months had had agonizing "headaches." He had been treated by several physicians with mercury and salvarsan, etc. The latter produced some temporary relief, but nevertheless the headaches continued for months. On examination the speaker noted that the trunk of the great occipital was tender and that there were areas of anaesthesia over its distribution. Two or three applications of salicylic ionization produced a rapid and permanent cure of the "headache." In such cases a precise diagnosis was not only essential but equivalent to a cure.

The PRESIDENT, speaking of syphilitic headaches, said that in his opinion the inunction of mercurial ointment was still the most satisfactory treatment, when combined with moderate doses—say, 20 grains three times a day—of potassium iodide.

Dr. CAMPBELL, in his reply, agreed with Dr. Hawthorne as to the necessity of examining the cerebro-spinal fluid in all cases of headache in which there was a suspicion of syphilis; but he pointed out that in cerebral syphilis the cerebro-spinal fluid obtained by lumbar puncture might give no evidence of syphilis. This had been shown by careful investigations made at the London Hospital. As regards errors of refraction, he insisted upon the importance of providing the sufferer from headache with the best possible correction, both for near work and for distance.

ACUTE ATROPHY OF THE THYROID GLAND.

By F. C. EVE, M.D. Cantab., M.R.C.P. Lond.,

Hull.

(Abridged.)

THE case of exophthalmic goitre I am about to describe showed complete disappearance of a rather large goitre during the two days preceding death. That is to say, no trace of it could be detected by the eye or fingers. A *post-mortem* dissection was unfortunately out of the question. I cannot find a record of a similar occurrence, though, of course, it is well known that an exophthalmic goitre is subject to fluctuations in size.

The patient was a woman, aged 40, whom I had treated for Graves's disease for five years, and who had suffered from it for six and a half years. Her illness ran the usual course for a few years, with a conspicuous goitre about 4 in. in width, but subject to variations in size.

Looking back on her long illness, one is chiefly impressed by the remarkable instability and variability in the action of her organs. The bowels varied from attacks of diarrhoea to constipation; the blood pressure from about normal to 240 mm., when its measurement became painful and caused petechial escape of blood from the tissues of the forearm. The pulse varied from 100 to 200. The weight was never constant, the catamenia irregular, the eyes varied much in their protrusion, and were often normal for long periods. Her headaches, sleep, strength, and the darkness of her complexion were all very variable.

In the fourth year of her illness she had influenza, the fever of which was succeeded by an alarming and exhausting week or two of high fever. Some people seem to term this thyroid fever, as it seems due rather to poisons and hypersecretions from an angry gland than to bacteria. Thereafter every spring an attack of influenza or tonsillitis brought her near to death by this subsequent sustained thyroid fever.

Her last illness started with frank follicular tonsillitis, followed by her usual thyroid fever, with erythema nodosum on the arms and legs on the twelfth day. On the fifteenth day the thyroid was first noted as having become very small, and diarrhoea had started. On the sixteenth day the thyroid was scarcely palpable, and only half the 160 heart beats were reaching the wrist. The seventeenth day was her last, and no trace of the thyroid gland could be seen or felt before or after death. Her rapid breathing, chest pain, and rusty sputum showed that a few hours of pneumonia had been the final cause of death.

In a patient of 40, with six years of Graves's disease, one would expect the thyroid to contain a good deal of secretion, but the atrophy was so complete that I was compelled to think that there had also been a rapid and extensive cytotoxicity of the secreting cells, analogous to that occurring in acute yellow atrophy of the liver.

It is important to get information on this point, because we have in normal horse serum an agent which is very potent to arrest such uncontrolled cytotoxicity, as I showed very clearly by some cases published in the BRITISH MEDICAL JOURNAL in October, 1910. It may be found advisable to inject horse serum in the hope of checking this alarming atrophy of the thyroid, or possibly even the thyroid fever. I did try it in 1911 in a child moribund with acute yellow atrophy, but I saw the child too late to give any remedy a chance. I see that horse serum is now recommended in this disease, but I do not know with what success.

In 1913, in a very young child with acute febrile lymphadenoma, the enlarged subclavicular glands started to atrophy rapidly, and, as the child's general condition was getting worse, I thought it advisable to try to put the brake on the acuteness of the cytotoxic process by injections of horse serum. However, the enlarged glands wasted almost entirely away, and after a week or two the child died. Possibly to inject the serum locally would be better. These instances show that acute atrophy of pathologically hypertrophied tissues may be of the gravest import, and (probably) that an attempt to arrest the process should be attempted by horse serum, unless better means be known.*

A medical friend allows me to quote another case illustrating thyroid atrophy preceding death. It was a woman who had Graves's disease for five years but was able to do her house work. Then she had an attack of diarrhoea, fever and loss of flesh, and her goitre entirely vanished. Within two months she was dead.

