Osler characterizes the condition as "marginal crepitations" or as "crepitant râles common at the bases," placing it under chronic bronchitis. But broncho-infiltration appears to be a distinct condition, and I think its description should be as definite as that of emphysema, infiltrated bases being a constant source of danger.

CONDITIONS AFFECTING THE LUNG SUBSTANCE.

Emphysema.

Symptom: Shortness of breath on exertion.

Sign: A prolonged harsh expiration. The ratio of expiration to inspiration is often 2 to 1, and this, together with the barrel-shaped chest and the hyper-resonant percussion note, is distinctive.

Gassing.

The effects of gassing are apparently to destroy the vesicles and set up peribronchial fibrosis.

Symptom: Shortness of breath on exertion.

Signs: Here the breath sounds of the child are heard in the adult, with loss of vesicular element, harsh inspiration, and feeble, but not prolonged, expiration. A raised percussion note, not hyper-resonant, and good chest expansion, not diminished as in emphysema, are present. Adventitious sounds are usually absent. The presence of coarse, toneless, interrupted rhonchi is a bad sign.

Fibrosis.

Symptom: Shortness of breath on exertion, with one-sided chest wall retraction.

Sign: Impaired percussion note, feeble breath sounds, and increased vocal fremitus.

Pneumonia.

Symptom: Rapid breathing ending in a grunt.

Sign: Harsh inspiration with fine crepitations, and prolonged bronchial expiration. The picture of pneumonia is one of flushed face, dilated pupils, working alae nasi, and rapid breathing, whilst the impaired percussion note and the increased vocal fremitus and vocal resonance of consolidated lung are unmistakable.

Tuberculosis.

Symptoms: Slight haemoptysis, distressing cough, loss of flesh and energy, and evening rise of temperature.

Early Signs: (1) Some impairment of the percussion note. (2) Loss of vesicular element, and the tendency of the expiration to become bronchial. Later, the signs of impaired dullness, post-tussive small sounds at the apex, increased vocal resonance and vocal fremitus are easily detected, while still later come cavitation and surrounding consolidation which set up cavernous breath sounds, increased vocal resonance, and whispering pectoriloquy.

In tuberculous consolidation, especially when healing, the small rhonchus which I would term a *squeak* is often present. It seems almost diagnostic.

Regarding tuberculosis, I think its frequency is sometimes overestimated, and I would place the cases of pleurisy which eventually become tuberculous at 50 to 60 per cent. With regard to tuberculous cervical glands, usually secondary, the percentage is probably not more than 30, the rest being cases of chronic sepsis from oral infection.

In pleuritic or glandular involvement organisms other than those of tubercle should be remembered. And when sending sputum for examination for tubercle bacilli the presence of these other organisms should be asked for. Some authorities rely upon x-ray diagnosis at the hilus. But that these glands may be enlarged by organisms other than the tubercle bacillus should not be forgotten. It is possible that at the hilus the percentage of tuberculosis is overestimated.

CONDITIONS AFFECTING THE PLEURA.

If we regard the lung as encased in two paper bags, one within the other, we gain a rough idea of the pleuritic coverings, the opposing sides of which work in harmony in the normal movements of the lung. If they become roughened by inflammation we have pain and discomfort. If they are separated by effusion, pus, or air we have replacement of lung, and, naturally, absence of lung signs and sounds.

Pleurisy.

Symptom: Pain in the side on coughing.

Signs: Occasionally fine crepitations are heard resembling those of pneumonia, but these seem nearer to the ear through the stethoscope. More generally a friction sound is heard, whilst in chronic pleurisy the sound is creaking.

Pleurisy with Effusion.—When the pleuritic coverings are separated by a serous (watery) effusion, the fluid gives a flat resisting percussion note, and the lung being absent there is absence of breath sounds, of vocal fremitus, and vocal resonance.

Empyema.—Empyema being a purulent effusion, practically the same conditions prevail as in serous effusion.

Pneumothorax.—Here the pleura is torn and air replaces the lung, and there is a tympanic percussion note, with absence of breath sounds, marked collapse of the patient, and marked pain in the affected side. In some cases the breath sounds may be amphoric.

Chronic Pneumothorax.—In two cases recently seen of chronic pneumothorax, following tubercle and empyema, both of some years' standing, and in which the diagnosis was confirmed by x-ray pictures, the characteristic sign was a distinctly musical inspiration and expiration. In one case the coin sound was very marked.

New Growths.—This is a group apart, and is of rare occurrence, usually secondary to growths in other parts of the body, and need not be dealt with in detail at the present time.

SUMMARY.

