Scybalous masses could be seen and felt in the colon through the wasted abdominal wall. My colleague Dr. F. H. Jacob saw her on several occasions at this time. Symptoms of obstruction came on suddenly after aperients by the mouth. As she was getting worse and the pulse-rate was beginning to run up, after some consideration I opened the wound. The anastomosis was sound and the parts were in good position. There was no peritonitis or obstruction of the small bowel. The transverse and descending colon were distended with firm faeculent masses and I pushed a number along into the sigmoid, hoping that this might stimulate the bowel to action. The colon appeared to be a regular cesspit and had completely lost the power of propelling its contents. I never succeeded in getting the bowels to open and the case ended fatally as stated.

By the performance of earlier operations, before the patients are completely worn out by suffering and starvation (a plight to which the majority of these cases were reduced), better results may be hoped for and the mortality in the hands of operators familiar with abdominal surgery will probably work out at not more than 5 per cent.

Nottingham.

A CASE OF EMPYEMA IN THE POSTERIOR ETHMOIDAL LABYRINTH WITH PARALYSIS OF THE CONJUGATE MOVEMENTS OF THE EYES AND BITEMPORAL LIMITATION OF THE VISUAL FIELDS.

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A FEMALE patient, aged 19 years, healthy-looking and well developed, presented herself at the Birmingham Eye Hospital on Jan. 20th, 1905. She complained that she had been obliged to give up her occupation as a telephone clerk because she was no longer able to see the keys on the telephone board, especially those on the right hand. Her family history and her personal history previously to the affection of the eyes were good. There was nothing of a hereditary nature. Apparently the disturbance of vision began with a severe attack of influenza at Christmas. The first thing noticed was that objects could not be seen with accustomed clearness. This was accompanied by pain at the back of the right eye and persistent headache described as neuralgic in character. At the end of December the patient observed that she had to turn her head to the right side in order to see things on that side. She also noticed some difficulty in seeing objects on the left side.

On Jan. 20th the following conditions were found on examination: R.V. $\frac{6}{12}$; L.V. $\frac{6}{18}$. The correction of a hypermetropia of +0.50 D. sph. did not improve the vision. It may be added here that according to a note of a previous visit to the hospital in 1889, vision was then $\frac{6}{6}$, with +1.5 D. sph., in both eyes. The visual fields for white were tested and the right one was found to be limited on the temporal side by about 50°. The left one was also contracted on the temporal side but only to the extent of about 30° (see Figs. 1 and 2). As regards the ocular movements, when the patient attempted to look to the right neither the right nor the left eye could be moved beyond the middle line. The excursion of the eyes to the left was complete but at the extreme limit a horizontal, slow, nystagmoid movement appeared in both eyes. The upward and downward movements were normal. There was no diplopia. Light and accommodation reflexes were normal. The pupils were of equal size. The fundus of each eye presented a normal appearance. There was no sign of neuritis. The patellar reflexes were brisk. When the eyes were closed the patient swayed slightly but scarcely sufficiently to be considered pathological. We are indebted to Mr. H. Eales for permission to publish these particulars.

The diagnosis presented some difficulties. The comparatively rapid onset of the symptoms was suggestive of

an inflammatory lesion and the character of the fields seemed to point to the ethmoidal or sphenoidal sinuses as the primary seat of the lesion, yet, as will be seen, there was very little evidence of disease in these regions. Then, again, the presence of an ethmoidal or sphenoidal sinus empyema could not, it seemed to us, account for the paralysis of associated movements. The patient was given 30 grains of

FIG. 1.

RIGHT.

potassium iodide per diem (which was continued up to the time of operation) and she was referred to the Ear and Throat Hospital for examination of the sinuses in question.

On Jan. 31st the nasal cavities were examined by anterior rhinoscopy. There was no enlargement of the middle turbinals, or cedema, or polypus formation, and no purulent secretion was seen. By posterior rhinoscopy, however, a slight yet distinct collection of muco-pus was seen on the

FIG. 2.

LEFT.

roof of the posterior choana of the nose on the right side. The maxillary antra on electric transillumination transmitted light clearly. The pus was removed by irrigation with a warm alkaline lotion and the patient was asked to return in a few days. On Feb. 3rd she was again seen and gave a further history that she was in the habit of spitting up phlegm from the throat every morning, that she had a dull aching sensation in the head and a feeling of weight over the eyes, that she saw double at times, and was still unable

to see objects on her right side without turning her head. The left field of vision was found to have regained its full limits and the right had now only 20° of contraction. The right vision was $\frac{5}{8}$ partly and the left was $\frac{3}{8}$. The eyes could not be turned to the right beyond the middle line. No diplopia was present nor could any be elicited by coloured glasses. Through Killian's long speculum a small collection of pus could be seen in the region of the right sphenoidal recess. The sphenoidal opening was not visible owing to the narrowness of the middle meatus from deviation of the nasal septum to the right side. By posterior rhinoscopy the streak of pus was again seen on the roof of the right posterior choana. There was no inflammation of the pharyngeal tonsil or any other obvious source of the purulent secretion. Although the condition of the patient had considerably improved it was considered advisable to expose the ostium of the sphenoidal sinus and at the same time to open the posterior ethmoidal labyrinth on the right side.

On Feb. 15th, as the symptoms persisted, the patient was prepared for operation. The lining mucous membrane of the middle meatus of the right side of the nose was contracted as far as possible with cocaine and adrenalin and a small tampon soaked in adrenalin was packed between the posterior end of the middle turbinal and the septum for ten minutes and then removed. Ethyl chloride, as a general anæsthetic, was administered with the patient in the sitting posture. The posterior third of the middle turbinal was cut away from its attachment with Grünwald's forceps, and the posterior part of the ethmoidal labyrinth was opened with an angled curette. Only about a drop of pus appeared as the curette was removed. There was no pus at the sphenoidal ostium.

