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CONTRIBUTION TO THE QUESTION
OF SO-CALLED CROUP OF THE NOSE

(RHINITIS CROUPOSA ET FIBRINOSA).

By Dr. JOHN SEDZIAK (Warsaw).

DURING this year (1892), in "Gazeta Lekarska" and in "Monats. für Ohrenheilk.," I have endeavoured to show in my paper entitled "Croup, or Diphtheria of the Nose,"¹ based upon one case occurring in the practice of one of my colleagues, that croup of the nose, as an independent pathological process, and as a disease *sui generis*, having nothing in common with diphtheria, does unquestionably exist. This view I based upon a critical and exhaustive research of the whole literature touching upon this question. I proved, and especially from the clinical point of view, that the independence of this pathological process does not permit of the least doubt. About fifty cases of this disorder published between 1887 and 1892 by the most eminent specialists of diseases of the nose (Hartmann, Moldenhauer, B. Fraenkel, Seifert, Bresgen, Potter, Raulin, Baumgarten, Hunt, Jurasz, Schech, and many others) furnished this proof.

From an etiological point of view there is also much in favour of the view that croup and diphtheria of the nose are two entirely different pathological processes. This is proved by the investigations of B. Fraenkel, Leyden, Scheinmann, and lastly, Seifert, who in cases of croup of the nose were not able to discover the Klebs-Löffler's bacilli, now known to be specific in diphtheria. Although Baginsky (resp. Stamm)

¹ Read before a Medical Society in Warsaw, 7th June, 1892.

and Concetti found them in their cases, these are but single observations, and the question arises if they had not something to do with the so-called chronic diphtheria of the nose. In my opinion the greatest importance in this direction is to be accorded to the experimental investigations which Lieven (*vide* my above paper) performed on croup of the nose. He succeeded in provoking on the injured mucous membrane of the human nose the typical features of this disorder, after inoculation with a portion of the pure culture of micro-organisms (a special kind of coccus), which he constantly found in the membranes in cases of croup of the nose.

Maggiora and Gradenigo (Turin) found in the membranes in cases of this disorder only, constantly staphylococcus pyogenes aureus.

From the anatomical point of view to a certain degree, at least in the opinion of Virchow, croup must be distinguished from diphtheria in general, and of the nose in particular, although it must be admitted that the experimental investigations of Middeldorpf and Goldmann, performed under the guidance of Prof. Weigert in Frankfort-on-Main, seem to contradict this view. My opinion that croup of the nose, though rarely yet unquestionably, exists and differs decidedly from diphtheria in its clinical course, and in the character of the poison (micro-organism), found its confirmation in a new case which I had occasion to observe not long ago.

Mrs. G., twenty-one years of age, the wife of an official, consulted me for the first time on June 8th, 1892, complaining of catarrh and obstruction of the nose which had lasted some days. The patient was at first seen by Dr. Bacziewicz (who was treating her child), and he kindly sent her to me. The patient related that some days previously she scratched off a crust in the nose on the right side. Some hours after the nose swelled and the acute catarrh appeared, especially localized on the right side. On the morning of the next day the swelling and the pain in the nose increased, and the patient remarked that its right side especially was obstructed. At the same time pretty severe general symptoms appeared, *i.e.*, weakness, general disturbance, chills, and fever (38.6° Cent.). The patient took castor oil and five grains of quinine, after which the general condition amended speedily and the same evening the fever ceased. From this time the patient felt always well, a little weak only. The state of the nose, however, remained without change. In the patient's antecedents nothing was noticed. The patient affirmed that she had up to then always been healthy. On examination I found as follows: the patient was well built and nourished, but rather pale in the face. There was no fever. The lymphatic glands were not affected (although the patient maintained that in the beginning they were enlarged and painful). In the internal organs nothing abnormal. In the pharynx and larynx nothing particular. The nose, especially its anterior end, at first sight appeared swollen and a little reddened. The introitus nasi, especially on the right side, was more swollen and reddened with painful excoriations. The right half of the nose was almost entirely—the left one partly—obstructed. Rhinoscopic examination was rather painful and showed the existence of membranes (on the right side) thick, compact,

whitish, and covering the septum in its whole extent, and also entirely covering the inferior, and for the most part the middle turbinated bodies.

These membranes were bathed in serous-acrid secretion. The mucous membrane of the places not covered with pseudo-membranes was greatly reddened and swollen, without greater changes, however (ulcerations). In the left half of the nose the changes were much less; the membranes were less compact, but of the same character, and limited only to the septum (inferior and anterior part of septum cartilagosum). The mucous membrane covering the remaining parts (conchæ, etc.) was less swollen and reddened, and secretion was less abundant, but its character the same. On examining the naso-pharynx by means of the laryngoscopic mirror (rhin. post.), no membranes, and generally speaking no distinct changes could be found. The ears were healthy. I prescribed wad-tampons with balsamum peruvianum (ää glycerine) and ointment of resorcin (zincum oxydatum acidum boracicum ää 1·0, lanolini 30·0), and I abundantly insufflated the nasal cavities, especially the right side, with pure aristol.

