

Non-Haemorrhagic Vaginal Discharge

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One of the commonest complaints which brings a woman to the gynaecological outpatient clinic is that of a non-haemorrhagic vaginal discharge, usually referred to by Chinese patients as "lau pak tai" 流白帶 and "pai sin" 敗身. In some instances, it is used as a convenient passport to obtain a gynaecological consultation, by patients as well as medical colleagues. The symptom is usually referred to by the latter as "leucorrhoea". This term by interpretation means "a running of a white substance" and according to Jeffcoate should be restricted to mean an excessive amount of the normal discharge and not discharge from other causes.

Vaginal discharge may be classified into two groups: physiological and pathological. Naturally, no specific treatment is needed for the first while the treatment for the second depends on the underlying cause. Each case should be carefully investigated before instituting treatment.

Investigation

A careful history should be obtained in every case: details of onset, duration, relation to the menstrual cycle, amount, colour, odour, associated symptoms, the use of any intravaginal appliances, contraceptives, douches.

A physiological discharge is gradual in onset, is white, creamy, not irritating or offensive. A pathological discharge, on the other hand, has the opposite qualities. A physiological discharge is increased at the time of ovulation, pre-menstrually and during pregnancy. By means of an accurate history, it is possible in most cases to differentiate between a physiological and a pathological discharge.

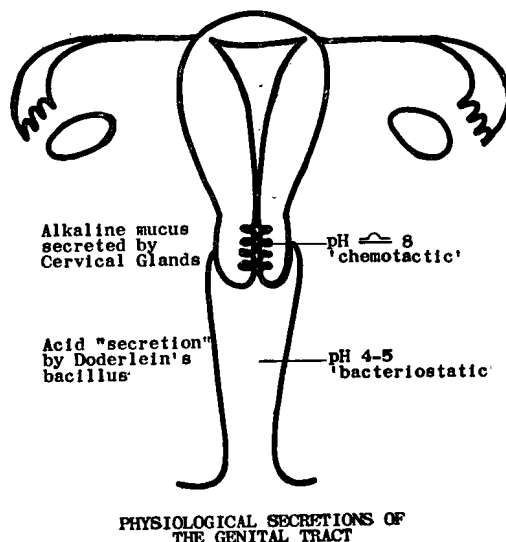
The Physiological Basis of Vaginal Discharge (Fig. 1)

The normal physiological discharge is essentially a function of the ovarian hormonal effect on the genital tract. Therefore, it is absent before puberty and declines after the climacteric. Although theoretically the whole inner lining of the genital tract contributes to this discharge, the major important sources are the endocervix and the vagina.

The Cervical Secretion

The endocervix is lined by a mucous membrane of tall columnar epithelium, with many racemose glands opening from the substance of the cervix into the canal. Under the influence of oestrogen and progesterone the glandular

Figure 1



PHYSIOLOGICAL SECRETIONS OF THE GENITAL TRACT

elements proliferate and secrete a clear alkaline watery mucus which at the time of ovulation may be so copious as to flow out as the "ovulation cascade". In the post-ovulatory phase the mucus becomes more viscous.

The Vaginal "Secretion"

The adult vagina is lined by a thick stratified, non-glandular, squamous epithelium which extends to and covers the vaginal cervix as far as the external os. The superficial layers of this epithelium are rich in glycogen (an oestrogen effect). There is a constant breakdown of the superficial epithelial cells. These cells supply glycogen to the Doderlein's bacilli which normally inhabit the vagina. Bacterial fermentation by these bacilli produces lactic acid from the glycogen. The vaginal component of the secretion therefore consists of tissue fluids, epithelial debris and about 0.75 per cent lactic acid. This accounts for the acidity of the vaginal discharge which ranges from pH 4 to 5 (Fig. 1). The acidity of the vagina provides an important protective mechanism against ascending infection during the reproductive era. The vaginal "secretion" appears as a whitish pasty material somewhat like thin curdled milk and has a typical sourish but not unpleasant odour.

Physiological Fluctuations in Amount of Discharge

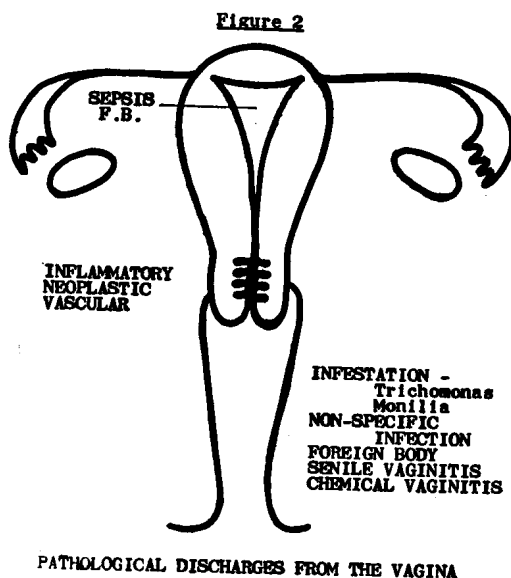
In the healthy adult the amount of discharge is not normally noticeable except at the time of ovulation, in the fore-menstrual week and during pregnancy. Under these circumstances, the increased discharge may cause some discomfort, attract attention and create mental anxiety.

