



**FACULTY
OF MEDICINE**
Masaryk University

Masaryk University School of Medicine and Brno University Hospital

Department of Obstetrics and Gynecology

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Cervical dysplasia



**General Medicine Obstetrics and Gynecology
Seminary 2017 – 2018 – Autumn Semester**

- **founded 150 types of HPV**
- **about 40 specific types of HPV - affinity the genitals (**cervix**, vulva, vagina, perianal area, penis)**
- **500 000 new cases of invasive cervical cancer / year in the world (association with **HR HPV positivity**)**

Biology

- DNA viruses (papovaviridae)
- epitheliotrophia, proliferative effect
- according to the specificity of tissue
 - skin
 - mucosal
- according to the oncogenic potential
 - LR (low risk) - 6,11 (42,43,44)
 - HR (high risk) - 16,18
(31,33,35,39,45,51)

Geographic distribution (cervical cancer)

- Europe, N. America, N. Africa - type 16
- Asia - type 18
- Sub-saharan Africa - type 45
- M. and S. Amerika - type 31
- Czech republic - type 16(60-65%)
 - type 18(15-20%)
 - the others
 - glandular precancerosis - type 18

The mechanism of action of oncogenic

- **inactivation of tumor suppressor genes**
- HPV genome encodes viral proteins E1- E7
 - E6 - nuclear protein p53
 - E7 - retinoblastom protein RB
- viral DNA - benign lesions, precancerosis
 - **episomal (extrachromosomal)**
 - malignancies - **integration to the genome**

Risk factors

- risky sexual behaviour, early start of sexual life (infection of unmaturing metaplastic epithelium „**high malignant potential**“)
- **immunosuppression**
- **smoking, STD, multiple parity**
- **hormonal contraception** (long term use) - persistence HPV, extensive TZ (transformation zone)

Transmission of infection

: microtrauma, direct contact in places transition epitheliums - cervix (nasopharynx, epiglottis, anus..)

- **sexual intercourse (mostly)**
- **indirect contamination**
- **vertically (mother – fetus)**
- **(transplacental transmission)**

The fate of infection – regression, persistence, progression

- : **70-80% of women** - contact with HPV infection
- : **spontaneous clearance of the virus** (excluding from the body in women with latent infection is to a certain age)
- : 18-25 aged - **25% of women - HR HPV positive**
- : 35 aged - **3-5% of women with persistence HR HPV positivity** - high risk of precancerosis and cancer

HPV in gynecology

Forms of infection :

