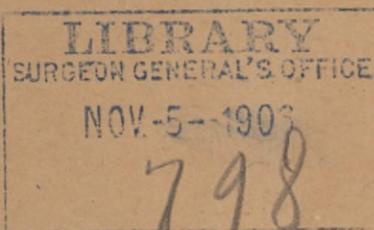


WILLIAMS (J.W.)

Diphtheria of the
vulva



DIPHThERIA OF THE VULVA.¹

~~Dr. F. W. Williams ?~~

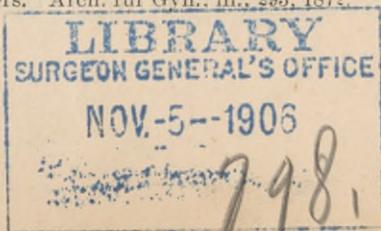
J. Whitridge Williams 

EVERY one who has seen many autopsies upon women dead of puerperal infection knows that it is not uncommon to find the interior of the uterus, and frequently the vaginal walls, covered with a dirty grayish or yellowish membrane of varying thickness, which is more or less adherent, and which leaves a bleeding or granulating surface after its removal. It is also well known that tears about the vulva, vagina, or cervix which do not do well frequently become covered by a similar membrane. This condition has long been described as diphtheritic, and it is impossible to read any of the older books upon pathology or obstetrics without finding frequent mention of diphtheritic endometritis, diphtheritic ulcers of the vagina, perineum, or what not. Bacteriological research has shown us, however, that the great majority of these cases are not diphtheritic at all, but are due to superficial necrosis produced by the streptococcus, either alone or in combination with other organisms, which are usually saprophytes.

Thus it was in this so-called diphtheritic endometritis that Waldeyer,² twenty-five years ago, first demonstrated the presence of round bacteria arranged in chains, which we now know as streptococci.

¹ Read before the Clinical Society of Baltimore, May 14, 1897.

² Waldeyer: Ueber das Vorkommen von Bakterien bei der diphtherischen Form des Puerperalfiebers. Arch. für Gyn., iii., 293, 1872.



The researches of Widal¹ in France and Bumm² in Germany have conclusively demonstrated that streptococcic infection may lead to the formation of a pseudo-diphtheritic membrane in any part of the genital canal, and that nearly all the cases of so-called puerperal diphtheria are due to its action. Bumm³ has also shown that there is a difference between the histological structure of the true and pseudo-diphtheritic membranes, the former being composed of fibrin which stains characteristically with Weigert's stain, while the latter is composed of necrotic material in which the outlines of the cells may be still made out, but which contains little if any fibrin. Bumm's² researches have been confirmed by every one who has studied the histology of puerperal infection, and there is no doubt that the vast majority of the so-called cases of puerperal diphtheria have nothing to do with true diphtheria.

Therefore, at the present time, we are not justified in speaking of puerperal diphtheria, unless we have demonstrated the presence of diphtheria bacilli in the membranes. And we must even regard with scepticism those cases in which the presence of diphtheria in the throat renders it likely that the genital process is of the same nature; for it is quite conceivable that a woman with ordinary puerperal infection may have true diphtheria in some other part of the body as an accidental complication.

As far as I can learn, only two cases have as yet been described which fulfil these conditions, namely, the cases of Nisot,⁴ of Brussels, and Bumm,³ of Basel, both of which were published last year. In both typical diphtheria bacilli were found in the membrane and cultivated from it, and both cases were treated with antitoxin and recovered. In Bumm's case the entire vagina was covered by the membrane, and so sure was he of its streptococcic origin that he refused to give the patient antitoxin until the bacteriological examination revealed the presence of diphtheria bacilli.

It is more than probable that two cases reported by Brink-

¹ Widal: Infection puerpérale et Phlegmasia alba dolens. *Gaz. des Hôpitaux*, 1889, 565.

² Bumm: Histologische Untersuchungen über die Puerperale Endometritis. *Arch. für Gyn.*, xl., 398, 1891.

³ Bumm: Ueber Diphtherie und Kindbettfieber. *Zeit. für Geb. und Gyn.*, xxxiii, 126, 1895.

⁴ Nisot: Diphtérie vagino-utérine puerpérale. Séro-thérapie. Guérison. *Bulletin de la Soc. belge de Gyn. et d'Obst. Bruxelles*, iii., 3, 1896.

mann¹ were true diphtheria, though bacteriological examinations were not made. In one of them, the patient on the third day of the puerperium took her child, which was suffering from diphtheria, into her own bed, and two days later her vagina and vulva were covered by a diphtheritic membrane. Diphtheria bacilli were found in the child's throat, but were not looked for in the membranes about the mother's genitals; both were treated with antitoxin and both recovered. In his second case the woman was delivered by a midwife; the third day afterward she got up to look after a sick pig, and two days later had high fever. On examination he found "diphtheria" of the vagina, with dulness in the left parametrium, while Douglas' cul-de-sac and the uterus were very sensitive. Antitoxin was given; the vaginal membrane disappeared the next day, but the fever continued, and the woman died from sepsis on the fifteenth day after confinement. In this case no bacteriological examination was made, and the disappearance of the membrane under antitoxin is not enough to establish its diphtheritic nature or to prove that it was not a manifestation of the sepsis from which the patient died.

Within the last few months I saw, in consultation with a medical friend in the country near Baltimore, a case of diphtheria of the vulva in which the Klebs-Löffler bacillus was positively demonstrated, and which I wish to bring to your attention this evening.