Another case, which I saw once only in consultation, was a big elderly woman who had had a large simple goitre for several years, with stertor as the only symptom. After six months of dyspepsia, she started with persistent obscure fever and general wasting of remarkable rapidity. Her goitre showed rapid atrophy during the week preceding death.

The histology of these changes requires working out, but clearly it renders the goitre from the *post-mortem* room very likely to be misleading from the histological point of view. So that thyroids removed *in vivo* by the surgeon should alone be relied upon to give a reliable picture of the true state of a goitre.

A CASE OF ANAEMIA WITH ENLARGEMENT OF THE SPLEEN: SPLENECTOMY: CURE.

By J. SOUTTAR MCKENDRICK, M.D., F.R.F.P.S.G.,

Assistant Physician to Glasgow Western Infirmary.

(Abstract.)

THE treatment by splenectomy of cases of anaemia associated with splenomegaly until recent times has been comparatively rare. This has depended on two factors: (1) The imperfect knowledge of the function of the spleen, and (2) the danger attending the surgical technique.

Regarding the first factor, the researches of Noel Paton, Goodall, Gulland, and Fowler have shown us that the spleen may be removed without causing death to the animal, either at the time or afterwards. They have shown that whatever function the spleen may have, the lymphatic glands and haemolymph glands may take up this function.

Regarding the second factor, the death-rate from splenectomy in the human subject until recently has been very high. Sepsis, shock, and profuse haemorrhage have been the chief causes of death.

Mr. Spanton tells us that from 1866 to 1875 the death-rate after splenectomy reached 75 per cent. From 1886 to 1895 it fell to 16 per cent., and in the most recent series of cases reported by Giffen from the Mayo clinic it fell to 7.4 per cent.

The operation must not be delayed too long, for in Banti's disease, where the liver is cirrhotic and ascites occurs, the mortality from splenectomy may be higher.

In certain blood diseases the spleen becomes enlarged. The enlargement may be primary, such as is probably the case in splenic anaemia; or secondary, in general infections, toxæmic states, rickets, syphilis, etc. Many

* Coagulose, a new and stable preparation of horse serum in powder form (Parke, Davis and Co.), may prove worthy of trial.

such anaemic conditions with splenomegaly have wholly recovered after splenectomy.

S. R., aged 8, was admitted to the Western Infirmary on July 26th, 1912, complaining of great weakness, breathlessness, and loss of appetite.

History of Present Illness.—Up till four years ago her health had always been good. At that time she had frequent attacks of diarrhoea, and following this she gradually became more and more anaemic. During the last year the anaemia deepened despite all usual medical treatment. About six months ago she developed haemorrhagic patches in the skin, and her eyesight was not so good. She at no time had haematemesis or melaena.

Family History.—Nothing noteworthy.

Present Condition.—Intense pallor of skin and mucous membranes. Some icteric tinge of skin and conjunctivae. Haemorrhagic patches on chest and arms. Some evidences of haemorrhagic retinitis. Heart not enlarged, but functional v.s. murmur over pulmonic area. Blood pressure 92 mm. Hg (systolic). Lungs normal. Digestive system: Furred tongue; teeth not good. Liver palpable below the costal margin. Spleen enlarged, passing downwards almost to the umbilicus. No ascites. No enlargement of the stomach. Nothing else noteworthy in the abdomen. No enlargement of lymphatic glands. Urine: No bile or other abnormality.

Blood:

Red cells	...	...	2,550,000
White cells	...	...	7,800
Haemoglobin	...	...	25 per cent.
Colour index	...	...	0.5
Polymorphs	...	...	56 per cent.
Small lymphocytes	...	...	36 "
Large lymphocytes	...	...	2 "
Large mononuclears	...	...	3.6 "
Mast cells	...	...	1 "
Eosinophiles	...	...	1.4 "

Anisocytosis, poikilocytosis, ghost cells, slight polychromatophilia, a few normoblasts, one questionable megaloblast. Wassermann reaction negative.

On August 16th a portion of the ninth rib was excised and bone marrow examined by Dr. Shaw Dunn. This showed a somewhat hyperplastic condition of the blood-forming tissues.

Dr. Alex. MacLennan removed the spleen on August 28th. The spleen was non-adherent. It was of firm consistence, weighing about twice its normal weight, and the lymph nodes were slightly enlarged and prominent. The main departure histologically from the normal splenic appearance was the presence of normoblasts and myelocytes and the unusual number of polymorphs and eosinophile leucocytes. Bacteriological examination for organisms was made with negative results.

On August 29th, the day after operation, the blood had altered materially from the last examination. There was a large increase in red and white blood corpuscles, a very marked polymorphonuclear leucocytosis, and a rush of nucleated red cells (normoblasts).

Red cells	...	...	4,650,000
White cells	...	...	34,800
Haemoglobin	...	...	35 per cent.
Colour index	...	...	0.38
Polymorphs	...	...	94 per cent.
Lymphocytes	...	...	5.6 "
Eosinophiles	...	...	0.4 "
Nucleated red cells	...	...	1,800 per c.mm.

