

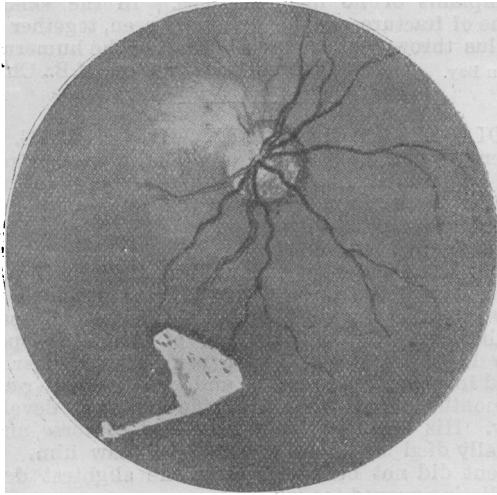
FOREIGN BODY IN THE EYEBALL.

THE following case may be of some general interest as a sequel to the able paper of Mr. Simeon Snell contributed to the JOURNAL of December 7th, 1907.

The patient, a youth aged 20, while playing with a toy gun belonging to his small brother, on December 28th, 1905, accidentally placed two copper percussion caps on the nipple and pulled the trigger. He immediately felt a blow on the right eye, and when I saw him, two hours after the accident, the iris was prolapsed, through an angular wound of the cornea, the two limbs of which were each about 3 mm. long.

I removed a portion of the iris and replaced the corneal flap without finding any foreign body in the eye, and the wound healed uneventfully. The aqueous, which was at first turbid, cleared slowly, and on January 10th, 1906, I first observed on the temporal side of the disc a shimmering crescentic body placed at the back of the globe, and apparently in its longest diameter about one and a half times the breadth of the disc. As it seemed to me unlikely that so large a fragment of metal would pass through the cornea and to the back of the eye without apparently injuring the lens, I sought the opinion of Mr. Dykes Bower of Gloucester, who saw the patient on January 28th, and felt no doubt as to the body being a piece of the percussion cap.

The ophthalmoscopic appearances then were very much



Fragment of copper cap in eye.

as shown in the accompanying sketch, which I made on February 16th, the patient sitting while it was done; it does not, however, do justice to the beauty of the bright, highly reflecting metallic object contrasted with the red retina and vessels; it will be noticed that the object had shifted its position since first observed. As the fragment could not be extracted by the aid of a magnet and it seemed unlikely that it could be removed through the sclerotic and leave a useful eye, I agreed with Mr. Bower to await developments. The patient could at this time read newspaper type with difficulty with the right eye; there was slight haziness of the retina and slight swelling of the papilla.

By April 10th opacity of the lens began to appear, doubtless owing to the capsule having been slightly injured by the passage of the fragment; there were no further symptoms, but the lental opacity increased, and on October 22nd, 1907, Mr. Bower removed the eye as it was useless and a source of possible danger. The eye was immediately put in formalin, and on opening it on October 30th I found the fragment caught in a fold of the hyaloid membrane, after having shifted its position to lie much nearer the front of the globe and just behind the ciliary body on the temporal side. The vitreous was fluid.

Thus the piece of sheet copper was retained in the globe for almost twenty-two months without giving rise to any symptoms but a traumatic cataract, and the eye was finally enucleated as a matter of expediency.

Cheltenham.

A. F. R. CONDER, M.D.

POISONING BY MERCURIC POTASSIUM IODIDE.

DR. SEYMOUR W. DAVIES, in a memorandum in the BRITISH MEDICAL JOURNAL of December 21st, 1907, p. 1775, on a case of poisoning by mercuric potassium iodide, points out the apparent innocuousness of the drug compared with mercuric perchloride. This is not my experience, as the following will show.

Many years ago, when a student, I was suffering from a slight sore throat, and was given by mistake a mercuric potassium iodide solid (containing 8.75 grains), the donor thinking that it was a red gum tabloid. I only kept it in my mouth for a few seconds, as the taste was very unpleasant, yet within a quarter of an hour I suffered from very profuse salivation, pain in the upper abdomen, and constant vomiting. For an hour or more I felt very ill, the symptoms then passed off and I felt no more bad effects. I cannot have absorbed as much as a grain, as the solid when ejected looked its usual size, yet the absorption of so small an amount was followed by very severe symptoms. I think this will show that mercuric potassium iodide is not so innocuous, at least in some cases, as Dr. Davies believes.

Woking.

