5. Doubt remains as to the exact route of infection: if infection was established in the accepted way—by means of an infective stalk passing through the tympanic roof, through the dura, and then along the course of the vessels of the pia mater to their free bifurcation beyond the deep surface of the grey matter—the facts at least show how small may be the changes in these intermediate tissues for the establishment of a large abscess in the temporo-sphenoidal lobe.

I am indebted to Dr. Percy Jakins for his kindness in allowing me to write an account of this case, and also to Dr. Wyatt Wingrave, who has kindly allowed me to make use of his notes with regard to the necropsy and the pathological examination of the cerebro-spinal fluid.

TWO CASES OF OCULAR DISEASE ASSOCIATED WITH PYORRHOEA ALVEOLARIS.

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In view of the increasing attention now being given to oral sepsis in the treatment of systemic diseases, the following reports of eye conditions associated with pyorrhoea alveolaris may be of interest:

CASE I.

W. D., aged 23, sought advice complaining that "his sight was becoming bad." He added that he had not been in good health for the past two months, and could not see so well as formerly with his left eye. There was no history of syphilis.

State on Examination.—His vision was found to be:

Right eye = $\frac{5}{6}$; with $\begin{matrix} + 0.5 \text{ D. spher.} \\ - 1 \text{ D. cyl. } 180^\circ \end{matrix} = \frac{5}{6}$.

Left eye = $\frac{5}{6}$; with $\begin{matrix} + 1.75 \text{ D. spher.} \\ + 0.5 \text{ D. cyl. } 45^\circ \end{matrix} = \frac{5}{6}$.

There was nothing abnormal to be seen externally, but on examining the right fundus the vitreous was found to be slightly hazy. The vitreous of the left eye, however, contained some opacities, and there was evidence of recent choroiditis. The mouth was in a bad state: the gums very unhealthy, while the teeth were carious and broken-down.

Treatment and Result.—The patient was advised to have the mouth attended to at once; he was ordered atropine and rest for the eye, and was given mercury and potassium iodide internally. Two months later the vitreous opacities had cleared up, and the choroidal trouble was better. With the correction already stated, which he was now allowed to wear, his vision was: Right eye = $\frac{5}{6}$; left eye = $\frac{5}{6}$, not improved. The patient admitted that he felt better for his dental treatment.

CASE II.

Mrs. G., aged 46, was sent for treatment with an irido-cyclitis in her right eye. She stated that it had become inflamed and irritable six weeks before seeking advice.

State on Examination.—Her left eye had previously been operated upon for cataract, but she had a secondary cataract which required needling. Her vision was: Right eye = $\frac{5}{6}$, not improved; left eye = perception of light, with a fair sense of projection. She had photophobia, well marked ciliary injection, a slight degree of keratitis punctata; in the anterior chamber lay a mass of lymph, while the iris was discoloured and showed some adhesions on dilating. In the fundus was a commencing choroiditis, while there were also some vitreous opacities. The mouth showed both gums and teeth to be in a most unhealthy state. Pus oozed up from the sockets of the teeth, which were practically all carious. In addition the general state of the patient was bad; she was thin, anaemic, and generally out of sorts.

Treatment and Result.—As the patient had only the one eye to depend upon, treatment was somewhat urgent. Accordingly, she had every tooth cleared, upper and lower, and was put upon a mouth wash. Internally, she was given mist. alba with mercury and potassium iodide. She was ordered complete rest and a nourishing liquid, later semi-liquid, diet was given. A fortnight later she said she "felt better than she had done for months." The eye was much quieter, and the iritic adhesions, with the exception of one, had all broken down under the atropin. The ciliary injection had nearly disappeared, while the effusion of lymph had shrunk in size. Two months later the patient's eye was perfectly quiet, and she then discontinued her shade and the treatment. Her vision then was:

Right eye = $\frac{5}{6}$; with $+ 0.5 \text{ D. spher.} = \frac{5}{6}$ (compared with $\frac{5}{6}$ initially).

In addition she had gained 6 lb. in weight, looked better, and said she felt better in health than she had been for some time.

D

The Milroy Lectures

ON

THE HYGIENIC ASPECT OF THE COAL-MINING INDUSTRY IN THE UNITED KINGDOM.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

By FRANK SHUFFLEBOTHAM, M.A.,

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MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT FOR THE NORTH STAFFORDSHIRE DISTRICT.

LECTURE V.

BEAT HAND, KNEE, ELBOW AND BUTTOCK.

THESE terms were not known in some parts of the country, even in mining districts, until they were defined by the Departmental Committee on Industrial Diseases, which reported in 1907.

Beat Hand.

The term "beat hand" signifies an acute inflammation of the subcutaneous tissue of the hand involving its palmar aspect; it may affect the palmar side of the fingers and thumb.

As a rule, the hands of a miner show rough and thickened skin on the palmar side, undoubtedly due to the use of the pick. This condition is almost invariably found in miners past middle age. The areas of skin most often affected are: (1) Along the roots of the fingers; (2) over the ball of the thumb; and (3) over the hypothenar eminence on the inner side of the hand. The skin over the centre of the hand is generally softer than the skin over other parts of the hand, and consequently this part of the hand is less protected, and this is generally the seat of the trouble known as beat hand.

Although in cases of beat hand there is no history of any injury, inoculation probably takes place through an abrasion. In the ordinary course of a miner's work the hands are often knocked and the skin abraded. These injuries may be so trifling as to escape notice, and yet they may be sufficient to permit inoculation with an infective poison. One of the most prominent symptoms, as in other septic conditions, is local throbbing, or, as it is locally known in the North of England, "beating," hence the term "beat hand," and the same explanation applies to beat elbow, beat knee, and beat buttock.

In many cases inflammation goes on to suppuration, and the pus will track along the tendon sheaths, but most often to the back of the hand. The inflammation will be limited by the thickened skin over the palm, but there may be considerable swelling in the centre of the hand, and the skin will be hot and glazed.

The course of the disease will depend upon the treatment which the patient receives. If there be any considerable formation of pus and relief is not given, a general septic condition of the hand and fingers may result, but if early treatment be applied the inflammation clears up in a comparatively short time.

The frequency of the disease among miners may be judged from the statistics compiled by the Home Office of compensation and proceedings under the Workmen's Compensation Act. On the average, between 700 and 800 cases are reported each year in the colliery districts of this country. Beat hand is most frequently found in those districts where the coal seams are hard, and the majority of cases appear to be reported from Northumberland and Durham. The men who are actually coal-getters are most commonly affected, and this can be explained from the fact that it is they who use the pick at their work.

The disease attacks the soft part of the hand, and, speaking generally, soft hands are a predisposing cause of this disease; after a long strike, during which the skin over the hand has become softened, an unusual number of cases may arise when work is resumed.

The most important etiological point with regard to beat hand is the fact that there is no history of an accident in any case, and some colliery doctors call it idiopathic cellulitis of the hand.

The duration of the disease is, on the average, from three to six weeks; the statistics of the Northumberland