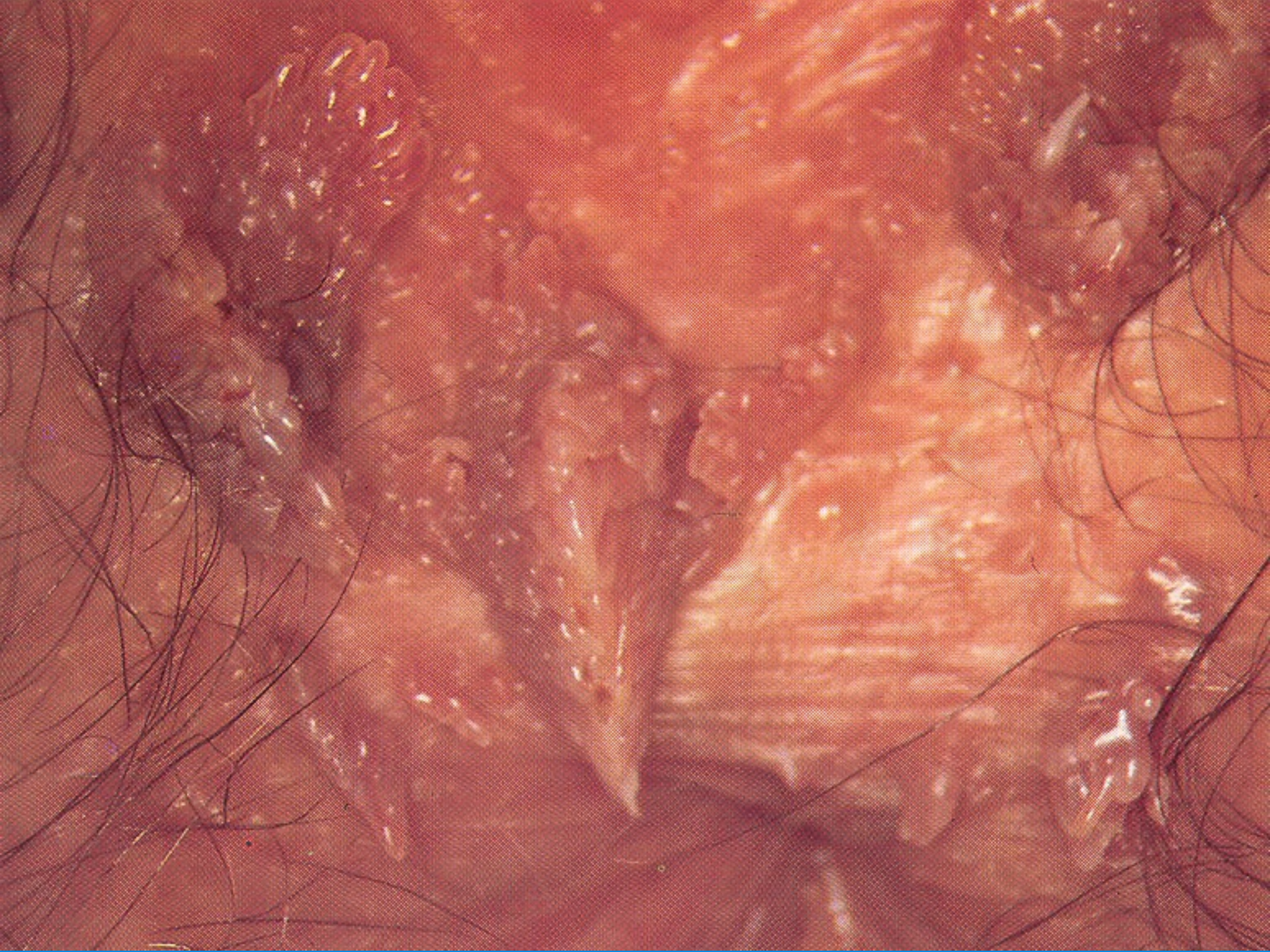
- CLINICAL (MANIFEST)
- SUBCLINICAL
- LATENT

