then any inflammatory process which decreases the secretion must increase fatigue and lead to drowsiness; and if there is permanent necrotic destruction this theory would explain the permanent loss of energy which is met with so often as an after-effect in these cases.

III. That there exists a definite "sleep centre," and that this centre becomes involved in the pathological process. Various authorities put forward this theory, and very different are the sites they suggest for this "sleep centre." Other authorities maintain that the lethargy of epidemic encephalitis has no relation to normal sleep.

IV. That it is due to blocking of the aqueduct, leading to dilatation of the ventricles with fluid and increased pressure.

Whatever may be found to be the true explanation I think it will certainly not prove to be due to blocking of the free passage of cerebro-spinal fluid through the aqueduct. My reasons for saying so are:

(1) If a lumbar puncture be made in a case showing deep lethargy and all the fluid which will flow drained off, it will be found that the amount is quite as large as will be obtained from puncture in a case of similar duration which does not show lethargy.

(2) If in a deeply lethargic case the puncture be repeated daily the amounts of fluid obtained will be approximately the same, 40 to 60 c.cm. being the usual amount.

(3) If in a deeply lethargic case a lumbar puncture be made and the fluid allowed to flow until only a few drops a minute come away, and if then the patient's head be raised from the pillow and the chin elevated, so as to allow further drainage of the ventricles, the flow through the cannula will immediately increase and a considerable additional amount of fluid will pass off.

(4) If in a deeply lethargic infant, with open fontanelles, a lumbar puncture be made, the flow of the fluid can be immediately and markedly increased by pressure on the fontanelle. Removal of the pressure instantly retards the flow, which increases again with renewed pressure on the fontanelle.

I have not yet met with a case in which these tests gave any different result, even when the lethargy amounted to complete coma of several weeks' duration. That being so I think that blocking of the aqueduct as the cause of the lethargy may be definitely ruled out.

TREATMENT.

The course is so irregular, and is subject to such wide fluctuations, such sudden improvement in symptoms, only to be followed by relapses, that it is exceedingly difficult to form anything approaching a correct opinion on the results obtained by any line of treatment. This being so, it is only natural to find in the medical journals from time to time very glowing and enthusiastic accounts of the results obtained by some new (or often very old) therapeutic measure.

Many of the treatments suggested, and even enthusiastically recommended, can only be described as weird in the extreme. Yet I fancy most of us who have been called upon to treat any considerable number of cases have, doubtfully, employed some of these extraordinary treatments, the rationale of which we could not see, only quickly to abandon them.

[Dr. Robb then reported his results with very many lines of treatment. He was not satisfied he obtained any good results with hexamine; sodium salicylate; "fixation abscess"; diphtheria antitoxin; intravenous injections of the patient's own cerebro-spinal fluid; frequently repeated lumbar puncture and drainage; intramuscular injections of sterilized milk; and intravenous injections of "argotrope" (1 per cent. colloidal silver and 20 per cent. hexamine), as suggested by Marburg and favourably reported upon by Professor Wimmer. Marked relief in chronic cases of Parkinsonism and disturbance of sleep followed the continued administration of 1/100 grain of hyoscine hydrobromide three times a day by the mouth, but it was not curative, and the symptoms quickly returned on suspension of the treatment.]

Concluding, Dr. Robb said:

As a result of my experience in attempting to treat these cases I find myself in complete accord with Professor Hall when he says:

"At present any reliable therapeutics, either for the disease itself or for its many after-results, does not exist."

At the same time it is true that a great deal can be done to relieve the very many present troubles these patients suffer from by the judicious use of palliative measures.

ENCYSTED PLEURAL EFFUSION CONTAINING CHOLESTERIN.

BY

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THE following case may be of interest on account of the unusual occurrence of a large amount of cholesterol in an encysted pleural effusion.

Corporal N., aged 34 years, came under our care at the British Station Hospital, Rawalpindi, towards the end of March, 1924. He was complaining of pain in the left side of the chest due to fibrinous pleurisy on that side. There were no symptoms pointing to any lesion on the right side of the chest. Examination, however, showed an area of dullness extending to about two inches above the liver dullness in the right axilla. This dull area fell short of the spinal column by about two and a half inches posteriorly. The breath sounds were diminished. The heart was not displaced. The temperature was normal, and there was no expectoration.

Paracentesis followed by aspiration was performed, and 25 ounces of a brownish shimmering fluid were withdrawn. It contained crystals of cholesterol. No organisms were found nor hooklets of *Taenia echinococcus*. A culture was sterile. A differential blood count gave the following result:

Polymorphonuclear leucocytes	...	...	69 per cent.
Lymphocytes	...	...	24 "
Large mononuclears	...	...	4 "
Eosinophils	...	...	2 "
Basophils	...	...	1 "

The urine showed no abnormality. Nothing could be found to account for the presence of the large amount of cholesterol in the pleural effusion. There was no history of any lung or liver trouble, or of dysentery.

The patient was later transferred to a hospital in a hill station for further treatment, and was discharged from there as a convalescent to light duty. He again came under our observation early in January, 1925. He was then feeling fairly well, but complained of breathlessness on exertion, and inability to do any heavy work. The heart's apex was well inside the nipple line in the fifth left intercostal space; the sounds were rather faint. The blood pressure was: systolic 136, diastolic 76 mm. Hg. The thorax did not move freely on respiration. No abnormality was noted in the left lung, but there was moderate dullness in the right axilla as high as the third rib; posteriorly it reached to within two inches of the spinal column. The breath sounds over the dull area were faint; there were no accompaniments; vocal resonance was diminished and slightly egophonic.

Paracentesis and aspiration were again performed, and 30 ounces of fluid very similar in appearance to that obtained on the previous occasion were withdrawn.

Pathological Report.—Smear negative to the tubercle bacillus. Culture sterile. Fluid contains a large quantity of cholesterol crystals. Some dullness remained after aspiration, and this showed a tendency towards increase. A fortnight later a second aspiration was performed, and a further 7 ounces of fluid were withdrawn.

Throughout the patient's stay in hospital the temperature was normal. There was no wasting, and no glandular enlargement. There was no increase in the respiration rate while the patient was at rest. The pulse varied from 68 to 100. The urine showed no abnormality.

X-ray examination on April 3rd, 1924, showed that at the base of the right chest there was a very dense shadow with a well marked, sharply defined upper margin, suggestive of an encysted empyema. The root shadows were heavy, with some slight increase of linear markings in both lung fields. There was no displacement of the heart, which was central and dystrophic. There was some impairment of excursion of the right diaphragm. After aspiration of fluid the upper margin of shadow was still well defined, but collapsed to the side of the chest.

General Observations on the Case.

1. No cause was discoverable to account for the presence of the cholesterol in the pleural fluid.
2. The effusion showed a marked tendency towards recurrence.
3. The effusion was encysted, and there was no apparent connexion with the liver.
4. In spite of very considerable effusion there was no displacement of the heart.