GONORRHŒA IN WOMEN.

GONORRHŒA in women has not been studied so long or so carefully as has the same disease in men. There is great diversity of opinion with reference to the frequency of its occurrence, its relation to other forms of inflammation of the organs involved, and the site of inoculation. Bumm and some other observers believe that gonococci never penetrate the vaginal epithelium, and that when found in a vaginal discharge they come from the cervix or body of the uterus. Other observers find that a vaginitis frequently is the first evidence of gonorrhœal infection. It is certain that in the acute gonorrhœa of girls and young women vaginitis is usually the most prominent symptom. In older women, and especially in those who have borne children, the vagina is less easily inflamed, and the process is most marked in the endometrium of the neck and body of the uterus or in the urethra. In children infected as the result of criminal violence or by contaminated towels or other media, vulvitis or vulvo-vaginitis most commonly results. Practically there is little difference whether the site of infection be the vulva, the urethra, the vagina, or the uterine neck, since in the great majority of acute cases, excepting those of vulvitis in young children, the inflammation extends eventually to all of these regions, and also to the uterus, the Fallopian tubes, the ovaries, and the peritoneum. In the chronic forms the disease is most fre-

quent in the vaginal portion of the neck of the uterus, in the pelvic organs, in the urethra, and in the glands of Bartholin.

In acute gonorrhœa of women the etiology, the modes of infection, the period of incubation, the development of symptoms, and the pathological changes are similar to those belonging to the disease in men, though the symptoms (except those of pelvic inflammation) are usually less severe and of shorter duration.

The disease, however, has a yet greater tendency than in men to become chronic. The extent of surface involved and the inaccessibility of portions of it favor the continuation of the process. Furthermore, Noeggerath and others have demonstrated that many cases of chronic gonorrhœal inflammation of the pelvic organs in women develop insidiously, and are never preceded by the acute form of the disease. Such cases are found frequently in young married women whose husbands, though supposing themselves sound, had never fully recovered from an old gonorrhœa or a chronic gleet. A large percentage of the subacute and chronic pelvic disorders for which women consult the gynecologist originate in gonorrhœal infection. Another important feature of the disorder in women is its tendency to remain latent for long periods during which no evidences of the disease are apparent even on careful examination. Such a latent and unsuspected gonorrhœa may be aroused to activity by slight causes, and may prove a source of infection.

Diagnosis.—The symptoms of acute gonorrhœa in women are those of vaginitis, urethritis, vulvitis, Bartholinitis, and endometritis resulting from other causes. Frequently salpingitis, ovaritis, and peritonitis are also present. Full descriptions of these disorders are found in

the text-books on gynecology. Brief consideration is here given merely to the main points in a differential diagnosis between the gonorrhœal and the non-gonorrhœal forms of inflammation.

General Characteristics.—In general, gonorrhœal inflammation is more severe in type than other forms; it usually begins with slight symptoms, which rapidly increase in intensity for a few days, remain stationary for about a week, and then decline; it rarely remains limited to any one organ, but usually extends to several; it shows a decided tendency to persist and become chronic; there is often a history of exposure to infection, followed by a period of incubation of from three to five or more days; and the discharges show the presence of gonococci.

Vaginitis.—This condition is present in most acute cases of gonorrhœa, though whether any single attack be a true gonorrhœal infection or merely a severe catarrhal inflammation induced by irritating discharges from the uterine neck or from the urethra it is difficult to decide. Microscopical examination of the vaginal secretion is unsatisfactory, since the vagina contains many micro-organisms, including diplococci, which often cannot be differentiated from gonococci. The diagnosis must be based chiefly upon the presence or absence of the general characteristics of gonorrhœal inflammation, including the involvement of other organs. This form of vaginitis, which usually lasts for three or four weeks, shows a marked tendency to relapse with succeeding menstruations and other sources of local irritation, and to persist either as diffuse chronic vaginitis or in localized patches of congested, swollen, and eroded mucous membrane.

Urethritis.—This condition is probably present in the

majority of cases of gonorrhœa, and, as it does not often occur from other causes, except those which are traumatic, its demonstration furnishes fairly good evidence of gonorrhœal infection. Finger thinks urethritis is present in practically all cases of recent infection, but many observers find it much less frequent. It is usually a mild affection, and, while it is not infrequently followed by cystitis, it rarely results in disease of the kidneys, as in men. The subjective symptoms may be so slight as to pass unnoticed, or there may be decided burning and smarting of the sensitive swollen membrane, with frequent and painful micturition, but the inflammation is very rarely so intense as in gonorrhœa in men.

The orifice of the urethra is red and swollen, and the congested mucous membrane may protrude. With a finger in the vagina the urethra is felt as a firm, tender cord, and if the patient has not urinated for several hours pus may be squeezed out of the urethra. If such pus, unmixed with secretions from the vagina or the vulva, contains gonococci, the diagnosis is unmistakable. The acute symptoms rarely last for more than two or three weeks, but they are frequently followed by a chronic urethritis which is often overlooked.

