

distinct membrane covering the ulcerated surface, be it on the vulva, vagina, cervix or endometrium, are not diphtheritic in the true sense of the word, but for the most part are due to the streptococcus pyogenes. This was conclusively shown by Bumm sometime ago. As well as the author has been able to ascertain there have, up to this time, been only two cases of true puerperal diphtheria reported, by Bumm and Nisot, in both of which the bacillus of diphtheria was found, and both recovered on the administration of antitoxine.

Williams reports a case of true diphtheria of the vulva which he recently saw in consultation. Patient of German extraction, aged 20. Her first labor was eighteen months ago and was ended by forceps. The present labor was very easy, and up to the fifth day she did remarkably well. On this day she got out of bed and was about the house for the next week, when she noticed pain and swelling of the vulva. As both of her children had died during the week with diphtheria, the physician in charge of the case suspected, affection of the vulva. The author saw the patient on the twenty-third day of puerperium, her only complaint being at that time pain on passing water and pain about the vulva when she sat up in bed. On spreading the vulva apart it was noticed the inner surface of both labia majora and labia minora were covered by a grayish-white, firmly-adherent membrane 1-1.5 mm. thick, densely adherent, and when removed by dissecting forceps left a raw, bleeding surface. This membrane extended a short way up into the vagina, but the greater part of the vagina, together with the uterus, tubes and ovaries, were normal. Cover-slips, cultures and animal inoculations from this membrane showed the presence of the Klebs-Loeffler bacillus of diphtheria. The patient was given 2,000 units of Mulford's antitoxine and the genitals kept clean with boracic acid solution. She made a complete recovery. There seems to be little doubt that this case was infected by the physician in charge, as he had several cases of malignant diphtheria under his care at the time of her confinement

ORIGINAL ARTICLES.

THE BLOOD IN DISEASE.

(Continued.)

By Dr. Gordon Bell, Bacteriologist to the Provincial Government of Manitoba.

Before specimen is stained, the blood must be fixed to cover glass. This is best done by putting it for from one to two hours in a mixture of equal parts of absolute alcohol and ether. For staining specimens only four methods need be considered.

- 1st. Eosin and Hæmatoxylin.
- 2nd. Eosin and Methylene.
- 3rd. Ehrlich's Triacid Stain.
- 4th. Dahlia.

For general purposes the first method is the most useful, the second being chiefly employed for the plasmodia of malaria, while the third and fourth serve to demonstrate the peculiar granules in the protoplasm of leucocytes and mast cells. By the first process one gets very beautiful results.

The nuclei of leucocytes stain blue with the hæmatoxylin, the protoplasm of the polynuclear forms has a pale pinkish tinge, and that of the mononuclear forms faint purple, while the eosinophile cells with their coarse granules brightly stained with eosin, form very striking objects. The red blood cells stain only with eosin, being darker at the periphery, and gradually shading off towards the centre. It is important that one should always use these stains in the same strength and in the same way.

Grenacher's hæmatoxylin and a $\frac{1}{4}$ per cent solution of eosin in 70 per cent alcohol are to be recommended.

The procedure is briefly this:

- 1st. Cover specimen with eosin by means of dropper, and allow it to remain for five minutes.
- 2nd. Wash in water.
- 3rd. Dry between folds of fine blotting