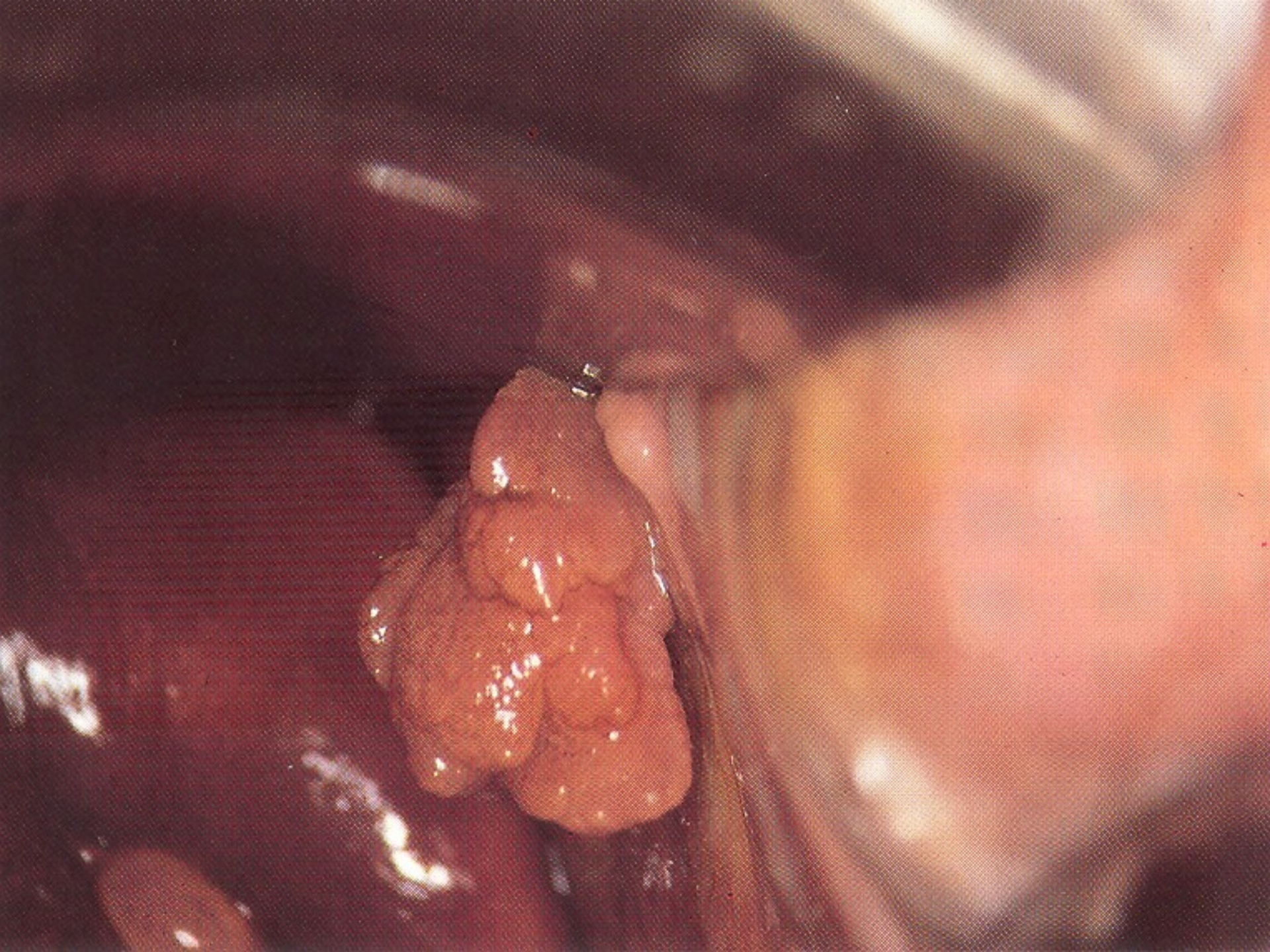
A/ Clinical (manifest) form

- genital warts - HPV 6,11 - **vulva** (vagina, cervix, perianal area)

Morphology - condylomata accuminata

- smooth papular warts
- flat warts









Diagnosis - macroscopic finding

- kolposcopy

- histology

NEED histological finding !!!

Therapy - elimination of virus very difficult,
persistence of HPV positivity up to 45%

Conservative therapy

- Imiquimod (Aldara) - unguent
- Phodophyllotoxin (Wartec) - unguent
- Podophyllin - local solution
- Trichloroacetic acid - local solution
- Interferon alfa - injection
- Photodynamic therapy - sensitization
5-aminolevul acid and effect certain wave-lengths of the visible spectrum

Surgical treatment

- **ablation (spoon, curette)**
- **excision**
- **electrocoagulation**
- **laser**