Mrs. K., German, age 20. The first labor, eighteen months ago, was ended with forceps. The present labor occurred February 20, 1897, and was very easy, the child being born with four or five expulsive pains. The patient was seen daily by her physician for the first five days of the puerperium, which was absolutely uneventful. She got up on the fifth day (February 24, 1897) and did perfectly for the next week, according to her own statements; but on the twelfth day (March 4, 1897) she began to complain of pain and a sense of swelling about the vulva, which increased in severity and caused her to recall her physician on the fourteenth day of the puerperium (March 6, 1897), at which time he did not make an examination, but advised the use of warm applications, which relieved the pain and markedly increased the lochial discharge. On the following day she was unable to urinate, and when she was catheterized the physician noticed that the vulva was

¹ Brinkmann: Zwei Fälle von Scheidendiphtherie mit Behring's Heilserum behandelt. Deutsche Med. Wochenschrift, xxii., 384, 1896.

markedly swollen and its inner surface covered by a grayish-white exudate. For the following week her condition remained about the same, with some fever and a somewhat rapid pulse, but at no time were alarming symptoms noticed.

The death of both the children from diphtheria during the week caused the physician to suspect that the vulval exudate was likewise diphtheritic in origin, and to ask me to see the patient with him on March 15, or the twenty-third day of the puerperium, when I found the following condition: A well-nourished woman, in filthy surroundings, with a normal temperature and pulse of 100. Her only complaint was of burning on passing water and a sense of soreness about the genitals when she sat up in bed. Examination showed the inguinal glands on both sides enlarged and sensitive. The entire vulva was red, hard, and greatly swollen, and covered with a profuse, dirty yellow discharge. In spreading apart the vulva it was seen that the swelling was limited to the labia majora and the left labium minus, while the right labium minus was of the usual size. The entire inner surface of both labia majora and minora was covered by a grayish-white, firmly adherent membrane, one to one and a half millimetres thick, which was densely adherent and left a raw, bleeding surface when removed by dissecting forceps. The introduction of a speculum was very painful, and showed that the membrane extended only a short distance up the vagina, the greater part of the vaginal walls presenting a normal appearance when the yellowish discharge covering them had been wiped off. The uterus was well involuted, and the tube and ovaries appeared to be normal. The examination of the throat and thoracic organs was negative. Cover slips were made from the membrane on the inner surface of the labia minora, and blood-serum tubes inoculated. The examination of the cover slips showed typical Klebs-Löffler bacilli; and the serum tube, after twenty-four hours in the thermostat, showed a profuse growth of small, round, elevated, transparent colonies, which upon examination were found to be a pure culture of the bacillus diphtheriæ. The same day one cubic centimetre of a bouillon suspension of the growth upon the serum tubes was injected beneath the skin of a guinea-pig. Several days later an abscess had formed at the seat of injection, with marked induration, and several days later the animal died. At autopsy the pus from the abscess contained cocci but no diphtheria bacilli. Cultures from the various organs were sterile, but the examination of hardened

sections of the liver revealed the presence of many small necrotic areas, especially in the periportal areas.

Upon my advice the patient was given 2,000 units of Mulford's antitoxin and the genitals kept clean with a boracic acid solution. This was followed by the rapid disappearance of the membrane, and ten days later I was informed that all trace of the disease had disappeared. Several weeks later more or less paralysis of both legs made its appearance, which gradually improved under appropriate treatment, and thus doubly confirmed the diagnosis of diphtheria.

It would appear, from the statements of the physician in charge, that the mother was probably infected by him and the children from her. He stated that he had several cases of malignant diphtheria under his care at the time the patient was confined, but that he had disinfected his hands most carefully with bichloride before examining her, and could hardly believe that he had infected her. It is more than likely that the disease had existed some time before the patient called attention to it, as she was an ignorant German, who lived in the second story of a building whose first floor was used as a stable, and whose surroundings indicated a comparative indifference to filth.

The first trace of disease in the children was observed several days after the appearance of symptoms about the mother's vulva, when the newly-born child was observed to be very restless. When the physician saw it, it had pharyngeal diphtheria, and gradually became worse and died from laryngeal stenosis, notwithstanding the use of antitoxin. It is more than probable that the child contracted the disease from its mother, as they both slept in the same bed; and it is also probable that the older child contracted the disease from the baby, as no symptoms appeared in it until the baby was quite ill. A possible mode of infection may be found in the fact that the rubber nipple of the older child was frequently given to the baby to quiet it.

This case is of considerable interest, as it is apparently the first instance in this country in which the diphtheritic nature of such affections has been conclusively demonstrated by bacteriological examination and treated with antitoxin, and fully confirms the observations of Nisot¹ and Bumm.² It also teaches us the practical value of a bacteriological examination in such cases as the only reliable means of distinguishing between true

¹ Nisot: *Loc. cit.* ² Bumm: *Zeit. für Geb. u. Gyn.*, xxxiii., 126, 1895.

and pseudo-diphtheritic membranes forming during the puerperium, and of determining the proper method of treatment. It is also of interest from a practical standpoint, as it illustrates very forcibly the danger to which a physician exposes his patients when he attempts to attend obstetrical and diphtheritic cases at the same time, no matter how carefully he may attempt to disinfect his hands.

NOTE.—As the cases reported by Longyear, "Puerperal Diphtheria," *AMERICAN JOURNAL OF OBSTETRICS*, xxxvi., p. 489, 1897, and Haultain, "Puerperal Diphtheria," *Lancet*, June 26, 1897, had not been published when this article was read, they are not mentioned in it.

