

Cytological staining

Cytological samples are obtained:

- smear from the surface of the mucous membranes (gynecological cytology)
- by filtering or centrifuging fluid (urine, bronchial lavage, cerebrospinal fluid)
- by pricking and sampling with a very thin needle - the so-called "fine-needle biopsy" (thyroid gland, mammary gland, lymph node)

From the sample taken, a coating is prepared on the base glass. If the collected cells are present in suspension, cytopsin is used to prepare the sample - the cells are applied to the glass slide by gentle centrifugation. If the amount of cells taken is large enough, a so-called "cell block" embedded in paraffin can be prepared. After being applied to glass slides, they are most often fixed on an alcohol basis (isopropyl alcohol, ethanol-ether 1:1, 96% ethanol), usually they are fixed for 10-15 minutes.

cytochemical staining

- **hematoxylin-eosin**
- **Pappenheim's panoptic method**
 - mainly blood smears and bone marrow smears are stained
- **Papanicolaou staining**
 - by modification of trichrome staining
 - it is used, for example, when examining smears from the cervix
 - cell nuclei turn blue, cytoplasm of eosinophil cells pale red, orange to yellow, cytoplasm of basophilic cells pale blue to green, erythrocytes orange-red

immunocytochemical staining

- antigen detection using antibody
- cytokeratin 19, HBME-1, calcitonin, thyroglobulin are demonstrated in the diagnosis of thyroid gland samples

Links

References

- ČÍŽKOVÁ, Kateřina. *Základy histochemických metod*. - edition. Univerzita Palackého v Olomouci, 2018. pp. 50. ISBN 9788024453163.

Source

- Original article from Mgr. Kateřiny Čížkové, Ph.D., Ústav histologie a embryologie, UPOL.