least middle age, and in none of them was the disease diagnosed during life. In most of the cases, unfortunately, the history of the animal could not be traced for more than a short period before death; but in one instance, of great interest as regards the form and extent of the cirrhosis, there was a clear history of the horse for a period of six years prior to death.

Fig. 1.—Section of cirrhotic liver of horse ($\times 80$). 1. Remains of a lobule completely surrounded by the new connective tissue. 2. Liver cells at the margin of a similar lobule. 3. Plexus of small bile ducts. 4. A small bile duct in transverse section. 5. Small bile ducts penetrating between columns of liver cells. 6. Compressed and atrophied liver cells. 7. Finely fibrous new connective tissue. 8. A small artery cut obliquely.

In this case the liver was almost double the normal size, and its capsule was smooth and not sensibly thickened. The minute structure of the change is depicted in Fig. 1, from which it will be observed that the lesion is of the variety known as "biliary cirrhosis" in human pathology. The most interesting histological feature of this liver is the very abundant formation of small bile ducts in the new connective tissue. This horse had been in the possession of the Edinburgh Street Tramways Company for about six years, and it had during the whole of that period been regularly at work. Its general health was always good, and it never was under veterinary treatment until the fatal illness, which lasted five days.¹ Curiously enough, the immediate cause of death was rupture of the stomach, thus recalling the German enzootic cirrhosis previously referred to. There was no ascites in this case, and there was no appreciable jaundice.

The history of the animal is interesting, as it shows that extreme cirrhosis of the liver may be due to far more subtle causes than the prolonged and excessive consumption of alcohol. In this case, indeed, it seems scarcely possible to believe that the quality of the aliment had anything to do with the cirrhosis, for it need hardly be stated that there was nothing peculiar in the animal's diet, as compared with that of its stable companions.

Fig. 2 illustrates another very advanced case of cirrhosis in the horse. In this animal also the lesion had not been suspected during life, and the immediate cause of death was rupture of one of the large vessels within the chest. Here again there was no

dropsy and no appreciable jaundice. The most interesting feature in this case is the deposit of granular bile-pigment in the liver cells. Even after the cells have completely disappeared, their former position is indicated by the presence of little masses of this pigment in

Fig. 2.—Section of cirrhotic liver of horse ($\times 50$). 1. Broad bands of fibrous connective tissue. 2. A lobule surrounded by the new connective tissue. 3. Group of liver cells loaded with bile pigment. 4. Small masses of bile pigment left in new connective tissue after disappearance of the liver cells. 5. A small bile duct. 6. A small vein.

the new connective tissue. The liver in this case was about one-half larger than normal, and its capsule was smooth and not thickened. The lesion shown in Fig. 2 resembles the coarse or alcoholic cirrhosis of the human subject, but some parts of this same liver show a considerable number of small bile ducts in the cirrhotic tissue.

A RECORD OF THE PORRO-CÆSAREAN OPERATION, SHOWING ITS RESULTS IN ALL COUNTRIES.

By ROBERT P. HARRIS, A.M., M.D.,
Philadelphia.

Two hundred and fifty operations (1876-1888) in 15 countries with 115 deaths; 29 deaths in the first 50 cases, and only 9 deaths from the last 50 operations; 12 children lost out of the last 81.

Thus stands the latest record of this important abdominal operation; one that must grow in favour as an alternative to craniotomy when its marvellous diminution in death-rate shall become generally known. Eighty-one operations, 10 of them reported by letter, have been performed since January 1st, 1885, with 16 deaths and 1 suicide in an improving patient. There were, as far as known, 23 operations in 1885; 23 in 1886; 15 in 1887; and 20 in 1888. Eight of last year's cases have been received by letter thus far, and but one was fatal. The last 14 operations of 1888 saved all of the women and children but one each. No cases are noted where uterine rupture preceded the hysterectomy, as such operations are not Cæsarean. Great Britain is credited with 16 operations and 5 recoveries; her last five cases were successful to the women and children. Researches are still in progress and a tabular record will be published when the work is completed. The cause of science and humanity demands that this encouraging report in progress, should no longer be withheld from the medical world. The operations are credited as follows, namely:—

¹ For these clinical particulars I am indebted to Professor Baird, of the Veterinary College.