R. THORNE THORNE, M.D.

REPORTS

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

GENERAL HOSPITAL, BIRMINGHAM.

A CASE OF SPORADIC DYSENTERY IN A CHILD.

(Reported by Professor SAUNDY and W. H. WYNN, M.D.Lond., M.R.C.P.Lond., Assistant Casualty Physician and Clinical Pathologist.)

REPORT OF CASE.

WILLIAM V., aged 3½ years, was admitted on July 14th, 1907, collapsed.

History.

He had been treated for three days in the casualty department for diarrhoea. On examination the temperature was 102° F., pulse 163, respirations 36. He revived after getting warm in bed, and in the course of the next twenty-four hours passed four stools which were thin and yellow, but did not contain blood or mucus. At night the temperature rose to 103°, and his face was flushed. The spleen was not enlarged, but there was some tenderness over the lower part of the abdomen, more marked on the right side. There were a few harsh sounds to be heard over the base of the right lung, but there was no dullness. On the night of July 16th, the temperature rose to 103.6°, and was 103° on the morning of July 17th, when the pulse was 160 and the respirations 60. No urine could be saved. He died at 1.20 on the afternoon of July 17th.

Treatment.

The diet was milk and lime water only; at first he was ordered ice-water enemata and a hypodermic injection of normal saline solution with small doses of grey powder and opium every four hours. The next day the medicine was changed to a mixture containing a few grains of bismuth and sodium bicarbonate suspended in mucilage. The diarrhoea was never severe after admission, and was not the cause of death, which was evidently due to some toxæmia.

Necropsy.

At the *post-mortem* examination, which was performed on July 18th, the heart was normal; the lungs were congested but not consolidated, and there was a quantity of pus in the trachea and larger bronchi, which contained quantities of pneumococci. The liver showed no naked-eye change, but under the microscope there was cloudy swelling of the cells with patches of commencing fatty degeneration. Both kidneys showed cloudy swelling. The spleen was soft, pulpy, congested, and slightly enlarged. The stomach and intestines showed nothing abnormal. The mesenteric glands were large and congested. The colon and rectum from the ileo-caecal valve to the anus presented marked swelling and congestion, the surface of the mucous membrane being irregular, pink

in colour with scattered white necrotic patches, as if there had been extensive sloughing of the epithelium, the white patches being necrosed remnants still *in situ*. The changes were more marked in the rectum, and were less intense on passing up to the ileo-caecal valve.

Microscopical Examination.

The mucous membrane shows coagulative necrosis and destruction of the glands with exudation of fibrin and polymorphonuclear cells. This fibrin and cellular exudation almost replaces the glandular layer, remnants of glands being scattered here and there, the epithelium of which has been destroyed or is desquamating. The superficial layers of the mucous membrane stain badly. A few blood vessels are seen in the deeper layers, and red blood cells can be found in the exudate. Many short bacilli can be found in the exudate.

The submucous coat is thickened from infiltration with cells and fibrin, and here and there small haemorrhages. The cellular infiltration is most marked beneath the muscularis mucosae. The cells are mostly mononuclear plasma cells found singly or in groups around the vessels; lymphoid cells and polymorphonuclear cells are also present; the blood vessels and lymphatics are dilated; the muscular coat shows slight cellular infiltration; the serous coat is apparently unaffected.

BACTERIOLOGICAL EXAMINATION.

Cultivations were made from scrapings of the surface and mucus of the large intestine, and from the spleen and mesenteric glands. The material was suspended and well shaken in sterile broth tubes, and from these agar tubes were inoculated and plated. The colonies on the plates were picked off and inoculated in glucose-agar stab tubes.

The cultures from the spleen and mesenteric glands showed the presence of (1) cocci, which were not further investigated; (2) a slightly motile bacillus showing active gas production in glucose media, rapid reddening and coagulation of litmus milk, and the formation of indol. Its characters agreed well with those of the group *B. coli communis*.

The cultures from the large intestine in addition showed the presence of a third organism, the colonies on agar plates appearing later than those of *B. coli*. This organism has the following characters: It is a slender rod with rounded ends about the size of *B. coli*. The individuals are usually separate, sometimes united in pairs, but not in filaments. It is non-motile, but shows active Brownian movement. It does not stain by Gram, and is non-sporulating.

Cultural Characters.

Growth occurred on all media at room temperature, but was better at 37° C.

