

sudden dyspnoea. He became rapidly cyanosed, and appeared as if likely to die. Accordingly the house physician performed venesection, and removed 8 ounces of blood from the arm. The relief was immediate, and the urgent symptoms passed off, and the patient fell asleep and slept comfortably for some hours. When the patient died, two days later, the right lung was found to contain several recent infarcts, probably formed about the time of the attack of dyspnoea. The pathological condition explains the dyspnoea and accounts for the relief obtained by the bleeding.

CASE VI. *Aortic Disease: Sudden Dyspnoea: Venesection: Permanent Relief.*—The most striking case of this category I published in the *Lancet* in the year 1886. The patient, a labourer, about 40 years of age, was admitted with cardiac failure. The large area of cardiac dulness and the indefinite character of the murmurs suggested the presence of a large pericardial effusion; but after a few hours' rest in the hospital it was evident that the lesion was double aortic disease with extreme dilatation. About ten hours after admission, without apparent cause, the patient having all the time been lying quietly in bed, a sudden attack of intense dyspnoea came on. I happened to be in the ward at the time, and found the patient gasping for breath and becoming more and more deeply cyanosed every minute. There was a good deal of rattling on the chest, and the sputum which was being coughed up every few seconds was blood-stained. The patient seemed to me to be suffering from an acute congestion of the lung, the result of acute failure of the heart, or perhaps he had also an infarct. At any rate, he seemed to me to be in the most imminent danger. I felt that nothing but free bleeding offered him the slightest chance of life. The sister of the ward, a woman of very long experience, said that he was dying, and would be dead before he could be bled; and so, indeed, it seemed, so rapidly was the cyanosis increasing. However, I bled him, taking away about a pint or somewhat more of blood. As the blood flowed the colour improved and the dyspnoea decreased. In an hour all urgency had passed away and the patient was asleep, and when he woke was out of danger. Examination of the chest later did not reveal anything which would suggest a large infarct, and the condition at the time of the dyspnoea may well have been simply acute congestion. From this time the patient did well, and, though he never left the hospital alive, he lived for more than three months, and until he became extremely dropsical he remained in comparative comfort and never had any similar attack of dyspnoea.

I cannot have the slightest doubt that in this case the timely bleeding saved the life, and the patient lived for three months when he would otherwise have died in an hour.

In this connection I wish to make a few remarks in reference to pneumonia. In the first place, it is generally agreed that no patient with pneumonia should be bled if it can be avoided; but, at the same time, conditions may arise in which bleeding may be really the only means of saving life, the conditions being those already referred to, namely, rapidly increasing cyanosis and failure from overdistension of the right heart. Still, such cases are at the most rare. Bleeding in pneumonia if unnecessary must be harmful, for cardiac asthenia is one of the chief dangers, and the risk of it is increased by bleeding. A vicious circle is thus established, for cardiac failure may itself produce the very symptoms regarded as indications for the bleeding, which in its turn will increase the cardiac weakness which has caused the symptoms. The question must be decided largely by the condition of the left ventricle, and it is unnecessary to say how difficult this is to determine. When the left ventricle is weak and failing, bleeding can do no good, when it is strong, bleeding may save life. Thus in pneumonia bleeding becomes a critical measure. It may save life but it may, if wrongly employed, take all chance of life away.

I should summarise my experience thus. Bleeding may save life sometimes in pneumonia, but very rarely. Most patients in whom the indications for bleeding are present die whether bled or not; and, on the other hand, I can recall several instances in which venesection was discussed and decided against, and in which a good recovery took place.

Lastly, it remains to refer to that group of cases in which the bleeding is performed with the view of removing some *materies morbi* supposed to be in the blood. In the present day it is especially the cases of uræmia which fall into this group. In the following case the diagnosis was somewhat doubtful, and the result of the bleeding unsuccessful.

CASE VII. *Right-sided Convulsions: Venesection: No Relief.*—E. G., aged 61, was seen to fall in the street, and was at once brought to the hospital. She was then suffering from continuous fits, the intervals being very short between them. They commenced on the right side, and though they became general, they were most marked on that side. The patient was completely unconscious, and remained so until her death, which took place about an hour after admission, and two hours from the commencement of the attack. On admission into the hospital she was immediately bled to the extent of 24 ounces, but though the pulse tension was reduced, no effect was produced upon the fits. The *post-mortem* examination was made the next day. The head only could be hurriedly examined, but in the cursory examination possible no lesion was found, and the case was supposed to be one of uræmia.

I have bled many times for uræmia. I cannot say that I ever saw more than a temporary benefit, and often not even this. Experience leads me to the belief that for uræmia bleed-

ing offers little if any hope. The cases I have brought forward are but few, and chiefly drawn from an extensive hospital experience of many years, though not quite all that have come under my observation. Their fewness shows what I believe—that suitable cases for bleeding are comparatively rare. So much has been said and written recently on the subject, that an impression is left upon the mind that bleeding is more commonly practised in the present day than I believe it really is and my own experience shows.