No.	Countries.	Cases.	Women Recovered.	Women Died.	Operations from Jan. 1 1885-1887.	Women Recovered.	Women Died.	Women committed Suicide.
1	Italy.....	85	43	42	19	14	5	—
2	Austria.....	61	42	19	24	22	2	—
3	Germany.....	41	21	19	13	11	1	1
4	France.....	17	6	11	0	0	0	—
5	England.....	12	5	7	5	4	1	—
6	Russia.....	7	5	2	7	6	1	—
7	United States..	7	2	5	3	1	2	—
8	Belgium.....	5	3	2	1	1	0	—
9	Switzerland...	4	3	1	2	1	1	—
10	Scotland.....	4	0	4	3	1	2	—
11	Holland.....	2	1	1	1	0	1	—
12	Australia.....	2	2	0	2	2	0	—
13	Spain.....	1	0	1	0	0	0	—
14	Mexico.....	1	0	1	0	0	0	—
15	Japan.....	1	1	0	1	1	0	—
		250	134	115	81	64	16	1

The most successful operators have been Professor August, Breisky, of Vienna, formerly of Prague, 8 cases, no deaths; Dr. Hubert Reidinger, of Brünn, 7 cases, no deaths; Professor Hermann J. Fehling, of Basle, formerly of Stuttgart, 6 cases, with 1 death; Professor Edoardo Porro, of Milan, formerly of Pavia, 6 cases, with 1 death; Professor A. J. Krassovsky, of St. Petersburg, 5 cases, with 1 death; Professor Domenico Chiara, of Florence, formerly of Milan, 9 cases, with 3 deaths; and Professor Karl von Braun-Fernwald, of Vienna, 16 cases, with 6 deaths; a loss, collectively, of 12 women out of 57.

The lowest rate of mortality will be found where operations are elective, and are performed in hospital, either before the full period of gestation is complete, or just after labour has commenced. Early operations, old style, have had a high rate of mortality in England, or a percentage of 75, against 25 in the United States; but early Porro operations appear by recent tests to promise as well in Great Britain as elsewhere. My researches have not led me to hope for a recovery of 95 per cent., as thought possible by Mr. Tait, but they have given an encouragement to believe in a possibility of 80 to 85 per cent. in very careful hands. As the Säger Cæsarean operation has saved 66 women out of 78 in Germany, I do not see why the Porro method, under the same degree of care, cannot accomplish a like result, when we look at the work in Austria for the last four years. Professor Breisky (8) and his two assistants (2) and (1) have operated 11 times without the loss of a child or mother.

TOXICOLOGICAL MEMORANDA.

POISONING BY WHITE PRECIPITATE.

THE following case of white precipitate poisoning is worth recording, as the circumstances enable one to state the exact dose swallowed, and the precise course taken from the first by the symptoms resulting therefrom.

Mrs. N., aged 48, in fairly good health, had been complaining of neuralgic pains about the shoulder, and had been ordered sal-ammoniac in 20-grain doses. Owing to an error on the part of a dispenser in a large dispensing establishment, powders were supplied containing 20 grains of white precipitate, instead of sal ammoniac. She took one of these powders suspended in water on the morning of December 1st, 1887. A few minutes after swallowing the dose she felt a burning pain in the throat and stomach, and a feeling of nausea. In about twenty minutes she began to vomit. She continued to vomit all day, and suffered constant burning pain in the throat and chest. Eight hours after taking the powder, purging set in, accompanied with violent abdominal pains and much straining. I was called to see her first about 7 P.M. I concluded, from the symptoms and from the appearance of the remaining powders, that a metallic irritant, probably white precipitate, had been taken. Subsequent analysis by Dr. Stevenson proved this to be the case. As vomiting had been going on for ten hours, I did not use emetics or stomach-pump, but endeavoured to allay the irritant symptoms. Vomiting and purging continued more or less for forty-eight hours, the stools after a time consisting chiefly of blood and mucus. At the end of thirty-six hours from the taking of the powder, the mouth began