Agar Stroke.—In twenty-four hours a delicate semi-opaque white line, spreading at the margins after forty-eight hours. The growth is rather denser than that of typhoid in the same time, but less so than *B. coli*. Viewed

with transmitted light, there is an appearance suggesting the branches of a fir tree.

Gelatine.—No liquefaction. The growth has a faint yellow tint.

Broth becomes cloudy and a sediment forms. There is no production of indol.

Litmus Milk—No coagulation. In forty-eight hours a faint lilac taint, and after ten days the litmus becomes a deeper blue.

Potato.—A slightly membranous and elevated growth.

Glucose Agar.—No gas formation. Yellowish-white growth along line of stab spreading slightly in medium and at the surface. In glucose agar containing litmus there is slight reddening.

Agglutination.—For this purpose the patient's serum was taken *post-mortem*. The bacillus isolated from the intestine was clumped in a dilution of 1 in 40 within one hour. A culture of Shiga bacillus obtained from Vienna was also clumped in the same dilution within one hour. Typhoid serum failed to clump the bacillus obtained from the case, and the patient's serum did not clump the typhoid bacillus.

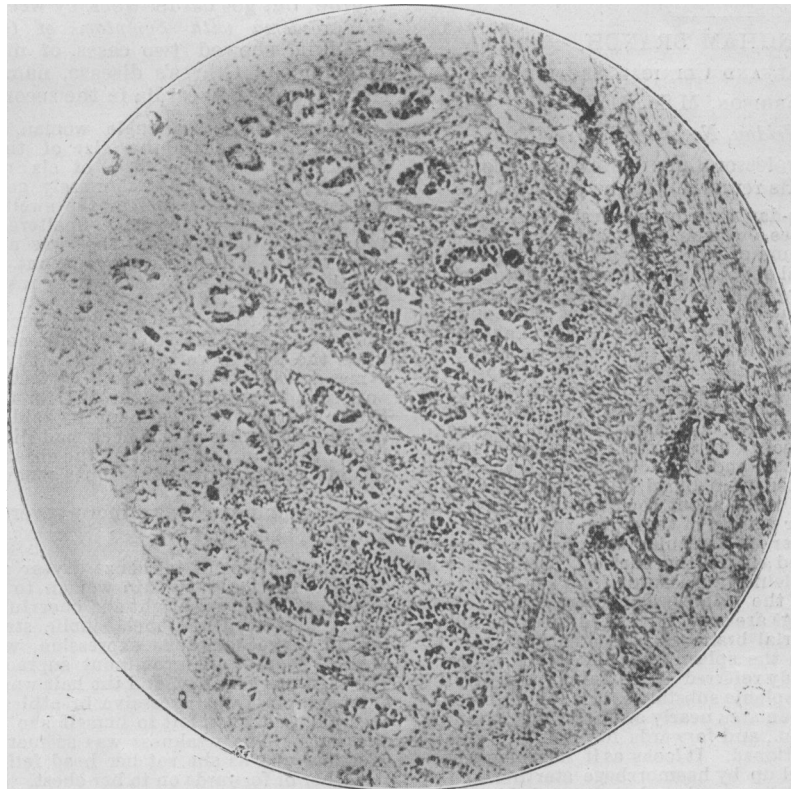
Inoculation Results.—Dr. Hewetson kindly tested the pathogenicity upon guinea-pigs. Two guinea-pigs were used. Animal A: Half an agar slope culture was rubbed into the mucous membrane of the rectum after the latter had been lightly curetted. Result, *nil*. Animal B: A pure broth culture was injected into the peritoneal cavity. The animal looked ill for two or three days, but recovered. After five days its blood was found to agglutinate both the bacillus isolated from the intestine and the Shiga bacillus. The blood of A showed no agglutination, and a pure broth culture was then inoculated subcutaneously under the skin of the abdomen. A swelling appeared at the site of inoculation.

After three days the animal was killed and examined. There was a phlegmonous inflammation in the abdominal wall and the peritoneum beneath showed a fibrinous exudation. The bacillus was recovered in pure culture from the pus. The rectum showed intense congestion but no ulceration. The large intestine showed slight congestion but no ulceration, and the other organs were healthy.

COMMENTARY.

From its morphological and cultural reactions and the agglutinative phenomena there can be no doubt that the organism isolated from the large intestine of the case was Shiga's bacillus.