1. The bed-rock of pulmonary diagnosis is the normal breathing of the child.
2. The normal breath sounds of the child are harsh, of the adult vesicular.
3. The vesicles are not fully developed till puberty or some years afterwards.
4. There is more mischief at the base of the lung than at the apex.
5. Lung examinations should always include the lower lobes.
6. Post-tussive small sounds at the apex indicate tubercle, at the base pus infiltration.
7. A doctor should put a bright needle into a dull base, as an unresolved pleurisy may be a missed effusion, and an unresolved pneumonia a missed empyema.

PUERPERAL INSANITY.

NOTES OF

CASES TREATED BY INJECTIONS OF OVARIAN EXTRACT (WHOLE GLAND), FROM THE DUNDEE MENTAL HOSPITAL, WESTGREEN.

BY

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LATE ASSISTANT MEDICAL OFFICER. ASSISTANT MEDICAL OFFICER.

I.—BY DR. WILSON.

THE following cases are recorded to illustrate the value of the hypodermic injection of ovarian extract in puerperal insanity and possibly in other forms of acute confusional insanity. It probably acts by bringing about the re-establishment of menstruation.

CASE I.

Mrs. A., aged 25, was delivered of her first child in January, 1922, and within a week developed acute confusional insanity. This continued until she was admitted to Westgreen Mental Hospital, six months later, in an emaciated state. She remained in a condition of acute mania for the next twelvemonth, during which time she had calmer periods and gained weight, but only to lose ground again. There was no menstruation. At the end of the nineteenth month a hypodermic injection of extract of ovary corresponding to 30 grains of fresh gland was given, and at intervals of from four to nine days successive injections, amounting to eight in all. From the first injection improvement was seen, and within six weeks she was up and going about, rational, interested in her surroundings, sleeping well and eating well. Menstruation began again, and in the twenty-third month since her breakdown she was discharged home as cured. She has since undertaken her regular household duties with success, and has undergone another pregnancy with no trouble.

CASE II.

Miss B., aged 22, gave birth to a child in June, 1922, and ten days later she broke down. She was admitted immediately as a typical case of acute puerperal insanity. During the first three months of her illness her mental state was unchanged, and there was no menstruation. The extract of the ovary was given

hypodermically and then replaced by corpus luteum given by the mouth; it was continued for two months. She menstruated for the first time within a month of the administration of ovarian extract, and this coincided with improvement mentally. She was discharged home cured in the seventh month after she broke down.

CASE III.

Mrs. C., aged 24, was admitted in October, 1923, with five months' history of mental breakdown following on the birth of a first child in May. She was in a stuporose condition, confused, and took no interest in her surroundings. She was observed for a week and there was no change. Eight injections were given at intervals of up to seven days, and at the end of that time she was up and going about, sociable, and able to tell us about herself. She was discharged as recovered on January 12th, 1924. I have no notes regarding her menstruation, as I was not then fully alive to the importance of that function in this connexion.

CASE IV.

Mrs. D., aged 40, admitted in June, 1923, was restless, agitated, almost violent, and incoherent. There was history of ten months' mental hospital treatment in 1919. The child, which was not her first, was born in the summer of 1921; since then she had never been well, but no actual mental breakdown occurred until five months afterwards, when she lost control, but was not sent to hospital. She got better, but broke down again in the summer, 1923. It was noted that on admission the mammae were lactating, and a vaginal discharge was present, which cleared up on douching. In September and October a course of thirteen injections was given. Improvement was marked, she put on weight, and was discharged in January, 1924. Menstruation had begun again before she left.

CASE V.

Miss E., aged 32, was admitted in December, 1922, in a state of chronic mania. There was no history of pregnancy and no striae gravidarum. She had to be fed by tube for a time. She would hurdle over beds, tables, and chairs, and was very strong for her small physique. There was no change during eight months. The first injection of ovarian extract made her sleep like a log for thirty hours, during which time she hardly moved, nor had she any nutriment. This was in contrast to her usual extreme restlessness and insomnia, which even hyoscine failed to control. Twelve injections were given in nine weeks. She menstruated within a week of the first injection, the first since she was admitted. In three months she gained 21 lb. in weight. Improvement was marked, and she became a useful member of the hospital laundry staff. She was discharged to the care of a relative in February, 1924. For over a year now she has been in service, and keeps well.

I include this last case with the others because it is similar to puerperal insanity, and, I think, must be considered along with it. Criticism of the above cases will be directed to the fact that puerperal insanity often spontaneously clears up within nine months of its onset. Many authorities stress the point that sanity returns with the return of menstruation. The first case gives an uninterrupted period of nineteen months' mania, which cleared up with the return of menstruation. The rationale of giving ovarian extract (I write now with the advantage of two years' theorizing subsequent to the experiment) depends on its undoubted action as a promoter of menstruation. Granted that the administration of the injections may have coincided with a spontaneous recovery, especially in those cases with a short history, I would yet maintain, especially from Cases I and V, that the ovarian extract was the deciding factor. From a general survey of these cases and of others I would advance the following suggestions.

