Clinical and other Notes

diagnosis in these cases is seldom possible for twelve hours or longer, but they recommend that operation should not be postponed on this account.

(2) The mode of production of the rupture.—As a result of experiment in animals, B. F. Curtis, of New York, came to the conclusion that such an injury is not of the nature of a true rupture, i.e., a bursting of the wall of the gut over its contents, but a contused and lacerated wound caused by the gut being crushed between the contusing body and the bony parts. From this it would appear that a rupture is more likely to be produced when the gut is empty. These conclusions were amply supported by the ragged and contused appearance of the edges of the perforation. As the accident occurred before breakfast the jejunum was to all intents practically empty.

I am indebted to Lieutenant-Colonel L. Wood, R.A.M.C., for his kind permission to publish these notes, and to Captain C. P. Chambers, R.A.M.C., for his skilful administration of the anaesthetic.

A CASE OF SYPHILITIC BASAL MENINGITIS.

By Captain V. J. BONAVIA.

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It is well recognized that the severe headaches which sometimes occur after a primary chancre is healed, and before the secondary stage has developed, may be due to some meningitic conditions, and the following case is of clinical interest as it affords evidence that definite neuro-syphilis may appear in the secondary (and even early secondary) stage of syphilis, as well as in the late tertiary stage. It also illustrates the tendency of the syphilitic virus to settle in a previously damaged tissue.

The patient, Corporal M., gives a history of having been in perfect health up to April, 1917, when he became involved in a shell explosion by which, he states, he was "knocked unconscious" and buried in the debris, from which he was eventually "dug out." He suffered from severe concussion and its after-effects, for which he was admitted to hospital. He was under treatment in various hospitals until January, 1918, when he was invalided from the Service for "shell-shock" and awarded a full pension.

He apparently made a good recovery and re-enlisted in the Army in September, 1919. He suffered from malaria and sandfly fever in Mesopotamia in 1920, and on both occasions severe headache was a prominent symptom, which did not clear up for an unusually long period. Subsequently, except for one admission to hospital for "myalgia" in June, 1923, he was in good health, until he contracted syphilis in July, 1923. The dates of the appearance of the manifestations are significant as indicating a severe and virulent infection.

July 23: Exposure to infection. August 6: Appearance of primary
sore (fourteen days' incubation); August 19: Secondary rash. On this date he reported sick and was admitted to hospital.


Treatment.—Energetic local measures. Intra-muscular injections of sulfarsenol and mercurial cream. The primary sore was healed by September 24, and he was discharged hospital to duty on October 10, to continue treatment as an out-patient.

On October 16 his blood gave a strongly positive Wassermann reaction.

By October 29 he had received in all 3·02 grammes of sulfarsenol and seven grains Hg. All symptoms had cleared up and he had thirty days' rest from treatment, followed by fourteen days' rest. He states that during this rest headaches returned.

On September 7 a second course was commenced and he received, in all, 2·46 grammes of sulfarsenol and six grains Hg. The last injection was on February 1, 1924. Soon after treatment was stopped the headache again returned. He was admitted to hospital and transferred to the Royal Victoria Hospital, Netley, on February 18 as "mental." I examined the patient immediately and made the following notes:

"Temperature 101°. Pulse 64. Mentally dazed. Answers questions vaguely, and, at times, irritably. Unable to stand unsupported on account of giddiness. Very acute headache with violent pain behind the eyes, at back of neck and on top of head. Vision bad. Complains of seeing coloured figures before his eyes. Very acute trigeminal neuralgia on both sides. The pain is so severe as to cause him to cry out loudly at times. Secondary syphilitic rash on chest and back. General enlargement of lymphatic glands. Hair falling out."


Ophthalmoscopic Examination.—Marked double optic oedema. Discs swollen generally with much injection, the margins merging into hazy retina with vessels curling over edges. Venules engorged, wavy, and dipping into exudate. Occasional flame-shaped hæmorrhages near discs, especially the right.

Lungs, Heart, Abdomen.—Nothing abnormal detected. On the strength of the history and the ophthalmoscopic examination, I diagnosed basal meningitis of syphilitic origin and at once commenced anti-syphilitic treatment as follows:
Pil. hydrarg. gr. 2 b.d., KI gr. xv. t.d.s., increased later to gr. xx t.d.s. Morphia gr. $\frac{1}{2}$ nocte.

