wound around the pedicle of the volvulus and was free from constriction. The entire jejunum and ileum were implicated in the volvulus. They presented an extraordinary appearance, being deeply cyanosed, quite collapsed and empty, and massed into a compact bunch, which depended freely from the narrow pedicle of the superior mesenteric axis. The mass of congested, collapsed bowel could be most accurately likened to a conglomeration of bluish earthworms. The mass was rotated in an anti-clockwise direction through about 360 degrees. A few light, recent adhesions were present about the constricted portion of the duodenum; these were readily separated and permitted the organ to come into its natural position behind the mesenteric root. So soon as the constriction of the duodenum was relieved by untwisting the volvulus, the gaseous and fluid contents of the dilated stomach and upper duodenum passed rapidly down the jejunum and had entered the ileum before the bowels could be returned to the abdomen. Since the infant was seriously ill from four days of acute duodenal obstruction, it was thought unwise to prolong the operation by fixing the replaced intestines. It was hoped that this would occur naturally in the course of post-natal development. The abdomen was closed. The operation had been a very easy and rapid one.

Progress.—No further vomiting occurred, and the infant took the bottle well within three hours of operation. An uninterrupted convalescence ensued and she was discharged from hospital on the fourteenth day. She has been seen at regular intervals since. She has progressed quite normally; there has been no vomiting, no evidence of abdominal pain, and a steady gain in weight. At the last report (November 23rd, 1926) the child appears a particularly robust little girl of 6 months, weighing 12 lb. 12 oz.

I regard this case with peculiar satisfaction, as it represents to me the outcome of former embryological and pathological researches in practical diagnosis and operative cure.

REFERENCE.

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HAEMATURIA FOLLOWING INSULIN INJECTIONS.

BY

JOHN HENDERSON, M.D., CH.B., F.R.F.P.S.G.,
VISITING PHYSICIAN TO GLASGOW ROYAL INFIRMARY.

IN 1923 and 1924 I noted several cases of diabetes mellitus in which the use of insulin injected in the usual manner was associated with a transient haematuria. I could not trace any records of similar cases, and on inquiry of other physicians who had a large experience of insulin administration I did not get any corroborative information. While noting the facts I decided to await further confirmation, as apparently the occurrences were simply coincident and of no serious moment. Since then, over many hundreds of similar injections in private and hospital practice, and in many cases with large daily doses, I have never met with a similar experience. I have also been watching the literature of the subject for any reference to the occurrence of haematuria in similar circumstances, but without avail till in the *Epitome* of the BRITISH MEDICAL JOURNAL of October 23rd, 1926 (para. 364), I found J. Gudemann reported as having described a case of haematuria following insulin treatment. As the history of the case was there given it need not be repeated here. Gudemann referred to two other cases, and stated that all his own cases of haemorrhage after insulin treatment occurred in a period of four and a half years; he thinks it probable that haemorrhages after insulin treatment occur more frequently than has been believed hitherto.

As such occurrences have not apparently been noted in this country I wish to refer to three cases, in all of which a very transient haematuria was observed.

CASE I.

A boy, aged 13, was admitted to my ward on October 23rd, 1923, in a state of coma, and on that day he had 20 units of insulin on two occasions. He made a rapid recovery from coma, and next day felt very well, though he had very decided haematuria. Microscopic examination of the urine showed, in addition to blood corpuscles, a few hyaline casts. The haematuria cleared up completely within twenty-four hours, and did not recur, though he had regular daily doses of insulin during the remainder of his residence. He is still under regular supervision at intervals, and though regular doses of insulin have been given, no similar occurrence has been observed. He is well developed and sturdy.

CASE II.

A man, aged 32, with advanced diabetes, had three attacks of haematuria during one month. He started insulin treatment in my ward on September 20th, 1923, and was at one time having 50 units daily. He developed severe haematuria on October 30th, and had recurrences on November 5th and November 27th. On each occasion the attack persisted for a few days, was not associated with any discomfort or signs of kidney disease, and cleared up completely.

CASE III.

A man, aged 59, had marked diabetes, requiring a daily dose of 40 units over a prolonged period. In May, 1924, in a nursing home, he had an attack of haematuria lasting twenty-four hours. Here also there were no associated symptoms of renal disease, and no feelings of discomfort.

I am tempted to add a fourth case of haemorrhage in similar circumstances, though it was not haematuria.

The patient was a man, aged 73, who had suffered from diabetes some time, but had not had insulin. When I saw him with his doctor on June 8th, 1924, he was on the verge of coma and became comatose before he reached the nursing home. With insulin in considerable doses he recovered consciousness completely, but four days thereafter he had a cerebral haemorrhage, with resultant hemiplegia, and died.