The Shiga bacillus obtained from Vienna was clumped by Dr. Wynn's blood in a dilution of 1 in 20 and the bacillus isolated from the case in a dilution of 1 in 10. It would appear, therefore, that it is necessary to work with dilutions of at least 1 in 30. Kruse pointed out that there was a marked variation in the degree of agglutination between the different strains of dysentery bacilli, and Hewlett (*Trans. Path. Soc.*, 1904) has shown that the blood of cases of dysentery may clump one variety of the bacillus but not another, although the two were indistinguishable



Photograph of transverse section of large intestine. Shows mucous coat with destruction of glands and fibrinous and cellular exudation. Superficial layer stains badly. Shows coagulative necrosis of the cells.

morphologically or culturally. It would appear necessary, therefore, to test the agglutinative powers of the blood of a suspected case with cultures obtained from several sources. In this case we were fortunate in obtaining agglutination with the one strain tested.

Shiga, Flexner, Kruse, and others have reported favourably upon the use of antidysenteric serum, but it appears that beneficial results may only be expected if injections are made within the first few days of the disease. Protective vaccination in man has not passed the experimental stage although the injection of vaccines into animals is followed by active immunity. In the light of Sir A. E. Wright's researches and the success of vaccine therapy in other infections, it would be interesting in future cases to test the opsonic index to the Shiga bacillus with a view to vaccine treatment.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

BIRMINGHAM BRANCH.

PATHOLOGICAL AND CLINICAL SECTION.

Professor J. T. J. MORRISON, M.Sc., M.B., in the Chair.

Birmingham, Friday, November 29th, 1907.

Ruptured Spleen.—Professor LEITH showed a specimen of ruptured spleen. His remarks were as follows:

Dr. — wrote me to-day that he was called on Sunday, 24th inst., at 3 p.m., to see a woman, aged 23, whom he found to be in a state of extreme collapse, as the result of, in his opinion, a severe internal abdominal hæmorrhage. No history of hæmatemesis or injury could be elicited. She died at 6 p.m. on the same day. At an autopsy on the 27th inst., he found the abdominal cavity to be full of partly clotted blood. The stomach was healthy, and the spleen alone is mentioned as being abnormal. He found it to be enlarged and to show a rupture of about 1 in. in length on its anterior border, from which the hæmorrhage had come. There was no sign of bruising, either of the skin, ribs, or elsewhere. The spleen, which he sent to me for examination, reached me to-day. It weighed 10 oz., was $5\frac{1}{2}$ in. long, $3\frac{1}{2}$ in. broad, and $1\frac{1}{4}$ in. thick. The tissues of the hilum were infiltrated with blood, and about the middle showed a nodular hard mass about the size of a hazel nut. Opposite it, on the lower margin of the organ, the capsule was of a dark-red colour over an irregular area of about $\frac{1}{2}$ in. in diameter, but not raised above the surface. Some of the venous radicles of the splenic vein issuing from the spleen are detected in the blood of the hilum. They were empty. One or two small arterial twigs are seen, but it is difficult to follow all the venous and arterial branches. No aneurysm can be found. On cutting into the spleen from the hilum, opposite the nodular mass already referred to as lying partly in the hilum and partly in the splenic substance, it is found to be infiltrated with blood over an area nearly an inch thick, running backwards for about $2\frac{1}{2}$ in., and forwards for $1\frac{1}{2}$ in., to end in the rupture already mentioned. It looks as if the splenic substance had been ploughed up by hæmorrhage starting in the hilum. The splenic substance, though soft, probably from *post-mortem* change, looks otherwise healthy. The increased size and weight of the spleen is apparently entirely due to this hæmorrhage. Many small vessels, and one large vessel (probably a vein) are full of clot, the large one being very close to, if not continuous with, the above-mentioned nodular mass in the hilum. Two small glands, somewhat enlarged, are also present in the tissues of the hilum. It is not easy to trace the sequence of events which led to the rupture in this case. There is a thrombosis of some of the veins partly outside and partly inside the capsule, with which the hæmorrhage into the splenic substance seems connected. It may, therefore, be a hæmorrhagic engorgement and infiltration of the splenic tissue drained by these veins, a form of infarct, which burst through the capsule. If so, I have never previously known it occur, nor do I know of any similar case in literature. Rupture of an intracapsular aneurysm might account for the condition, but no trace of this aneurysm can be found. It is a very rare and startling case.