1. If the patient can be got to menstruate her difficulties are over.

2. This can be done by giving ovarian extract in sufficient quantity straight into the blood, as nature gives it.

3. The mental breakdown is due to a temporary deficiency in ovarian secretion, a deficiency which can be made up.

In conclusion, I should like to ask a question. The extract was given to other patients of different types experimentally. It had the effect of stimulating obesity. Are there any data available giving in figures the effect of ovarian extract on basal metabolism, in contradistinction to the action of thyroid?

II.—By DR. T. CHRISTIE.

I heartily concur with the observations made by Dr. Wilson on the treatment with ovarian extract of patients suffering from acute confusional insanity where pregnancy is the exciting factor. In my experience, however, I have found that these patients stand very well more intensive treatment than he advises. My method is as follows. For the first week a dose corresponding to 30 grains of fresh gland is given thrice daily; for the second week twice daily; for the third week once daily; and thereafter every

third day until the onset of menstruation; then once weekly till the next menstrual period.

I have also found ovarian extract useful in cases of confusional insanity coming on at the climacteric period. In these cases I have found the above dose every second day of great benefit—I record an example below. In two cases I have noticed signs of a toxic effect. The outstanding symptoms were a macular rash, chiefly over the chest, abdomen, and arms, inclination to become comatose, obstinate constipation, and in one case vomiting. Free purgation and cessation of administration saw both patients well in a week, and resumption of treatment saw no recurrence of toxic signs.

*Case of Acute Confusional Insanity with Pregnancy the
Exciting Factor.*

Mrs. W., aged 28. Mental symptoms had begun four days after the birth of her child; she was admitted to the poorhouse, and stayed there one month. After a fortnight at home she was readmitted there; she came eventually under my care in the tenth week of her illness. She was moderately well nourished. Mentally she was confused, lacked cerebral control, was shouting and singing, and unable to sustain a simple conversation. She had no memory, she refused food, and slept poorly. Intensive ovarian treatment was begun on the fourth day after admission, and within four days she was sleeping well. Three days later the restlessness diminished, and soon she was taking her food herself. During the month that followed her mental condition varied: sometimes she was noisy and confused, at other times quiet and rational. The spells of confusion became less and occurred at greater intervals; she gained weight and slept naturally. After two months' treatment she began to menstruate, and a remarkable change was noticed within four days from its onset. She became quiet and behaved in a rational manner, and her memory returned. She was discharged cured.

Onset of Menopause the Exciting Factor.

Mrs. F., aged 56. From the history received it was gathered that the menopause began about three and a half years before admission. She was stated to be light-headed, extremely talkative, asking senseless questions, and being sometimes delirious, at others stuporose. On admission she was depressed and stuporose and incoherent, and was treated on general principles. It was noticed after a time that she had spells of confusion at regular intervals. She would be acutely confused for about a week, then apparently recover, and act in every way as a rational woman, taking an interest in everything and working well. Her spells of mental confusion occurred regularly every three weeks, and inquiry elicited the fact that her menstrual periods had been at intervals of twenty-one days. One week before the next attack was due I gave her an injection every second day. She never had another attack, as I anticipated when each spell was due. And so for three spells. Then I omitted injection for two spells and she was discharged. No further attacks have been recorded.

We are indebted to Dr. William Tuach-Mackenzie, the superintendent of Dundee Mental Hospital, for permission to publish these notes.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

POISONING BY COPPER SALTS IN BREAD.

I was recently called to see a boy who had had a severe attack of vomiting followed by pyrexia. His mother showed me portions of a loaf of bread, in the centre of which was an irregular area of a light green colour about an inch in diameter. This, at first sight, I took to be "mould," but on further examination small fine metallic particles could be seen.

The loaf was bought from a high-class bakery where the bread is made by machinery, and delivered wrapped in damp-proof paper. It was bought on Saturday and cut on Sunday, the green colour being immediately noticed. As it was the only white bread in the house, it was cut down until no further green colour (which was thought to be "mould") could be seen, and the remaining portion was then partaken of by all the members of the family.

The boy, aged 5 years, the youngest member of the family, became violently sick two hours afterwards, when in bed and asleep. He vomited twice during the night, complained of discomfort in the stomach but had no severe abdominal pain. He suffers from habitual constipation, and had no diarrhoea. He was very sick again the next day, and became feverish, his temperature rising to 103° on the following day. When seen by me he was pale, and had a furred tongue, but his temperature had fallen to 97°, and he had no signs of any severe abdominal condition. He was well in a few days.

The boy's father stated that after eating the bread at tea-time, he did not feel any ill effects immediately, but did not want any supper. He had no vomiting, but diarrhoea began about noon on the following day, continued the next day, became very severe