4 lb. in weight, and was able to walk ten miles a day, while her temperature remained normal. The physical signs, however, were unaltered, except that the breath sounds were now quite absent in the dull area. By Christmas she had gained 8 lb., in spite of a febrile attack of "bronchial catarrh" in November—for which she was attended by Dr. Fraser, of Carlton—and felt very well, but was again spitting large quantities of phlegm. Suspecting hydatids, I repeatedly sought for fragments of membrane in the sputum, but in vain. During the whole of February she was in bed, under Dr. Fraser's care, with signs of general catarrh of the left lung, fever, and incessant cough. When I saw her again in April she was, therefore, not so well, had lost flesh, and complained of pains in the front of the left half of the chest and in the axilla, while she coughed a good deal of frothy, watery fluid. There was now heard pleuritic friction in the axilla outside the dull area, which had slightly extended. Although there was no history of syphilis, she had been taking potassium iodide in large doses for nearly four months.

Diagnosis.—Feeling that hydatid cyst in the pleural cavity in front of the left lung was a probable diagnosis, I now urged her not longer to postpone surgical treatment, which Mr. Morley Willis after consultation agreed to carry out, deliberate operation being considered preferable to a preliminary exploration by a trocar.

As will be seen by Mr. Willis's account the operation confirmed the diagnosis. It is probable that the epigastric pains, which occurred a year before the thoracic troubles and at first appeared to have no connexion with the latter, may have been due to hydatids in the neighbourhood of the stomach and liver.

It should be added that the patient before consenting to the operation consulted Dr. Lauriston Shaw, who agreed with the diagnosis and proposed treatment.

[January 31st, 1903.—Since these notes were sent to the BRITISH MEDICAL JOURNAL, I have had in hospital a man in whom the symptoms and signs were identical with those above-mentioned, with two exceptions. On the one hand there has been no expectoration, on the other there is paralysis of the left vocal cord. This week Mr. Hogarth explored the second left intercostal space and revealed a solid mass of growth, probably sarcoma. The patient has had no visibly enlarged glands, no fever and but slight wasting. The involvement of the recurrent laryngeal nerve was the one positive sign pointing to new growth.]

Surgical Notes by Mr. W. M. WILLIS.

The foregoing are Dr. Ransom's notes of this interesting case. My connexion with it began on May 6th, 1902, when I saw the patient with Dr. Ransom with a view to operation.

Having heard the history, I carefully examined her chest and found the conditions described still present, namely, an area of absolute dullness at the left apex in front, extending into the axilla, and continuous below with the heart dullness. Over this area were to be heard breath sounds and vocal resonance only very faintly, and there were no rales or other adventitious sounds.

I failed to satisfy myself completely on this examination, which was the first I had made of the patient, whether the area of dullness was due to a condition of the lung itself, or to a condition of the pleura and not in communication with the lung, or of an affection of the pleura plus a communication with the bronchus. However, I expressed my willingness at the patient's request, and on the suggestion of Dr. Ransom, to explore this dull area.

She was admitted to a private nursing home in this town, and a day or two before operating I took the opportunity of again very carefully examining her chest. The conditions were unaltered, but I observed that there were distinct signs that the heart was slightly displaced downwards and to the right, so that the apex beat was felt in a space lower than is usual, and somewhat internal to the normal position. I therefore felt justified in concluding that there was a condition of the pleura, with or without a small communication with the bronchus, and that exploration was entirely justifiable. With regard to an exact diagnosis, I did not feel that it would be possible to affirm much. That we could exclude a condition of the lung itself was an opinion that the examination warranted, but what condition of the pleura existed was by no means certain. The length of the history of the condition was opposed to new growth, at least of a malignant variety, and the exceeding uncommonness of a localized

pleurisy or empyema in this situation rendered such a diagnosis improbable.

The fact of the patient having been resident in Australia was worth bearing in mind, and, having excluded other conditions, this somewhat favoured the idea of hydatid cyst. I was therefore, before operating, in this position—that the patient had a condition of the left apical pleura which was probably not inflammatory, probably not new growth, and that there was reason for supposing, at least, that it might be a hydatid cyst. This will appear sufficiently vague, but I felt that it was enough to justify an exploratory operation.

Operation.—Accordingly, on May 17th I proceeded to investigate the condition. Chloroform was administered, and the arm was extended at a right angle with the chest. An incision was then made some 4 in. in length, the centre of which corresponded with the second intercostal space in the mid-clavicular line. The fibres of the pectorals were separated and held aside with retractors, and the intercostals of the second space were then defined. The intercostals were incised and the parietal pleura exposed. The needle of an exploring syringe was then thrust into the dull area at the point indicated, and the piston of the syringe being withdrawn, perfectly clear fluid filled the syringe. The opening in the intercostal space was now enlarged, and the finger was inserted into the cavity, from which a large quantity of fluid was issuing. The downward limit of the cavity could be reached, and the pericardium felt with the heart pulsating within it, but the upward limit could not be reached, it appearing to occupy the whole apex of the thorax on this side. The whole cavity was smooth-lined, and was a hydatid cyst of the pleura, with apparently no communication with the lung; but the lung was displaced by the pressure of the cyst, which contained upwards of a pint of fluid. A large-size drainage tube was inserted, and the skin incision closed except where the tube issued.