## SECOND NOTE ON PARASITIC PROTOZOA IN CANCEROUS TUMOURS.

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SINCE the publication of the first note by Mr. J. Herbert Walker and myself on parasitic protozoa in cancerous tumours, several papers on the same subject have appeared both in England and abroad. In England, Professor S. Delépine, like several other pathologists at the discussion which took place at the Nottingham meeting, expressed his scepticism as to the parasitic nature of the bodies described by us. At the same meeting Dr. Snow agreed with Professor Delépine, whilst Dr. Russell, Professor Boyce, and others did not pledge themselves to any conclusion. On the other hand, in Germany, Sawtschenko has found parasites in cancer which resemble in all essential particulars those we described. Foà, an Italian observer, has also seen the same parasites as ourselves in carcinomatous tumours; whilst in Russia, Soudakewitch adheres to his former statements, and publishes further facts confirmatory of his and our contention. In the *Journal of Pathology*, October, 1892, Mr. Walker and I published more fully the results announced by us in July, and I take this opportunity of stating that the facts observed since the publication of our first note have confirmed us in the opinion we first expressed. To these facts I now wish to add others which appear to me important in elucidating the life-history of the parasites met with in cancer.

In our first note, as well as in our paper published in the *Journal of Pathology*, Mr. Walker and I stated that we were unable to find parasites in the nuclei of cancer cells. In this we agreed with all other observers, but since then I have seen the intranuclear stage of the parasite, and it is of these recent observations that I now wish to say a few words. I first saw this intranuclear stage of the parasite in carcinomata of the breast, and the most numerous instances of it were found in an extremely soft and fast-growing cancer removed by Mr. Christopher Heath from the breast of a middle-aged woman. Pieces of the tumour were at once plunged into each one of the following hardening reagents: (1) absolute alcohol; (2) alcohol 1 in 3; (3) 3 per cent. chromic acid solution, to which a few drops of formic acid had been added (Rabl); (4) Fol's solution; (5) Fleming's solution; and (6) 1 per cent. osmic acid solution. Of all these pieces, those fixed with Fol's solution and with 1 per cent. osmic acid revealed the presence of the intranuclear parasites best, whilst the other fixing fluids gave but poor results, even with the most varied methods of staining. In osmic acid preparations, indeed, the intranuclear parasite was well seen, even without the use of any colouring reagents, and could easily be demonstrated with hæmatoxylin, and more especially with Ehrlich's hæmatoxylin. The same result was obtained in other carcinomata fixed in the same manner.

The parasites first appear in the nucleus of the cancer cell as hard, dark-staining, small, spherical bodies, almost indistinguishable from the nucleolus of the cell. They scarcely ever occur singly, but are found in groups of two, three, or more, and I have seen over 20 of them in the same nucleus. The nucleus, when filled with these spores, appears as a hard, dark-brown mass with irregular outlines.

In a further stage the organism becomes more transparent, and still later a dainty small nucleus appears in the centre of each parasite, the surrounding capsule at the same time becoming distinct. The nucleus of the cancer cell is then often filled with these small bodies, each showing the capsule and little nucleus above mentioned, though the rays present in the fully developed organism are not often met with in the

young parasite. Not infrequently, however, one of the parasites increases at the expense of its fellows and becomes much larger than the others.

The parasite, or parasites, now gradually approach the periphery of the nucleus, and make their escape into the surrounding protoplasm. Every stage may be seen, sometimes even in the same section, from the time when the parasitic organisms are in the interior of the nucleus, passing through the stage when they are partly in and partly out of the latter, to the stage when they escape into the protoplasm of the cancer cell. At the same time the parasite gradually increases in size.

When the nucleus is absolutely crammed with parasites one side of it gives way; it bursts like any other parasitic cyst filled with spores, and its contents are discharged into the protoplasm of the cancer cell. Such a nucleus generally perishes, though this is not the case with the nuclei containing one or two parasites only. These generally appear to heal up perfectly, and present a good field for the study of a subject absolutely unexplored hitherto—namely, the process of repair of an injured cell.

I have now, therefore, seen every stage in the life-history of the protozoa of cancer, from the time when the parasite appears as a spore in the nucleus to the time when it leaves the latter as a young, fully-formed parasite. The other stages in the life-history of the parasite are still obscure, but I have hopes that this problem will now soon be solved.

## MEMORANDA:

### MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

#### STRANGULATED INGUINAL HERNIA: OPERATION: "RECOVERY IN SPITE OF HIMSELF."

THE following case is, I think, worth recording owing to the patient's recovery after twice attempting self-destruction:—

On July 11th, 1892, a Hindu servant was admitted into the Civil Hospital suffering from left inguinal hernia. The history of the case could not be clearly made out, but it appeared that the hernia had descended three or four days previously, that the man was unable to return it, and that his bowels had not been moved since the mass descended. He complained of pain when admitted, but had not vomited.

