suffered from any symptoms of heart-disease. This patient had been confined nine weeks before I was called in, and complained, at the time of my visit, of a painful swelling in the right iliac region, which appeared to be owing either to the commencement of a pelvic abscess, or to inflammation of the tissues round the ovary. It was very tender on pressure, both externally and also at the roof of the vagina. She laboured as well under diarrhoea and general debility. By the application of a few leeches, followed by iodine and soothing applications, the tumour became smaller and less tender, and she improved sufficiently in health to be able to travel to the sea-side. While there, she was one day seized with violent pain in the leg, which was rapidly followed by mortification of the limb, under which she quickly sank.

CASE IV.—An old lady, aged 74, whose health was breaking up from old-standing heart-disease, accompanied by anasarca; and who suffered very much at times from congestion of the lungs, with dyspnoea; was seized one morning in May 1869, with excruciating pain in her right shoulder, causing her to scream out loudly. I found her, shortly after the commencement of the attack, with the whole arm wrapped up in hot flannels, and still complaining of severe pain, extending from the shoulder to the fingers. Upon examination, I ascertained that there was complete absence of pulsation in the radial and ulnar arteries, as well as in the brachial; I also found that the right hand and arm were colder than the left, though they had been wrapped up and fomented to relieve the pain. I directed the limb to be covered with cotton-wool, and to be kept warm. By these means, the temperature was preserved, the pain gradually subsided; and I had the satisfaction to feel a slight return of pulsation in the arteries after about two days, which, in the course of a week, regained the same strength as in the opposite limb.

Out of these four cases of embolism, in three mortification occurred, and they were fatal; but one recovered; and I find a somewhat similar case of recovery, after the plugging of the main artery of a limb by an embolus, recorded in the *BRITISH MEDICAL JOURNAL* for the 5th of February last. It occurred at the Salop Infirmary, into which a man, aged 31, was admitted, who had been seized while walking with pain in the calf of the leg, which was followed by coldness of the leg and foot. There was no pulsation to be felt in either tibial or popliteal arteries; it was lost in the femoral about an inch below Poupart's ligament, at which spot there was pain and swelling. The man had had rheumatic carditis. The leg was wrapped up in cotton-wool, tonics and stimulants were administered, and the patient recovered without the occurrence of mortification; though, at the date of the report, there was no pulsation in the tibial arteries, and the leg was colder than the other.

REMARKS.—1. The sudden obstruction of the main artery of a limb by an embolus, is generally followed by severe pain, which may be referred to a part removed from the seat of obstruction—as the calf of the leg. 2. Mortification does not necessarily follow; but when the death of a limb is caused in this way, there is not much hope of saving life, as the accident mostly occurs in diseased subjects, in whom the heart and arteries are affected, and the constitution enfeebled. 3. What is the nature of the plug or embolus? I believe that in some cases, as in the first which I have related, the blood becomes partially coagulated, and fibrinous deposits take place in the heart itself, during an attack of syncope, or, rather, asphyxia; and portions of the coagulum are then carried, on the revival of the circulation, through the aorta into the vessels of the limbs. In others, and perhaps in most cases, fibrinous vegetations are detached from the valves on the left side of the heart, which had been deposited there at some former period, during an attack of endocarditis. I believe that most cases of senile gangrene are caused in this way; the emboli being small, however, and plugging one of the

lesser arteries of the limb. An old gentleman complained to me, about two years ago, of a pain which he felt in the calf of one leg, particularly in walking. On examination, I could find nothing wrong about the seat of pain; but the inner side of the foot and the great toe were mottled with red patches, and colder than the other foot. I advised him to lay himself up, and keep the foot warmly wrapped in wool. After the lapse of some weeks, superficial gangrene of the skin of the toe took place, which, however, slowly separated; the part healed, and the patient recovered, after a confinement to the house of about six months. 4. In cases that recover after embolism, without gangrene taking place, how is the circulation restored? In the case that occurred in the Salop Infirmary, the life of the limb seemed to have been preserved by means of enlargement of the collateral circulation, in the same way as it is after the ligation of the main vessel of a limb for the cure of aneurism; but, in the case which I met with of plugging of the axillary artery, the circulation in the arteries of the arm was restored so quickly, that I think the embolus must have consisted of a soft clot, which disintegrated so as to allow the vessel to regain its permeability.

A SWELLING SIMULATING AXILLARY ANEURISM.

By C. S. JEAFFRESON, ESQ., Newcastle-upon-Tyne.

A GENTLEMAN came to consult me two months ago. He was a tall muscular man, with a muddy complexion and an anxious expression of countenance. He complained of pains in the shoulders and arms, and occasionally in the integuments of the back of the head and scalp; the pains were not always present during the day, but during the night they became very acute and disturbed his rest materially. I requested him to strip, that I might examine his joints and skin, when immediately below the left clavicle was observed a swelling: this swelling was diffused; the skin over it was of normal colour. It was without fluctuation, but distinctly pulsating; the pulsation, as far as the position and depth of the tumour would allow one to judge, being of that expansile character pathognomonic of aneurism. With the stethoscope, a loud murmur was heard over the swelling; this ceased, together with pulsation, when pressure was made upon the subclavian artery. There was no oedema nor numbness of the arm, though the radial pulse was decidedly weaker on the left side than on the right. The pupil of the left eye was markedly more contracted than that of the right. The patient could move his arm freely, and had no pain at the seat of swelling; nor was there tenderness except upon considerable pressure. The lungs and heart, on percussion and auscultation, revealed no morbid sounds; the latter organ was rather rapid in its action, or what is generally called nervous.

The question to be decided was the character of the tumour. Anyone reading the symptoms detailed above would almost certainly come to the conclusion that it was an aneurism of the first part of the axillary artery; and, in point of fact, several medical men had come to that conclusion; but there were some points in the case which tended to throw doubts upon this decision, and to lead one to form a more careful analysis of its history and facts. It was evident that it must be one of three things; either (1) an aneurism; or (2) a pulsating tumour; or (3) a swelling of some kind pressing forward the axillary artery. If it were an aneurism, doubtless we should have had all the symptoms above detailed; but then they would all have been more marked. There would have been pain at the seat of swelling, and almost certainly some numbness in the course of the large nerves, together with more or less oedema, from obstructed circulation, on the affected side. The outline, too, of the swelling was scarcely sufficiently defined; and at its lower and inner portion the pulsation was much less distinct, and the *bruit* much less audible than in other portions of its surface. If it had been a pulsating tumour connected with the ribs, pressure upon the subclavian in the third portion of its course could scarcely have checked its pulsations; and if it sprang from the lung, we could scarcely have failed to get some auscultatory evidence of the fact. These two possible views being thus disposed of, there remained still the question of its being a swelling of some kind projecting the artery before it. What could a swelling be in such a position? Here, again, we must go through a process of negative analysis. It could not be an enlarged gland, for there are none in this situation. Abscess, too, was out of the question; for there was no pain, no rigors, no fluctuation, and any tumour connected with the nerves would certainly have given rise to decided symptoms. But one thing remained which it might probably be, and that was periostitis of the ribs and cartilages. This conclusion was strengthened by a previous history of syphilis; and the pains of which he complained were distinctly referable to that disease.