The following extract from Army Form I 1237 will show the further treatment and progress of this case:—


February 25: 0·3 gramme N.A.B. (914) intravenously. This, as expected, aggravated the patient's condition somewhat and he had a very bad night with acute pains in the head. Morphia gr. $\frac{1}{2}$. February 26: Feeling better. February 27: Fairly good night. Pains in head distinctly less. March 2: Ophthalmoscopic examination showed condition of optic discs worse. Lumbar puncture performed. Thirty-three cubic centimetres cerebrospinal fluid withdrawn. Pressure markedly high. Fluid slightly turbid. 0·4 gramme N.A.B. (914) intravenously. March 3: Much better night. X-ray examination showed no abnormality in sinuses or skull. March 4: Laboratory report on cerebrospinal fluid withdrawn on the 2nd inst. Cell count: 218 per cubic millimetre. Lymphocytes predominating. Globulin increased. March 9: Sigma reaction cerebrospinal fluid positive in highest dilution $++$. March 10: 0·6 gramme N.A.B. (914) intravenously. No reaction. Patient sleeping much better. March 17: 0·6 gramme N.A.B. (914) intravenously. Patient states that his headaches have now disappeared. March 24: 0·8 gramme N.A.B. (914) intravenously. Patient is now convalescent. His mind is quite clear and all the physical signs of meningitis have completely disappeared.

Ophthalmoscopic Examination.—Optic oedema practically gone. Physiological cup now visible. Margin of discs clearly defined except for slight blurring at nasal sides. Veins normal.

April 4: Patient has been up and walking about during the last few days. Symptoms of salivation have appeared, due to Hg, which has been taken regularly since admission, in the form of Pil. hydrarg., 2 grains twice daily. Slight diarrhoea with trace of blood in stool. Hg and KI stopped. Rest in bed. 14th: Sigma reaction (blood) negative. Patient up and walking about. April 23: Complains of slight dizziness and headache. April 25: Provocative dose 0·3 gramme. N.A.B. (914) intravenously. April 26: Cerebro-spinal fluid examined. Laboratory report states: "Cells eighteen per cubic millimetre. Globulin normal. Sigma $++$." (Compare with reports on March 4, 1924, and March 9, 1924).

In the view of the tendency to a recurrence of headaches in the intervals of active treatment, and having regard to the laboratory findings at this examination of the cerebrospinal fluid, it was decided to give another course of large doses of N.A.B. (914) intravenously, together with a second course of Hg and KI by the mouth, as follows:—


The patient's condition was now extremely satisfactory and only good results appear to have attended the combined administration of large doses of N.A.B. (914) with mercury and potassium iodide.
June 5: Report on cerebrospinal fluid: Cell count less than nine per cubic millimetre. Globulin not increased. Sigma reaction faintly positive. Ophthalmoscopic examination showed no sign of incipient atrophy. The optic discs and fundi were normal. Vision acuity was unimpaired. Though the disease cannot yet be considered as cured, it is under complete control, and it is hoped that cure will eventually result under continued routine anti-syphilitic treatment. It would appear that, as the result of the concussion sustained in 1917, this patient's cerebral tissues presented an area of diminished resistance to infection, which accounted for the severe and persistent headaches that formed a prominent symptom during the attacks of malaria and sandfly fever. Similarly, it is reasonable to assume that this previous injury was a definite factor in causing meningitis in a case already receiving the recognized anti-syphilitic treatment. The condition of the optic discs, a cell count (cerebrospinal fluid) of 218 per cubic millimetre and a strong positive sigma reaction (blood and cerebrospinal fluid) were considered as indications for energetic treatment.

Fortunately the patient stood this treatment very well and showed no sign of toxæmia, if one excepts the salivation due to mercury, which was produced intentionally.

The patient did not show the slightest trace of jaundice or other sign of intolerance at any time.

Signs of increased pressure followed the first injection of 914. The second injection was preceded by lumbar puncture and no reaction followed.

From the day of admission to hospital he was brought, as rapidly as possible, under the influence of mercury and iodides.

He improved so much that no reaction followed the third injection of 914, and from this onward the case progressed satisfactorily without the slightest difficulty.

I am greatly indebted to Major W. E. Marshall, M.C., for his valuable advice and assistance in the care and treatment of this patient and to Colonel W. R. Blackwell, C.M.G., R.A.M.C., Officer Commanding, Royal Victoria Hospital, Netley, for kind permission to publish the case.

NOTES ON THE CHLORINATION OF MILK.

By E. P. MINETT, M.D., D.P.H., D.T.M. & H.

I have for some time past experimented with chlorine in various forms in order to find if possible an efficient and easily applied method of rendering milk safe for domestic consumption, without having to boil it as is usual in the Tropics. During the last eighteen months I have tried various samples of milk but with very unsatisfactory results. Mansell [1] describes a process for the chlorination of milk, and my results agree with