It was proved that a large hard mass of, I thought, omentum occupied the scrotum, and there was a large amount of inflammation present. A gentle attempt was made to reduce, but without effect. He was put to bed (the foot of the bed being raised), the scrotum raised and opium given, but all attempts at reduction proved useless.

He vomited at 4 P.M. on July 13th for the first time, and I decided to operate at once. On opening the sac, a very large mass of omentum in an almost gangrenous condition was found. This I removed in five separate pieces, each being separately ligatured; there was no bleeding. A small loop of gut was found protruding through the neck of the sac, which was in an inflamed condition, and, having been freed, was reduced. The neck of the sac was ligatured with stout silk, and the wound sewn up with silver wire.

Diarrhœa supervened, but otherwise all went well until the morning of July 18th (the fifth day after operation), when the man got out of bed, removed the dressings and all the silver sutures, and left the hospital at 2 A.M. (there being no night servant available). He was found thirty-six hours afterwards, and brought back to hospital in a deplorable condition, the gut having ruptured, and faecal matter oozing from the wound. I ordered him to bed, a special night-guard was told off, and large doses of opium were given frequently, with 2 oz. of brandy owing to extreme weakness. No bad symptoms followed, the faecal oozing gradually grew less, and ceased on the sixth day after his return. The temperature never went beyond 100.2°, and the man said he felt better, and was greatly amused and delighted at having been out and had a good feed of "chapattis." The wound had almost healed by August 8th, when, owing to a craving for solid food, he again escaped the vigilance of the hospital

attendants, and spent twelve hours in the bazaar with his previous friends, the "chapattis." No ill effects followed, and he was discharged cured on August 30th, simply wearing a pad and bandage. A week later he returned as requested for inspection, and said he had not worn the pad and bandage after the first day, that he had returned to work, felt no inconvenience, and that he was quite well in spite of the Doctor Sahib.

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#### PARTIAL DISLOCATION UPWARDS OF CUBOID.

THE patient, a young man in good health, aged 24, was running hastily downstairs with tennis-shoes on when he met with the accident. At the foot of the staircase was an unusually thick mat, and as he swung himself round to the left by grasping the banisters with his left hand he placed his right foot on the edge of this thick mat. The sole of the foot being thus only partially supported and the weight of the body being largely thrown upon it, it "turned over," and the patient, making a sudden effort to right himself, felt a sharp pain on the outside of the foot and heard a distinct "snap."

He, nevertheless, went out and walked some 30 yards, the pain at first being but slight, but as it increased at every step he returned home.

On examination shortly afterwards I found a bony prominence, about half an inch long, on the outer side of the dorsum of the foot just over the position of the cuboid, raised about a quarter of an inch above the general level to the outside but sloping inwards. On pressing just behind the fifth metatarsal bone great pain was experienced.

The patient could bear a good deal of his weight on the inner side of his foot, but could not bear the outer side to be placed firmly on the ground, and whilst voluntary inversion caused but little pain voluntary eversion was very painful; on the other hand passive eversion gave great relief, while passive inversion considerably augmented his suffering.

In view of these conditions and of the history of the case, I concluded that in the sudden violent effort which the patient had made to prevent extreme inversion, the peroneus longus, acting at an advantage from its necessarily tense condition, had pulled the outer edge of the cuboid up, rupturing or stretching the external ligamentous attachments of that bone, while the inner attachment formed a fulcrum about which it turned.

Reduction was effected without difficulty by grasping the ankle firmly with the left hand, and the metatarsus with the right, and drawing the latter forwards and inwards, the ankle being held firm, so as to enlarge the space between the os calcis and the base of the fifth metatarsal bone, pressure downwards being exerted at the same time with both thumbs placed on the bony prominence. Hot fomentations with the foot in an elevated position were persevered with for some hours to reduce pain, and then the foot was placed, by strapping and bandage, in a position of forced eversion—the only position in which the patient was easy. Curiously enough, the skin was not much discoloured over the seat of injury, but there was much ecchymosis, though no tenderness, between the first and second metatarsal bones.

The patient was able to walk without artificial aid in a month after the accident, but at the end of three months voluntary eversion still caused pain, and there was considerable thickening over the cuboid.

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INTESTINAL OBSTRUCTION: LAPAROTOMY: CURE. In connection with the case recorded by Drs. Hingston Fox and Barber as having been cured by manipulation, I may mention that of a patient under my care in the Tottenham Hospital, whose condition, as disclosed at the operation, would lend one to suppose that a cure might have resulted from manipulation, but at a risk to the patient quite out of proportion to that of abdominal section. A boy, aged 16 years, working at a rubber factory, who had suffered from attacks of diarrhœa alternating with constipation, was on September 5th seized suddenly with severe pain in the abdomen, sickness, and collapse. Dr. O. Wunderlich was called in, and diagnosed intestinal obstruction, and advised removal to hospital for operation. He was admitted on September 6th