On the next day the patient was able to see more on the right side and did not require to turn her head as much as before. The pain in the head had subsided and she remarked that her eyes felt better. On inspection, some purulent secretion was seen flowing from the site of operation into the middle meatus. On Feb. 21st the left field of vision appeared to be normal and the right was nearly so; there was only a deficiency of 10°. The right vision was $\frac{5}{8}$ and the left was $\frac{5}{8}$ partly. The fundus showed nothing pathological in either eye as before. The eyes could be moved to the right for some distance beyond the middle line but not yet completely. Nystagmoid movements supervened in both eyes when looking to the extreme left, but only in the left eye when looking to the right. There was no diplopia. On March 21st some dry crusts were present at the site of operation but there was no pus. In view of the marked improvement in the case no further exploration of the ethmoid or sphenoidal sinus was considered necessary. On March 27th vision was $\frac{5}{8}$ partly in both eyes. This was not improved by correction. Both eyes could be turned completely to the right. Nystagmoid movements were present in both eyes at both extremes of lateral motion. There was no diplopia. The fundus, fields, light and accommodation reflexes were all normal. The patellar reflexes were brisk. The crusting had disappeared from the site of operation and there was no trace of pus on the roof of the right posterior choana of the nose. On May 19th the vision in each eye was $\frac{5}{8}$ partly, with + 0.25 = $\frac{5}{8}$. Slight nystagmoid movements were still present at both extremes of lateral excursion in either eye; otherwise the condition of the patient was the same as on March 27th.

As regards the etiology and pathology of the case it is quite possible, in fact probable, that the defective vision and the contracted fields were due to inflammation spreading from the muco-periosteum of the posterior ethmoidal labyrinth to the optic chiasma. It is much more difficult to account for the paralysis of associated movements. The difficulty is increased by the fact that the explanation must not only account for the paralysis to the right but also the paresis to the left. If the former had been present alone one might have accepted a lesion of the right sixth nucleus as a possible coincidence but to assume a lesion of both sixth nuclei would seem rather unsatisfactory even as a coincidence. In the present state of our knowledge, however, it does not appear possible to solve the problem correctly. One fact merits special attention. The right field of vision corresponding to the right association paralysis was more impaired than the left field and there was only a paresis of the left association movements corresponding to the left field of vision. This would tend to show: (1) that the lesions of the fields and the ocular movements bear some relation to each other; and (2) that if the

empyema produced the former it was the probable cause of the latter also. Thus our considerations bring us back again to the optic chiasma and here there is not much choice in placing the lesion; the commissure of Gudden is the only position in which a lesion might account for the affection of the associated movements. Unfortunately, we possess at present no precise information regarding the functions of this commissure.

We hope that the case may prove a starting point towards gaining some information in this direction.
Birmingham.

THE NOTIFICATION OF PULMONARY TUBERCULOSIS IN BLACKBURN.

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It has now been fully established that pulmonary tuberculosis is a bacillary disease, that it is transmissible from person to person, and that by suitable precautions in the early stages it is curable. Each medical man has under his care at one time or another cases of early pulmonary tuberculosis which are curable under favourable conditions and also cases of advanced pulmonary tuberculosis which not only are incurable but which in many houses are a source of the greatest possible danger to the other inmates. Hence this alternative presents itself: whether the early cases should have the advantage of sanatorium treatment for the purpose of being cured or whether the late, hopeless cases could be isolated away from home in some way so that they may cease to act as dangerous foci for the spread of this disease. Whichever of these two measures be adopted, especially if the aid of the local authority in this direction be invoked, it appears to me that certain information concerning the existing number of cases, the fresh number of cases occurring annually, and the distribution of the cases in the town should be obtained. This information involves a notification of the disease. Formerly the only means of ascertaining the prevalence of pulmonary tuberculosis in a given town was by means of the death returns. This was very unsatisfactory, because the information as to prevalence thus gained was very incomplete and early cases had no opportunity of receiving benefit from any municipal measures. The system of voluntary notification was then adopted in many towns and was first commenced in Blackburn during April, 1901. The following figures indicate the number of deaths from pulmonary tuberculosis and the number of notifications during 1901, 1902, 1903, 1904, and the first six months of 1905:—

Table showing the Number of Deaths from Pulmonary Tuberculosis and the Number of Notifications during 1901, 1902, 1903, 1904, and the Six Months ending June, 1905.

Months.	1901		1902		1903		1904		1905	
	Deaths.	Notifica-tions.	Deaths.	Notifica-tions.	Deaths.	Notifica-tions.	Deaths.	Notifica-tions.	Deaths.	Notifica-tions.
January ...	10	—	16	3	9	7	11	9	9	19
February ...	12	—	12	4	13	12	11	5	16	17
March ...	10	—	15	7	18	14	8	11	12	14
April ...	16	14	14	4	14	7	8	8	12	13
May ...	11	18	18	4	13	6	9	9	17	18
June ...	13	5	11	7	9	14	7	14	13	17
July ...	12	12	10	6	7	16	13	11	—	—
August ...	15	4	12	5	8	10	6	6	—	—
September ...	11	3	7	4	6	21	8	20	—	—
October ...	14	6	11	16	9	6	15	14	—	—
November ...	13	10	20	16	2	6	13	3	—	—
December ...	9	7	7	9	12	15	11	16	—	—
Totals ...	146	79	153	85	120	134	120	126	79	98

Of the 146 deaths in 1901, 30, or 20.5 per cent., had been notified during life; of the 153 deaths in 1902, 44, or 28.7 per cent.; of the 120 deaths in 1903, 31, or 25.4 per cent.; and of the 120 deaths in 1904, 51, or 42.5 per cent.