Ischaemic Paralysis.—Mr. FRANK BARNES showed a case of ischaemic paralysis, occurring in a young child who, ten weeks previously, had had a fracture of the lower end of the humerus. To counteract the backward displacement of the lower fragment this had been put up in the completely flexed position of the forearm, with an angular piece of millboard back and front of the elbow. The swelling was considerable and resulted in a pressure sore on the front of the forearm, opposite the elbow joint, and the limb was in this condition when he first saw it.

About three weeks or a month later it was noticed that the fingers seemed stiff, and the hand and forearm cold and somewhat congested. The condition now was that the fingers were flexed on the palm and somewhat swollen, the little finger having a small sore (trophic) appearing on it. The muscles of the forearm were hard and the tendons at the wrist as if they were matted. There was practically no movement of the fingers, and the pulse was imperceptible at the wrist. The treatment had been up to the present applications of the battery and massage. He also showed a case of traumatic myositis ossificans, occurring as the result of a fall in a boy of 42. When first seen the patient had a very swollen arm from what appeared to be a hæmatoma on the front and outer side of the lower half of the arm. No fracture of the humerus was to be made out. This swelling to some extent disappeared, but in its place a hard bony substance was deposited, giving the feeling of a bony tumour, casting a shadow with the *x* rays, and appearing to fill up the hollow between the ante-cubital fossa and the belly of the biceps, partly involving this, and appearing more prominent on the outer side. This tumour did not seem to grow, but got harder week by week.

Myxoedema with Symptoms of Graves's Disease.—Dr. EMANUEL showed two cases of myxoedema exhibiting symptoms of Graves's disease, namely, exophthalmos in the first and tachycardia in the second case.

The milder case, a single woman, aged 44, first noticed a great increase in the size of the breasts, and a fullness of the neck and face, of six months' duration. At first she thought she was merely getting unusually stout, but later she began to fear the swelling was due to dropsy. The skin was dry, the hair unaltered, the memory good, and speech unchanged. She was able to carry on her work, that of a domestic servant, but any exertion made her breathless, and if she sat down to rest herself she would fall into a drowsy state. The pulse was slow; the bowels were constipated; there was a definite amount of exophthalmos, and occasionally the sclerotic became visible above the iris when the eyes were lowered; the thyroid was enlarged, and firmer and harder than normal—in fact, the patient herself had noticed a "lump in her throat" for the past three months. Under four weeks' treatment by tabloids of thyroid extract the circumference of the neck had diminished by 1 in. (from $15\frac{1}{2}$ in. to $14\frac{1}{2}$ in.), and that of the chest by 3 in., and there was considerable improvement in her general health.

The second case was a more severe one, and occurred in a widow, aged 49:

Since an attack of influenza a year ago, she had gradually changed from a very thin woman to a very stout one, and instead of her usual bright and cheerful character, was now in a very depressed and melancholic state. Her face had the typical myxoedematous expression, with the bright malar flush. There were prominent supraclavicular pads of fat. The skin was very dry, and the hair was losing its lustre. Her chief symptom was excessive breathlessness on the slightest exertion, and when left to herself she would lie and doze all day long. The weakness was so marked that talking was an exertion, and as she sat her head fell listlessly to one side or the other or forwards on to her chest. She complained, too, of feeling too hot. Cold things felt very cold and warm things so hot that it was very unpleasant for her to touch them. Her pulse varied from 108 to 120 before thyroid extract was administered. There had been little or no improvement after a month's treatment, and the prognosis of the case was regarded as grave.

Aneurysm of Anterior Communicating Artery.—Dr. STANLEY BARNES showed a specimen of this condition.

Trans-sacral Excision of Rectum.—Mr. MORRISON showed: (1) A man, aged 56, upon whom he had operated at the Queen's Hospital on April 17th, 1907, for carcinoma recti by the sacral route, the anus being left intact; 5 in. of gut were resected, and the peritoneal wound having been closed, the divided ends of the bowel were directly united with silk sutures, free drainage being provided for posteriorly by tubing and gauze. The junction of bowel yielded at the back part, leaving a faecal fistula, which closed after some weeks. He was discharged on June 1st, and has since resumed work. At the present time he is in excellent health, has good control over defaecation, and is able to correct the tendency to contraction around the line of sutures by the occasional passage of a large bougie. (2) A woman, aged 41, upon whom he had performed a similar operation on October 2nd, 1907, removing 6 in. of gut and a mass of infected glands. In this case also a faecal fistula formed, but this was now nearly closed, and apart from