Chronic urethritis in women presents no subjective sensations, and is recognized only by careful examination. If the orifice be cleaned carefully and pressure be made upon the urethra from behind forward when the patient has not urinated for several hours, there can usually be expressed a drop of muco-pus containing gonococci. The endoscope may often be used to advantage. The many follicles of the urethra may be involved, thus favoring the continuation of the disease. Five or six large follicles near the orifice are of especial importance, and

should be examined carefully, as the inflammation may be limited to them. Chronic urethritis in women is more easily cured than in men, but is quite commonly unrecognized and untreated.

Vulvitis.—In adults vulvitis has not yet been demonstrated to be gonorrhœal in character. The inflammation simply results from contact of the surfaces with irritating discharges from the vagina and the urethra. This condition in women corresponds with balanitis in men. In children, however, gonorrhœal inflammation of the vulva has been demonstrated, though these cases have no characteristic features that will serve to distinguish them from vulvitis due to other causes.

Bartholinitis.—Inflammation of the vulvo-vaginal glands finds its most frequent cause in gonorrhœa, and when due to such infection usually runs a rapid course and terminates in suppuration. An acute infection is rarely, if ever, limited to the gland.

Chronic inflammation of these glands not infrequently complicates chronic gonorrhœa, and may survive as the sole relic of the original disease. The affected gland is usually recognized as a firm, painless nodule; its duct is dilated and reddened. Pressure on the gland usually causes the escape of a mucous or muco-purulent discharge which may contain gonococci and may prove highly infectious.

Inflammation of the Uterus and its Appendages.—Endometritis of the uterine neck occurs in most cases of acute gonorrhœa, and in a large percentage of cases the disease extends to the tubes, the ovaries, and the peritoneum. The origin of the inflammation in these organs cannot be determined by the symptoms alone, but is recognized by the presence of other evidences of gonorrhœa and by

the history. That the gonococcus is an active factor in the production of these pelvic inflammations is apparent from the fact that this micro-organism has been found in the pus of pyosalpinx and in the epithelium and connective tissue of the Fallopian tubes.

In chronic gonorrhœa the inflammation almost always involves the pelvic organs, and is one of the most frequent causes of sterility and of chronic invalidism in women.

The frequency with which a chronic gonorrhœal inflammation may remain latent and confined to one or more follicles of the urethra, to one of the vulvo-vaginal glands, or to the cervix or body of the uterus readily explains why a man may be infected from coitus with a woman who shows no signs of the disease, and also why he may have intercourse with her many times before coming in contact with the gonorrhœal virus.

Treatment.—Hygienic treatment, which is always of great importance, is practically that of gonorrhœa in men. Rest, a light diet, diluent drinks, and frequent washing of the external genitals should be secured. If urethritis is present, and micturition is painful, alkalies and the balsams should be given. All discharges should be caught on pads of cotton held in position by a bandage, and these pads should be burned when soiled. At first, if the vaginitis be severe, local treatment must be postponed until the parts are less sensitive. In the mean time rest and the application of cold or heat, as is most grateful, to the perineal and pubic regions is of value. As soon as the patient can tolerate it, the vagina should be irrigated thoroughly twice daily with hot solutions of boric acid. The external parts should be kept clean, dusted with a simple powder, and covered with thin

layers of cotton or lint to prevent contact of surfaces. These measures will obviate the danger of vulvitis and will add to the patient's comfort. If vulvitis occur, slightly astringent lotions or powders may be used in addition.

As the inflammation subsides it is sometimes well to irrigate with a solution containing 1 per cent. of nitrate of silver or 1 to 2 per cent. of permanganate of potassium instead of boric acid; or somewhat stronger solutions may be applied with a brush or a cotton swab. The cervical canal should be kept clean and should receive a daily application of a solution of nitrate of silver (ʒss–ʒj ad f℥j). Following these astringent applications the vagina may be tamponed with cotton soaked in iodoform glycerin, borated glycerin, or glycerite of tannin.

If the urethritis tend to become chronic, injections such as those recommended for use in subacute gonorrhœa in men may be used, the bladder always being moderately full. Later, solutions of nitrate of silver in gradually increasing strength may be applied through an endoscopic tube. If the follicles are involved, they should be destroyed with the fine point of a Paquelin cautery, or with caustic or acid.

Acute Bartholinitis should be treated by rest and by hot local applications. If suppuration occur, the abscess should be opened and treated on surgical principles. In chronic Bartholinitis the gland should be enucleated or be destroyed by the cautery.

The treatment of gonorrhœal inflammation of the uterus and its appendages should be left to the skilled gynecologist.

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