These cases all occurred within a period of about eight months, and, it is of interest to note, rather earlier than those referred to by Gudemann. I have no explanation to offer as to the cause of such haemorrhage, as the conditions of administration of the drug were at all times as nearly as possible the same, and, of course, in the cases in the ward others were having the same insulin without any haemorrhage. It would be interesting to know if other examples are on record of similar occurrences during insulin administration.

STUDY OF AN ANAEROBIC STREPTOCOCCUS.

BY

C. E. JENKINS, M.R.C.S., L.R.C.P.,
PATHOLOGIST TO SALFORD ROYAL HOSPITAL.

ANAEROBIC streptococci have been described before, and according to Douglas's observations they were sufficiently common in war wounds to render anaerobic culture of pus so obtained a matter of practical importance.¹ But the occurrence of these organisms in civil practice in England is sufficiently rare to justify record.

The streptococcus now described was isolated from an abscess in the lumbar region. The films showed chains of eight to ten cocci; no other organism was seen, and an examination for tubercle bacilli by the Ellermann and Erlandsen concentration method was negative.

Cultural Features.

A serum nutrient agar slope was inoculated, but no growth followed. As it was assumed that the inoculation was at fault a second slope was used, with a like result. The pus was then put on a "plain" agar plate and incubated anaerobically. A profuse growth was obtained in eighteen hours. The colonies were round, discrete, and about 0.5 μ in diameter. On inoculating a slope from this plate and incubating it aerobically no growth was obtained. The anaerobic subcultures grew well. An aerobic culture made from the fifth anaerobic culture showed a feeble growth in twenty-four hours which did not improve with further incubation. This was the only aerobic culture obtained, as attempts to repeat aerobic cultivation from later anaerobic subcultures have all failed. The addition of serum to the agar plates does not seem to influence the growth. In plain agar slabs and in gelatin at 22° C. the organism grows as a granular line along the length of the stab. The gelatin is not liquefied.

It should be explained that unless otherwise stated all further descriptions of growth and fermentative reactions refer to anaerobic cultivation.

The organism rapidly lost its chain formation in artificial cultivation, and so was tested in tomato extract media.² A tube of tomato broth was inoculated from a nutrient beef broth culture that showed clumps only in films made from it. Next morning a thick turbidity was present in the tomato broth, and a film showed nothing but chains of 12 to 16 cocci. The same result was obtained with a tomato slope, except that the chains were a little shorter. The thickness of the growth in the broth and on the slopes has since proved that tomato extract is much the best medium for cultivating the organism. The individual cocci do not show any great tendency to produce involution forms. The organism is, of course, Gram-positive.

Fermentative Reactions.

No gas was produced with any sugar, but the acid production, when obtained, was sharp, appeared within twenty-four hours, and did not change with further incubation up to five days. Acid was

produced in glucose, maltose, saccharose, laevulose, raffinose, salicin, inulin, dextrin, galactose, isodulcite, and arabinose. No change occurred in lactose, mannite, adonite, sorbite, or inosite. Litmus milk was unchanged after seven days' incubation.

Ehrlich's rosindol reaction was negative when tested on a six-day nutrient beef broth culture. It was not possible to examine the reaction in peptone water as the organism does not grow in this medium.

The streptococcus does not haemolyse blood, nor does it appear to have any reaction upon neutral red. It is not soluble in bile.

Vitality.

The vitality of the organism is not great. It lives in tomato broth for about ten days and for seven days in beef broth. It is killed by exposure to a temperature of 60° C. for fifteen minutes.

It is well known that certain strains of the enterococcus exhibit a preference for anaerobiosis when first isolated, but the present organism differs from the former in several important particulars. Its sugar reactions bear no resemblance to Dible's typical strain³ nor to any of the three variants. A further and more important distinction is that the enterococcus has great vitality and is thermo-resistant.

These facts, coupled with the ability to form chains, justify us in regarding the organism as a true streptococcus.

Its further classification presents some difficulty, as it does not conform exactly to any of the standard varieties. It approximates most closely to *Streptococcus equinus*, but it ferments raffinose.

Its preference for anaerobic conditions of growth seems to be fairly inherent and is not lost by artificial cultivation, if I may judge by the fact that, although a feeble growth was obtained from a culture made from the fifth generation of anaerobic cultures, the power was not retained or passed on in further generations of subcultures.

REFERENCES.

- ¹ Douglas, Fleming, and Colebrook: *Studies in War Wounds*, Medical Research Council Reports, 1920.
- ² Jenkins: *Tomato Extract*, *Journ. Path. and Bact.*, 1923, vol. xxvi, p. 116.
- ³ Dible: *The Enterococcus*, *ibid.*, 1921, vol. xxiv, p. 3.

EXCISION OF LARGE ANGIOMA OF THE LIVER IN A DIABETIC.

BY

HERBERT H. BROWN, O.B.E., M.D., F.R.C.S.,
CONSULTING SURGEON TO THE EAST SUFFOLK HOSPITAL.