to feel sore, and the saliva to flow freely. At the end of forty-eight hours, the gums became very swollen and covered with a grey fur, and ulcers began to form on the inside of the lips and cheeks. The symptoms of mercurial stomatitis rapidly increased, and reached their height on the fourth day, by which time the lips, cheeks and tongue were very swollen, and there was extensive brawny swelling over the parotid and submaxillary regions. Numerous ulcers had formed on the inside of the lips and cheeks, and under the tongue. Saliva ran freely from the mouth, and the breath was excessively fetid. About the eighth day the mouth symptoms began to subside, but the ulcers were not all healed till the beginning of the fourth week. Neuralgic pain in the teeth and jaws troubled her much during this period. A marked trace of albumen was found in the urine on the third day, and did not quite disappear for six weeks. During the latter part of the first week her condition appeared very critical, owing to pain, sleeplessness, and inability to take food.

The main treatment was the use of mouth washes of Condy's fluid and chlorate of potash, the internal administration of chlorate of potash, and subsequently of iodide of potassium, and careful feeding. Dr. J. B. Ball saw the case with me frequently during the acute stage.

A. G. SANDBERG.

Brixton Hill, S.W.

BENZOLE POISONING.

A. T. was brought to the infirmary about 12.30 A.M. on October 27th, 1888.

His history was that, feeling unwell, about 7 o'clock he sent a friend to a chemist's for some castor-oil and peppermint, after taking which he complained of its disagreeable taste, and almost immediately vomited. The smell of the vomit was described as like gas. His friend then left him, and, on returning at 9.30, he found the patient unconscious. After some delay he was brought to the infirmary. On admission he was unconscious, pale, pulse small, weak and rapid; breathing slow; pupils equal, not reacting to light; skin moist; his breath smelling strongly of benzole. The stomach was washed out with the stomach-pump, the passage of the tube causing violent vomiting. The vomit contained a quantity of small oil globules, which, on applying a lighted match, took fire. Brandy and ammonia were given at frequent intervals, and between 3 and 4 o'clock he became quite rational. At 10 A.M. he was quite conscious and intelligent; said he remembered nothing since he took the oil and peppermint; the breath smelt almost as strongly as before. From this time he improved, the smell of the breath getting fainter, but it was distinctly perceptible at 10 A.M. on the morning of the 29th—that is, sixty-two hours after taking the oil. On making inquiries at the chemist's where the oil and peppermint was purchased, it was ascertained that on the same shelf, next to the peppermint bottle, was one containing benzole, and, instead of peppermint, benzole was mixed with the castor-oil. It is estimated that about three or four drachms of benzole were taken.

C. AVERILL,

Senior House-Surgeon, Macclesfield Infirmary.

SURGICAL MEMORANDA.

WOUND OF RADIAL, WITH HIGH BIFURCATION OF BRACHIAL.

As the following is a somewhat rare condition, it may possibly interest readers of the JOURNAL.

L. P., aged 13, was admitted on June 4th for an incised wound in front of the arm, two inches above the elbow. This was caused by a fragment from a bottle of soda water, which burst while he was opening it. The wound was two inches long and a quarter of an inch wide; it extended downwards and outwards in front of the biceps. A large quantity of blood had been lost before admission, in spite of the application of an improvised tourniquet. The patient was at once etherised, and the wound carefully enlarged; at the bottom of this two large arteries were seen lying side by side; the outer of the two was wounded. The radial was ligatured above and below the bleeding point, and then divided. The edges of the wound were brought accurately together by horsehair stitches, and a dry boracic lint dressing applied; the wound healed by first intention. No radial pulse was to be found in the wrist seven-teen days after the operation.

W. LEES, M.R.C.S. Eng.,
House-Surgeon, Chelsea Infirmary.