The normal physiological discharge consists of mucus, epithelial squames, Doderlein's bacilli (Gram-positive rod) and other micro-organisms. In the second half of the cycle some leucocytes appear.

The Common Causes of Pathological Discharge (Fig. 2)

Under this heading, lesions such as fistulae and rare conditions such as a discharging hydrosalpinx will not be discussed.

The main causes of pathological discharge are (a) functional (b) mechanical (c) inflammatory (d) neoplastic.



a) Functional

As the term suggests, there is no organic basis. The subject may be unduly sensitive to a normal or perhaps slightly excessive discharge, especially soon after the menarche. Congestion of the pelvic organs due to prolonged ill health, erosion of the cervix, douching with antiseptic solutions increase the production of normal secretions.

The discharge is white and creamy in appearance, non-offensive and does not cause itch. It may cause a light brownish stain when dry.

The treatment is reassurance and correction of general ill health.

b) Mechanical

Under this heading are included various foreign bodies which may find their way into the lower genital tract: therapeutic agents such as gauze swabs, tampons, pessaries, contraceptive appliances and articles inserted for inducing abortion. Children insert toys, screws, nails, hairpins, seeds and nuts out of curiosity. In such cases, examination under anaesthesia will reveal the cause.

c) Inflammatory

Specific infections include gonorrhoea, trichomonas vaginitis and moniliasis. Gonococcal infection has an acute onset of purulent vaginal discharge and dysuria following recent venereal exposure. The sites of disease are the urethra, Bartholin's glands and the endocervix. Diagnosis depends on the demonstration of Gram-negative intracellular diplococci either on direct smear or culture. The treatment is penicillin by injection.

Trichomonas vaginitis is usually venereal in origin. The patient gives a typical history of a foul, yellowish discharge with intense pruritus. The symptoms often follow on some alteration of the vaginal acidity such as after menstruation or vaginal surgery. The discharge is frothy and varies from a thin milky fluid to frank yellow or greenish pus. The odour is characteristic, somewhat like bad fish.

The organism is a protozoa which infests the vaginal epithelium especially in the folds between the rugae, the urethra, Skene's tubules and Bartholin's glands. Diagnosis depends on the demonstration of the organism, an ovoid motile flagellate about $15 \times 10 \mu$ in a fresh vaginal smear, together with epithelial squames, pus cells and numerous bacteria. The modern treatment is Metronidazole (May and Baker) 600 mg. daily for one week by the oral route. Simultaneous treatment of the husband is advisable.

Monilial vaginitis is characterised by a white curdy discharge with severe pruritus, frequently encountered in pregnant women and diabetes mellitus. The presence of carbohydrate favours the growth of this fungus. Alteration of vaginal flora by the use of broad-spectrum antibiotics today is an important predisposing cause.

A clinical diagnosis may be made on the presence of typical cheesy white plaques of monilial discharge, confirmed by microscopic examination and culture.

Treatment consists of daily insertion of mycostatin vaginal pessary 100,000 units for 2 weeks, or the painting of 1 per cent aqueous gentian violet on alternate days for 2 weeks. In all cases diabetes mellitus must be excluded.

Non-Specific Vaginitis

Occasionally, non-specific vaginitis may result from B-coli, staphylococci and streptococci. The discharge is purulent but not accompanied by itching. Diagnosis is by exclusion of specific forms of vaginitis and by bacterial culture and identification of the organism. Treatment is by administration of the appropriate antibiotic. In postmenopausal women stilboestrol 0.5 - 1 mg. daily for 2 - 3 weeks will help to tone up the vaginal epithelium and eradicate the infection.

d) Neoplastic

Two common neoplasms may cause this symptom, namely the endocervical mucous polyp and the early cervical carcinoma. Cervical mucous polyps usually give rise to a blood-stained watery discharge, but occasionally bleeding is absent. Before ulceration takes place the congested benign neoplasm merely gives a watery mucoid discharge.

A significant proportion of pre-invasive cancers of the cervix are accompanied by non-haemorrhagic vaginal discharge as the sole symptom. In the case of invasive growths when secondary infection and necrosis set in the discharge becomes foul and offensive. In pre-invasive lesions, cervical and vaginal smears would reveal the presence of malignant cells while in the case of frank invasive lesions a biopsy is necessary. Treatment is that of the underlying lesion.

From this brief review, it is evident that vaginal discharge or "leucorrhoea" is a symptom worthy of systematic analysis and scientific investigation. Treatment should never be instituted blindly and without first discovering the underlying cause of the complaint.