ACUTE INFLAMMATION OF THE LEFT ANTRUM OF HIGHMORE AFTER INFLUENZA.

A PERSONAL OBSERVATION

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At the commencement of December last I had an attack of influenza, the third within two years. The acute stage was slight and only lasted two or three days, but was followed by a very general and rather severe catarrh of the air passages. Whilst in this condition I had to go to Berlin. The journey did not seem to have aggravated the catarrh, and, apart from rather severe spasmodic cough with little expectoration and considerable coryza with watery discharge from both nostrils, I felt well, and was able to go about as usual. On the 27th, however, in the evening, suddenly a sensation of fullness, which rather rapidly increased, made itself felt in my left cheek, at first unaccompanied by pain and strictly limited to that region. I happened to spend that evening with my friend, Dr. B. Fraenkel, the well known professor of laryngology at the University of Berlin, and jokingly remarked that I wondered whether I was in for empyema of the left antrum. I did not think then that the joke was about to be so quickly realised as it turned out to be. After my return in the evening to the hotel, the sensation of fullness steadily increased, and soon amounted to a sense of almost intolerable distension of the zygomatic region. The skin over the part became distinctly swollen and reddened, and was very tender to the touch. Every effort by means of which the air in the nose and adjacent cavities would be condensed, such as blowing the nose, and especially coughing, was felt as most acutely painful, and about 11 p.m. my temperature was 100.5°. During the whole time, however, there was none of that frontal neuralgia which is so characteristic of the chronic forms of inflammation of the maxillary sinus. I spent a sleepless night, mostly in efforts at dislodging, by blowing my nose, what I was convinced must be an accumulation of fluid in the antrum, but although all the time there was an enormous discharge of watery fluid from both nostrils, such as I had had before the onset of the acute symptoms on the left side, no relief was experienced.

On the following morning, the condition had become, if possible, worse, when suddenly, during a violent effort at blowing the nose, a large quantity (certainly not less than half an ounce) of turbid greenish sero-purulent fluid streamed out of my left nostril. This was followed by an immediate sense of great relief. I concluded that probably a pellet of mucus or purulent matter which had stopped the hiatus semilunaris had become dislodged, thereby allowing of an escape of the fluid accumulated in the antrum. To prove this further, I held my head downwards inclined to the right side, so that the opening of the antrum would be in the most dependent position, when a further smaller discharge of the fluid above described occurred.

I went and saw Professor Fraenkel, who, after cocainisation of the left nostril, did not find any matter in the middle meatus or indeed in the nose. On transillumination of my face, the two antra were both translucent, but my left pupil remained dark, a symptom to which of late attention has been prominently drawn in connection with affections of the antrum. For three to four hours after this I remained free from pain and inconvenience, then gradually a fresh accumulation began to take place with a recurrence of the symptoms above described. In the afternoon a second discharge occurred, again followed by relief; during the evening the fluid accumulated for the third time, and when discharged at bedtime was distinctly bloodstained. After this the acute complication seemed to have disappeared as suddenly as it had arisen, and I had almost forgotten it when, two days afterwards, on blowing the nose again, a large quantity of greenish fluid, this time of a distinctly mucoid character, was discharged. This signalled the end of the affection.

Whilst it is now agreed that chronic empyema of the antrum of Highmore is anything but a very rare affection, acute inflammations of that cavity must be exceedingly rare.

Little will be found about them even in the special textbooks, and whilst I myself am constantly seeing a large number of cases of chronic empyema of the maxillary sinus, I have never actually seen a case in the acute stage, although in one instance of bilateral chronic empyema now under my care the disease also originated in a very acute form after influenza. My Berlin friends (Professor Fraenkel, Drs. Landgraf and Rosenberg) tell me that they have seen a few instances of the acute form, all of them after influenza, and that, as in my own case, all these had spontaneously recovered, with one single exception in Dr. Rosenberg's practice, in which the antrum had to be opened from an alveolus in order to give exit to the distending fluid. This was also necessary in the case under my care just mentioned.

The points to which I would draw particular attention are: (1) The sudden and violent increase in the pain during sneezing or coughing; (2) the limitation of the pain to the affected region.

Finally, it may not be uninteresting to state, as a contribution to the particular tendency of influenza to single out the locality of its sequelæ in the most capricious manner in different individuals, that my first attack was followed by an equally violent inflammation of the pulp of a previously healthy canine tooth, which Messrs. Sewill and England, after extraction, pronounced to be of an almost gangrenous character. Thus in both these attacks the sequelæ observed occurred in the domain of the fifth nerve.

A NOTE ON CERTAIN IMPROVEMENTS IN THE METHOD OF DETERMINING THE CONDITION OF BLOOD COAGULABILITY FOR CLINICAL AND EXPERIMENTAL USES.

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In July, 1893, I described in the *BRITISH MEDICAL JOURNAL* a method by which determinations of blood coagulability could be made for clinical purposes. The method which I proposed consisted in filling a series of capillary tubes with blood obtained by puncturing the tip of the finger and in ascertaining the condition of coagulability by blowing down the tubes at different intervals. I was not at the time aware that C. H. Vierordt¹ had already described a method of determining the condition of coagulability for clinical purposes, and that he, and afterwards Hasebroek,² had employed this method³ in the investigation of certain points with regard to blood coagulation, notably in the investigation of the accelerating influence of stagnation⁴ on blood coagulation.

Having thus disposed of this question of priority, I desire to indicate certain improvements in the method of determination as recently proposed by myself. The conditions which I referred to⁵ as favourable to the accuracy of the determinations were: (a) the employment in each tube of a column of blood of approximately equal length (proposed standard of length 5 centimetres); (b) the employment of capillary tubes of equal calibre (proposed standard diameter 0.25 mm.); (c) the relaxation at frequent intervals of any ligature which may be applied round the finger. I now find that three other points must be attended to: (d) the aspiration of the blood some little distance up the tube (this is designed to prevent any desiccation of blood at the orifice of the tube); (e) the warming of the tubes to blood heat before filling them in; and (f) the maintenance of this temperature until coagulation is complete. Without these two last precautions blood coagulation determinations which are made on days when the temperature is appreciably different cannot profitably be compared. The fallacies which are introduced by these differences of temperature are, how-

¹ *Archiv für Heilkunde*, 1878.

² *Zeitschrift für Biologie*, 1882.

³ The method consists in receiving blood into a single capillary tube, and in observing the deposition of fibrin on a chemically cleansed white horsehair which is very slowly pushed through the tube.

⁴ In the ligatured finger and the hemiplegic arm.

⁵ *BRITISH MEDICAL JOURNAL*, July 16th, 1893.