After-progress.—The wound was dressed daily, and in the course of ten days or a fortnight the whole of the cyst wall was expelled through the opening aided by traction as it presented. The bulk of it was expelled on one day entire, and was as large as the human urinary bladder. Vomiting was extremely troublesome for two or three days, so much so that for twenty-four hours she was fed per rectum. The lung has gradually expanded, and the present condition of the patient is as follows: There is no cough, she can walk ten or twelve miles with ease, eats and sleeps well, has put on flesh. There still remains, however, a sinus in the chest wall, leading into a cavity which appears to be as large as a good size orange; so that, though there has been some recovery of the lung and it has expanded considerably, it has by no means completely done so. From the sinus there issues a thin sero-purulent fluid in small quantity, but necessitating daily dressing by the patient. It is probable that the cavity will only be obliterated by allowing the chest to fall in, and to this end it will be necessary to perform another operation, and remove portions of several ribs probably of the second, third, and fourth.

[February, 1903.—Since the above was written I have removed some 2½ in. of both the second and third ribs in front, and as the parts removed constituted the entire bony boundary of the remaining cavity there is every reason to believe that in time it will become quite obliterated by the falling in of its front wall. This was done on January 15th and the patient is progressing well.]

THE EFFECTS OF VACCINATING DURING A MENSTRUAL PERIOD.

By E. RUMLEY DAWSON, L.R.C.P. LOND., M.R.C.S.,
Leyton.

THE following case, in which haematemesis was associated with menstruation, appears to be of interest:

R. R., aged 29, single, hotel chambermaid, had been primarily vaccinated as an infant. She was a robust, healthy, and not anaemic woman, who had always been very regular in her menstruation. Each menstrual period normally lasted six full days, during which the discharge was profuse, and of a bright red colour. The periods recurred every twenty-eight days with great regularity. She suffered occasionally, perhaps two or three times during a year, from slight indigestion, which was not sufficiently severe to cause her to consult a doctor. She was not a regular dyspeptic, and did not have pain after her food; she was not a bilious subject, and was not liable to vomiting. She was of very abstemious habits.

She was, and had been for some time past, very well indeed, when about

4 p.m. on October 26th, 1901—the second day of her menstrual period—she was revaccinated. She fainted at the operation, so she lay down for two hours. When she got up she felt dizzy, and then fainted again. She then noticed that her period, which had been flowing freely as usual, had stopped completely and did not return again. The vaccination “took well.” She had, to use her own expression, “a bad arm with a lump in the armpit.”

The next period (November, 1901) came exactly to time; it consisted of the slightest possible show, only a smear on one diaper on the one day only; it was not a proper “period” as “blood was almost absent.” The December period was exactly similar, and so were the periods corresponding to the early months of the year 1902 up to and including the April period.

She had not felt really well since the vaccination and the consequent practical cessation of menstruation, her symptoms being those of a premature menopause. She could not sleep, was troubled with hot flushings; was always feeling giddy, and felt inclined to fall, so that she often had to sit down while at her work. She, too, complained greatly of palpitation since the new year.

On April 28th she began to have headache and to feel tired and heavy; on the night of the 29th she fainted and vomited once; on the 30th she vomited during the forenoon, bringing up food; she felt faint after doing so; later she brought up a little glairy fluid.

About an hour later she was again sick, when she brought up into a clean empty chamber utensil two full pints of very dark-looking blood, after which she fainted and was put to bed; she was then given a little brandy for the faintness. Her fellow servants thought it was “those things coming upwards.” A doctor found her to have some epigastric pain, and diagnosed gastric ulcer. About 3 p.m., that is, soon after being put to bed, her menstrual period came on; it was profuse, and like her periods before the revaccination in October.

She was allowed nothing but ice and iced milk and water. On May 4th, not having again vomited, she was moved from the hotel to her home. She travelled by ordinary train and stood the journey well; she was in no way collapsed. Examination showed she was quite free from any organic disease; she did not look anaemic; there had been no return of either vomiting or haematemesis. There was not, and had not been, any purpuric rash on the body; her feet and legs were not swollen; there was only very slight epigastric tenderness. She was ordered bread and milk, cocoa and milk, and beef-tea and bread.

The next day, May 6th, the menstruation stopped—that is, on the sixth day of its flow; it was, therefore, her first normal period since her revaccination, more than six months previously. She was allowed fish this day, and thenceforward she ate meat and other solid food regularly without discomfort.

Her next period began at 3 p.m. on May 27th, 1902—that is, exactly twenty-seven days since the former period began; there was more pain than she had had for years past. The period lasted four days only, but was so profuse each day that she lost as much as she did usually in the six days.

The subsequent periods up to the end of July have been normal, both as to amount and time. She is now (August 10th) quite well.