Digestive leucocytosis experiments were performed, and were found to react normally. The red cells gradually increased to normal, at one time there being a polycythaemia, while the white cells steadily fell to 9,000. The haemoglobin did not increase so rapidly as was expected. As there was some oral sepsis, a few teeth were extracted.

On November 15th the blood examination was:

Red cells	...	...	4,890,000
White cells	...	...	12,000
Haemoglobin	...	...	75 per cent.
Colour index	...	...	0.8
Polymorphs	...	...	62 per cent.
Lymphocytes	...	...	27 "
Large mononuclears	...	...	5 "
Myelocytes	...	...	6 "

No nucleated red cells.

The patient left the hospital well. On April 26th, 1914, Dr. Hastings, of Skye, writes: "S. R. has grown and is in good condition. She has a good colour, with no trace of anaemia, and is in fact a normal healthy child of her age, not in the least like the poor anaemic child she was. You may safely describe the case as being a complete success so far."

[The author went on to make remarks on the immediate effect of splenectomy in this case, and laid especial emphasis on the importance of examining the bone marrow in the cases of severe anaemia with splenomegaly, before splenectomy is advised, in case there is an aplastic instead of a hyperplastic condition of the bone marrow.

He then discussed the differential diagnosis between cases of splenic anaemia (so-called) and cases of pseudo-

leukaemia infantum (von Jaksch), myelogenous leukaemia, pernicious anaemia, and acholuric jaundice with splenomegaly.]

The treatment of cases of anaemia with splenomegaly by splenectomy is still in its infancy, as far as one can gather from the general literature. A new classification of these obscure cases is wanted. Fresh pathological investigation into the causation is needed, and, above all, a further knowledge of the true function of the spleen is required.

THE URINARY DIASTASE TEST IN A CASE OF RUPTURED DUODENUM.

By ARTHUR H. LISTER, M.D.,

Physician to the Aberdeen Royal Infirmary.

(Abstract.)

LAURENCE HUMPHRY'S recent communication,¹ with his reference to Dudley Corbett's paper,² disposes of the necessity for any preface to the following note:

A healthy man, aged 25, was riding, when his horse reared and fell backwards, crushing the rider. He was sent into my ward on April 17th, but as signs of an intra-abdominal injury were present I asked Professor Marnoch to see him immediately. He was operated on forthwith.

Some free blood-stained fluid was present in the abdominal cavity, and there were subperitoneal haemorrhages in the mesenteries and omentum. There were no haemorrhages in the lesser sac. There was a large retroperitoneal haematoma at the back of the abdominal cavity. This was opened, a semifluid blood clot was removed and a drainage tube was inserted connecting the haematoma with the surface, otherwise the abdomen was closed.

On removal of the dressings, faecal matter was found to have escaped through the tube; vomiting was troublesome, and it was noticed by the house-surgeon that the matter which was vomited was similar in character to that which escaped from the tube. The patient died on April 22nd.

On the 23rd the *post-mortem* examination revealed a transverse rupture of the duodenum close to its junction with the jejunum. At the inner end of the drainage tube was a collection of faecal matter, with retroperitoneal cellulitis. The pancreas was normal, and there was no evidence of any disease of the kidneys.

On April 21st I examined the diastase reaction of the urine on the chance of finding some abnormality in its amount which might point to a lesion of the pancreas. Instead of finding any increase, I found that the diastase, when tested for in the ordinary way as described by Corbett (*loc. cit.*), was practically absent, though there was a faintly redder violet tinge in the tube containing 0.6 c.cm. as compared with the blue colour in the lower tubes of the series. The control used was a urine showing a normal coefficient ($d = 10$).

The fact which appears to me to justify the publication of this case is that I know of the report of no other in which the diastase test has been applied where the pancreatic secretions have been short-circuited. The case is not complete, as it is conceivable, though improbable, that the pancreas was not secreting. This could have been determined by taking the diastase reaction of the fluid discharged from the drainage tube, but the patient died so soon after I had obtained my results that I did not get the opportunity of making this estimation.

Apart from this possible fallacy, the almost complete absence of diastase from the urine would suggest that the usual source of urinary diastase in healthy conditions of the pancreas is the amylopsin of the pancreatic juice absorbed from some part of the bowel lower than the duodenum. That the ptyalin of the saliva has any definite share in producing it would seem improbable. It is commonly held that ptyalin is destroyed in the stomach,³ and were it to be absorbed in any large quantity from the stomach wall one might have expected to have found it in the urine of this patient, but no stress can be laid upon this point as vomiting was frequent.

The fact that normally diastase passes apparently with ease into the circulation and on through the renal epithelium, makes its almost complete absence from ascitic fluid, at any rate in some cases, a matter of interest.

A case of ascites in my ward whose peritoneal sac has been tapped some eighty times, to the extent of about