It is becoming recognized that operations upon diabetics can be performed without undue risk, provided the glycosuria is in abeyance at the time of operation. I think that the following case may be of interest owing to the age of the patient, who had been suffering from diabetes for several years, the extensive nature of the operation, the absence of undue shock, and the uninterrupted recovery.

On June 17th, 1925, the patient, a maiden lady aged 76, was admitted under my care at a nursing home. She had been suffering from diabetes for several years, and the urine on a restricted, but not strict, diet contained at least 5 per cent. sugar.

She had a large hard globular myomatous uterus of about the size of a pregnancy in the sixth month, and what appeared to be a pedunculated myoma in the left hypochondrium. As she was suffering from considerable discomfort and pain in the lower limbs I had suggested that it might be advisable to remove the tumours. She was thin and looked frail, but was not emaciated. The specific gravity of the urine was 1040, and it contained 5 per cent. sugar. She was put upon a strict diet.

On June 19th the urine (sp. gr. 1020) contained a trace of sugar. On June 20th the administration hypodermically of 10 units of insulin once daily was begun. On June 23rd three doses of 10 units each were given. On June 24th the urine was quite free from sugar; insulin twice daily was begun. From this date to June 30th the urine continued to be free from sugar and the patient's condition was satisfactory.

Operation.

On June 30th, under chloroform anaesthesia as light as was possible, the abdomen was opened; the upper tumour was found to be a large dark purple lobulated mass attached to the lower edge of the left lobe of the liver by a peduncle of liver substance which was about 3½ inches broad and 1½ inches in thickness. The transverse colon was lying between the tumour and the big uterine myoma.

I removed the liver tumour by cutting through the pedicle and suturing the anterior to the posterior edge. The haemorrhage was very insignificant, only one artery in the middle of the pedicle had to be secured, and the excision was rapidly performed. I then

removed the uterine myomatous mass by amputating through the cervix in the usual manner. The liver tumour, which was a cavernous angioma, weighed 1 lb. The myomatous uterus, which was partially calcified, weighed 3 lb. The whole operation took less than an hour. There was very little haemorrhage and no perceptible shock.

The patient had a fairly comfortable night, but vomited several times; she was given sips of water and weak tea. Next day she felt comfortable except for a tendency to vomiting; the urine contained 5 per cent. sugar, and was loaded with acetone; rectal saline and sodium bicarbonate were given. On July 2nd she was given feeds of water, coffee and toast, milk, diabetic bread, cauliflower, and 15 units of insulin was administered during the day. She felt much better; the sugar was much less, but the acetone was still abundant; there was no aceto-acetic acid. Next day milk was added to the diet, and on and after July 4th 15 units of insulin was given three times daily and more liberal diet. The acetone was much less. On July 7th she was allowed a fairly liberal diet, including custard, and mutton or sweetbread. Neither sugar nor acetone was present in the urine. Insulin was reduced to 12 units three times daily on July 9th, and this quantity was given twice daily. She left the nursing home eighteen days after operation. She felt well and comfortable, and the urine was free from acetone, but sometimes contained a little sugar.

The patient is now, eighteen months after the operation, in fairly good health, but as she is not careful about the diet the urine constantly contains sugar.

The tumour of the liver was a cavernous angioma of the kind described as due to dilatation of existing blood channels and atrophy of liver cells. These tumours may be multiple, but are more often single. The edge of the liver near the falciform ligament is not an uncommon situation, and they are sometimes pedunculated, as in this case. A microscopical section showed large intercommunicating cavernous spaces lined with endothelium and separated by fibrous tissue; no trace of liver tissue could be seen except in the pedicle.

Death has been known to occur from rupture of an angioma of the liver, and a few cases have been removed by operation. But the condition seems to be uncommon, though possibly less so than might be expected from the small number of cases recorded.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN OCCUPATIONAL SWELLING.

A PROFESSIONAL violinist was brought to consult me about a swelling below the angle of the jaw on the left side. It had been noticed for the last three or four years, and had increased slowly in size, but gave rise to no pain or discomfort.

The appearance of the swelling, which is shown in the accompanying photograph, suggested an enlargement of the tonsillar lymph gland. However, the enlargement was entirely due to a thickening in the subcutaneous tissues, adherent to the overlying skin, but freely movable over the deeper structures. It was firm, had no definite edge, did not fluctuate, and was not translucent. The overlying skin was normal, and there was no enlargement of the lymphatic or salivary glands on either side. The tonsils were small, and healthy.

This is apparently a fibrofatty pad developed in response to repeated pressure, analogous to that which is seen on the shoulders of deal porters. It is situated exactly on the area of skin which rests upon the edge of the violin when this is steadied between the angle of the jaw and the left clavicle. I have not seen a description of this condition.

W. H. OGILVIE, M.D., M.Ch., F.R.C.S.,
Assistant Surgeon, Guy's Hospital.