I have not been able to find any reference to the influence of vaccination on menstruation. This patient, however, fainted at the operation of vaccination, and the menstrual period was arrested long before the vaccination took, therefore the cause of the arrested menstruation may be ascribed to the shock of the operation and not to the action of the vaccine *per se*.

Shock is known to be one cause of amenorrhoea; as Herman¹ says: “Causes of ill-health—such as chill, shock, fatigue, etc.—acting about the time at which menstruation ought to come on, may prevent its doing so, or during the flow may stop it.”

It is to be noted that the amenorrhoea did not follow as a result of the haematemesis, but, in fact, preceded it; while haematemesis, which, when due to gastric ulcer especially, is often followed by amenorrhoea, was in this case followed by profuse menstruation.

The case raises the point as to whether the amenorrhoea led (as shown by the haematemesis) to a gastric ulcer. Such a causation for gastric ulcer has been suggested by some authorities. Against the diagnosis that the haematemesis was due to a gastric ulcer are the facts that the patient had been quite well for some time, and had had no recent dyspeptic symptoms or gastric pain. She was in good general condition and not wasted, and she was neither anaemic nor chlorotic. The fact, too, that she was able to make a journey of some seven miles four days after without being collapsed, or inducing vomiting or haematemesis, goes to show that such a severe lesion as an ulcer of the stomach wall was not present. The haematemesis being looked upon as due, not to an ulcer but as symptomatic of incipient menstruation, she was allowed solid food within the week, and this was eaten without any subsequent discomfort. What then was the cause of the vomiting of blood which ushered in the return of her normal menstrual periods?

Dr. Wilks used to say the four causes of haematemesis were, two common, gastric ulcer and cirrhosis of the liver; two un-

common, cancer of the stomach and vicarious menstruation. Was this, then, vicarious menstruation? or, as her fellow servants termed it, “those things coming upwards?” It certainly shortly preceded a menstrual period, which was a profuse one; and so the haematemesis did not actually replace the menstruation, but it certainly seemed symptomatic of its incidence.

Vicarious menstruation is a subject which the obstetric specialist discredits but which many general practitioners believe they have seen cases of.

The lesson of the case seems very evidently to be that it is not advisable to vaccinate at or during a menstrual period except under circumstances of great emergency.

REFERENCE.

¹ Herman, *Diseases of Women*, p. 580.

PRELIMINARY ACCOUNT OF THE INVESTIGATIONS OF THE LIVERPOOL EXPEDITION TO SENEGAMBIA (1902).

BY
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With a Note by H. E. ANNETT, M.D., D.P.H.

As has already been reported in these columns, one of us in December, 1901, found a trypanosoma in the blood of a European, at that time under the care of Dr. R. M. Forde, Principal Medical Officer at Bathurst, Gambia, West Africa. A description of the parasite, which was named *T. gambiense*, and of the case in which it occurred, was published in the last number of the *Thompson-Yates Laboratory Report*. The patient returned to England in July, 1902, and placed himself under the care of one of us, but since our departure for West Africa has been under Dr. H. E. Annett's observation at the Liverpool Laboratory.

As pointed out previously in the *BRITISH MEDICAL JOURNAL* of September 20th, 1902, the most notable features presented by this case were:

1. Its chronic course.
2. The general wasting and weakness.
3. The irregular rises of temperature, never very high and of a relapsing type.
4. The local oedemas.
5. The congested areas of the skin.
6. The enlargement of the spleen.
7. Constant increased frequency of pulse and respiration, associated with no definite organic lesion.

The extraordinarily chronic course of the disease in this case, and the possibility of easily overlooking the parasite which is to be regarded as its cause, and which had never been previously accurately described as occurring in man, combined with the discovery of a parasite apparently identical with that found in the European, in a blood preparation taken from a native child at Cape St. Mary, near Bathurst—these considerations led the Committee of the Liverpool School of Tropical Medicine to appreciate the possible importance of this disease of Europeans and natives to tropical medicine, and accordingly dispatched a second expedition with the object of determining the incidence, distribution, and etiology of trypanosomiasis in Senegambia.

The expedition arrived in Bathurst early in September, and remained there for three weeks. During this time many natives were examined for trypanosomata with negative result. *T. lewisi* was frequently seen in rats, and *T. sanguinis* in frogs. An unidentified trypanosoma was seen in several African canaries, and others, also unidentified, were observed in frogs and tortoises.

The members then proceeded to Cape St. Mary, about seven miles from Bathurst, in British Kommo, where all the horses in the native town, six in number, were found to harbour trypanosomata. One of these horses when seen was almost *in extremis*, and the native in charge said that it had been in this condition for twenty days. It died six days later. The symptoms were briefly as follows: Marked emaciation, extreme weakness, general lassitude, laboured breathing, and constant fever, usually about 103° F. No oedema, haemorrhages, nor discharge from mucous membranes was observed. Trypanosomata were very numerous, as many as 29,000 per cm. The day before death the temperature dropped to 98.4°, and no parasites were seen in two moist cover-slip preparations.

The other horses were in constant use, and showed no sym-