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.,

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(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

1½ gallons at intervals of about ten days to three weeks, for nearly three years, shows a normal diastase content in her urine ($d = 10$). The ascitic fluid, which at first was clear, is now milky and contains only a very small quantity of diastase ($d = 1.6$ approximately). Dr. Edie, lecturer on biochemistry, Aberdeen University, from a careful analysis is inclined to consider the fluid pseudochylous in its character.

An absence of diastase from chyliform ascitic fluid has been commonly noted.⁴ Whether by examining the reaction of fluids removed from the serous cavities any difference may be generally found in the diastase content of inflammatory exudates as distinguished from that of transudates, is still, I believe, a matter for investigation. In view of the considerable quantity of diastase normally present in the blood one would expect to find a higher diastase coefficient in inflammatory effusions, but I have no sufficient facts bearing on the matter to justify any statement.

I have to express my gratitude to Professor Marnoch and to his house-surgeon, Dr. Brand, for the information which they gave me regarding the first case noted.

REFERENCES.

- ¹ The Urinary Diastase Test and Loewi's Reaction in Pancreatic Lesions, *BRITISH MEDICAL JOURNAL*, June 6th, 1914, p. 1229.
² *Quarterly Journal of Medicine*, April, 1913, p. 351.
³ Schäfer's *Textbook of Physiology*, vol. i, p. 330.
⁴ *Quarterly Journal of Medicine*, vol. iii, p. 301, and vol. iv, p. 153, on Chylous and Pseudochylous Ascites. By R. L. Mackenzie Wallace and H. A. Scholberg.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN HOSPITALS AND ASYLUMS.

GENERAL INFIRMARY, LEEDS.

A CASE ILLUSTRATING THE SURGERY OF THE PUERPERAL
UTERUS: HYSTERECTOMY FOR MYOMA SUPPURATING
AFTER LABOUR.

(By JOHN BENJAMIN HELLIER, M.D. Lond., Honorary
Obstetric Physician to the General Infirmary
at Leeds; Professor of Obstetrics,
Leeds University, etc.)

Mrs. C. W., a Jewess, was admitted into the Leeds Infirmary on December 8th, 1913, with acute abdominal symptoms, five weeks after her first confinement.

Previous History.—She had been married seven years without becoming pregnant, but had always had good health. Menstruation had been scanty, with rather long irregular intervals, and there had been no reason to suspect any uterine growth. In the early part of 1913 she became pregnant. She had some slight haemorrhage in early pregnancy which lasted two weeks and then ceased, after which the pregnancy ran a normal course. She was confined in the Leeds Maternity Hospital on November 2nd. Before labour external palpation suggested a transverse lie, but at the time of labour the breech presented, and delivery was easy and uncomplicated. After delivery the presence of a moderate-sized myoma in the corpus uteri was easily recognized. She was discharged on November 20th without having developed any morbid symptom.

On December 5th she was admitted to this infirmary at the request of Dr. Umanski of Leeds, who had been called to see her, and had found her with abdominal pain and tenderness, distension, vomiting, and high temperature. On admission a uterine tumour could be felt corresponding to the size and position of a four and a half months pregnancy but lying more to the right than the left of the middle line. It was rather tender. The patient was a well-developed woman, not looking very ill, and the principal organs outside the pelvis were normal. There was no vaginal discharge, no indication of any tissue retained in the uterus, and no sign of cellulitis or phlebitis. There seemed to be no general peritonitis. The diagnosis of infected myoma was at once considered, but it seemed best to observe the case further lest any other complication were developing. Two days after admission the vomiting had ceased, and the patient seemed much better.

On the evening of December 10th she had a severe rigor, the temperature reaching 105.8° F. Next day she seemed better, but on December 12th she had a second rigor. Again she seemed to be improving, but on the 17th a third rigor occurred. It was then determined to explore the abdomen, and this was done on December 18th. There was no general peritonitis, but the uterus presented a round fluctuating swelling in the anterior wall. There were no adhesions and no affection of the tubes. It was very easy to draw the uterus upwards and perform supra-vaginal hysterectomy, the cervix being long and thin. The appendages were removed on both sides with a good length of the ovarian vessels. The patient bore the operation very well, and the wound healed without any suppuration.

There was some herpes on the lips and face before operation, and on the 23rd there was a slight attack of facial erysipelas, spreading in butterfly shape over the nose, cheeks, and forehead. The patient was transferred to the

A, Abscess cavity; B, central necrotic myoma; C, cervix; D, uterine cavity; E, abscess cavity.

isolation wards, but the erysipelas rapidly subsided. It produced very little disturbance of temperature and had no effect at all upon the abdominal incision.

On January 2nd, 1914, she was transferred to our semi-convalescent hospital, five miles distant in the country, whence she was discharged cured on January 24th.

REPORT ON PARTS REMOVED.

The uterus after removal measured 5½ in. in length and 5 in. in breadth. The uterine cavity lay posteriorly, and the anterior uterine wall was occupied by an interstitial tumour situated well above the cervix. Well marked fluctuation was perceptible in the tumour, and an exploring syringe withdrew pus. From this no bacterial growth was obtained on cultivation. The specimen was hardened in formalin for two or three days and then a sagittal section was made. The appearance of the specimen on section is represented in the accompanying drawing. The stretched-out uterine cavity is seen lying behind with a greatly thinned posterior wall. The endometrium is normal and the uterine cavity empty. The anterior uterine wall is occupied by a spherical cavity 4½ in. in diameter. Lying loose in this cavity, and occupying not more than about half the space, is a necrotic myoma, dirty greenish-red in colour, but showing the usual fibrous structure of a myoma. The rest of the space was occupied by dirty-looking pus with offensive odour. Anteriorly the