BIONEXT
LABORATOIRE D'ANALYSES MÉDICALES

GENITAL SAMPLES FROM WOMEN

Genital conditions in women such as vaginosis and vaginitis may be due to different causes, with a variety of clinical symptoms. The diagnosis is based on a series of clinical arguments combined with test results, to initiate the appropriate treatment.

Main vaginal conditions

	Vaginosis	Vaginitis	Fungal infection
Pathophysiology	Dysbiosis without inflammation	Infection proper with inflammation	
Clinical signs	Odorous discharge Irritation Vulvar-vaginal discomfort	Dyspareunia, burning Redness Vaginal oedema or even ulceration	Whitish discharge Redness and itching
Main agents responsible	Disappearance of lactobacilli Anaerobic polybacterial flora +/- *Mycoplasma hominis*	*Trichomonas vaginalis* *Neisseria gonorrhoeae* *Chlamydia trachomatis* *Mycoplasma genitalium* Streptococci Enterobacteria	*Candida albicans* *Candida spp* Colonisation frequent

Urogenital commensal species: Mycoplasma and Ureaplasma

Only *M. genitalium* is a strict pathogen in the presence of symptoms.

In women

M. hominis can often be found in large quantities during dysbiosis (vaginosis) without being the causative agent.
U. parvum and *U. urealyticum* are among the commensal flora in 30% of women.
Their role as a pathogens is thus particularly difficult to judge.

In men

U. urealyticum is occasionally responsible for urethritis. M. hominis is not a pathogen in men.

What is vaginosis?

Vaginosis is an unbalance in the vaginal flora. This form of dysbiosis is marked by an almost complete disappearance of protective lactobacilli and their replacement by other organisms, some commensal, such as *Gardnerella vaginalis*, *Atopobium vaginae*, *Mobiluncus sp.*

What could be the complications?

- Increased risk of pelvic inflammatory disease
- Increased the risk of contamination by STIs
- Increased risk of obstetrical complications
  - Spontaneous miscarriages
  - Premature delivery
  - Chorioamnionitis

SOME FIGURES

- Frequent condition, 15 - 20% women
- 50% of women of African/ Hispanic origin
- Main reason for vaginal discharge
- Asymptomatic in 50% of cases

How is the diagnosis made?

All the vaginal samples are subjected to multiplex PCR, in addition to culture and direct examination. It also allows the establishment of a differential diagnosis compared to STIs in the same sample when explicitly prescribed.
Historically, the vaginosis score (Nugent or Ison/Hay) is determined by microscopy. Multiplex PCR makes it possible to standardise the quantification of lactobacilli, *G. vaginalis, A. vaginae* and *Mobiluncus sp* and thus approach the Ison/Hay score more accurately and specifically.

Interpreting the results

Ison/Hay score = 1 (Nugent score 0 - 3)	**Normal flora** Presence of lactobacilli only
Ison/Hay score = 2 (Nugent score 4 - 6)	**Intermediate flora** Reduction in lactobacilli with the presence of different bacterial morphotypes
Ison/Hay score = 3 (Nugent score 7 - 10)	**Appearance of vaginosis** Presence of different bacterial morphotypes with few or no lactobacilli

PCR makes it possible to improve

- The time for providing a result ≈ 24 hours
- Sensitivity and specificity of the vaginosis score
- Diagnostic sensitivity for *T. vaginalis* (≈ 100% versus 35 - 65% for DE)
  This protozoan is hard to detect upon direct examination (DE) due to its fragility

In practice

- A single prescription
  Vaginal sample:
  bacteriology + STI by PCR
- A single swab with transport medium
- Preservation of samples for at least 24 hours at ambient temperature
- Vaginal self-sample accepted to not delay diagnosis
- Bionext can collect your sample in the office every day, for more information:
  27 321 285 or bio@bionext.lu

Genital ulceration panel:

Simultaneous search for *Haemophilus ducreyi, Treponema pallidium,* Lymphogranuloma Venereum (LGV), HSV1 and HSV2 by PCR, for a differential diagnosis of the pathogens involved

In practice on the prescription:
Genital ulceration PCR

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Bibliography

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