Next day I saw the patient again. The external appearance of the nose was much better; the swelling considerably lessened, and the excoriations healed. Membranes, however, which the patient maintained fell out with the tampons almost every time, were found in the previous places. After a careful disinfection of the nose (4 per cent. ac. boracicum), I took out by means of the sterilized (in the flame of an alcohol lamp) pincette a portion of the membrane from the septum, which was done without any bleeding at all, and the surface of the mucous membrane appeared little changed (without ulcerations). The membrane itself I put in a sterilized tube for further bacteriological researches (inoculations). The other part from the deeper layers of the membrane I transferred to agar-agar (stroke culture) by means of a sterilized platinum needle. Another part of the membrane I squeezed between two cover glasses for the purpose of microscopic examination—the larger part of the thick compact membrane I put separately into alcohol in order to soak it in paraffin. After an abundant insufflation of the nasal cavities with aristol, I ordered the patient the same treatment (bals. per. and resorcin). Next day the state of the nose again amended much—the external appearance did not leave anything to be desired. The membranes, however, formed again in the nose, though much less strongly. The treatment was continued without change (insufflation with aristol). The urine contained no albumen, and there were no complications in other organs. I saw the patient again two days after. She felt quite well. The obstruction of the nose had disappeared in the left half entirely, in the right side partly. The membranes were found only in the right half of the nose, and limited to the inferior part (septum and inferior conchæ). The symptoms of catarrh of the nose were insignificant. The secretion was scanty. The mucous membrane was only a little reddened and swollen. I saw the patient once more some days afterwards, when there was hardly a trace of membrane on the inferior part of the septum on the right side, and no obstruction of the nose. Catarrh had ceased almost entirely. The patient felt quite well. Since that time I have not seen the patient. Some weeks afterwards I heard from Dr. Baczkiewicz, and from the uncle of the

patient, that she enjoyed the best of health. The whole process in this case lasted more or less about two weeks. I must here add, that during the whole time of the disease there was not once, as the patient maintains, any bleeding from the nose. Neither I, nor the patient herself, could remark any foetid secretions from the nose. The child, which the patient did not cease to nurse for a moment, is perfectly well.

I performed bacteriological investigations of this case in the laboratory of the Child Jesus Hospital, under the guidance of Dr. Jakowski, and with his kind assistance. Firstly, I must remark that I was unable to find Klebs-Löffler's bacilli in the membranes or preparations on glass and sections coloured by the usual Löffler method (methylin blue and rose), but found fibrin by the special method of Weigert's lymphoid cells, and a few cocci. On the agar-agar at the temperature of 37°C. (in thermostat), the cultures obtained resembled "*streptococcus pyogenes*" (small vesicles). Under the microscope there were seen under immersion, and coloured by gentian violet, different kinds of cocci (single, in couples, and in short chains). I was obliged to conduct my inoculation experiments, on account of temporary dearth of guinea-pigs, upon a rabbit. This animal, as is well known, is less suitable for the purpose. Along with Dr. Jakowski, I inoculated the sterilized membrane from the nose of our patient under the skin of the back, with all precaution and care (cutting off the hair, and disinfecting with sublimate, ether, etc.). The wound was covered with collodion. The rabbit was afterwards subjected to minute observation in order to convince ourselves that no general or local symptoms had appeared, which could have been taken for diphtheria. For this purpose, during the first ten days, the temperature of the rabbit was measured, three times daily—in recto—every two to three days the urine was examined, and the state of the lymphatic glands in the neck was observed. I shall not give here the detailed temperature chart. I mention only, that during the first five days the temperature was normal, *i.e.*, did not exceed 39.0 C, the normal temperature of the rabbit. The animal was lively, and ate with appetite. No albumen in the urine, and no swelling of glands occurred. The wound on the back healed. Only on the sixth and seventh days did the temperature rise a little (between 39.0° and 40.0°C.), and the rabbit seemed depressed a little, but soon recovered, and the temperature fell to normal, and did not rise any more. The animal has been quite healthy up to now, more than one month. No paralysis occurred. The wound completely healed. There seems from the above to be no doubt that in this case we had to do with croup of the nose (rhinitis crouposa and fibrinosa), or, as some American authors call it, pseudo-membranaceæ. In support of this view is the clinical picture of the disease: slight and shortly lasting disturbance of the general state, absence of swelling of glands, typical membranes, want of any symptoms in the naso-pharynx and pharynx or ears, absence of secondary paralysis and other diseases (kidneys), absence of contagious properties; in one word—the benign character of disease *par excellence*. On the other hand, in favour of the croupous character of the disease is the result of the bacteriological examination (inoculation of membrane in the rabbit with negative result).