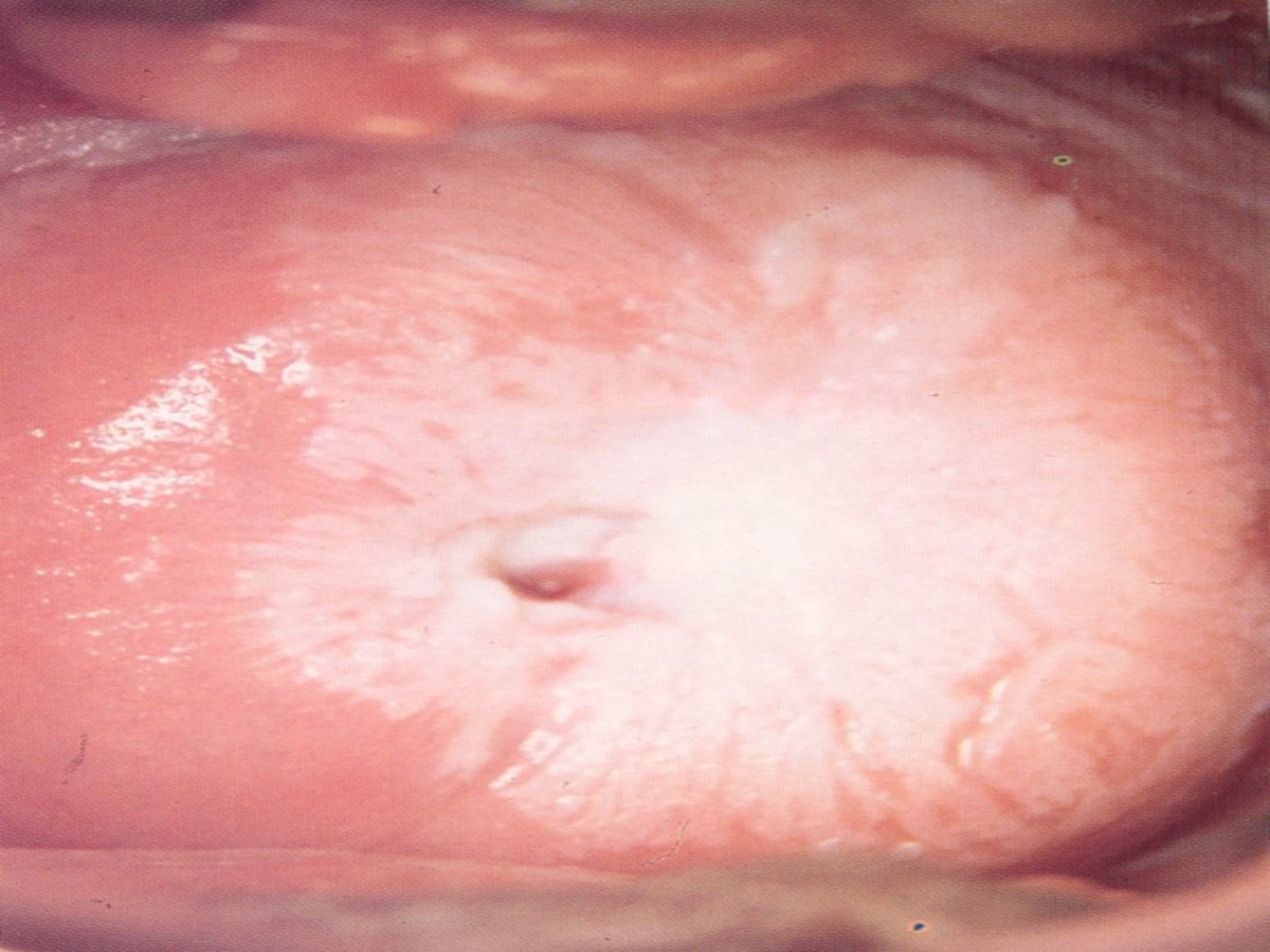
B/ Subclinical form

in the cervix - separately or associated with CIN or cancer (up to 98%)

Dignosis:

1. COLPOSCOPY - a prominent JOD
negative lesions - papillary, fingerely,
flat (called brain-like area)





2. PAP test – KOILOCYT

According to the BETHESDA system - SIL

: **LG SIL/HPV – genital warts**, CIN I

: HG SIL - CIN II, III

LBC (Liquid Based Cytology) - possibility

currently HR HPV testing

3.HISTOLOGY - acanthosis, hyperkeratosis,

parakeratosis, presence of koilocyts

C/ Latent form

- without clinical manifestations

- **HPV DNA detection**

- : amplification methods (PCR) - research

- : **hybridization methods** - qualitative

determination of virus DNA, resolution LR

and HR (a smear of the cervix using the

sampling kit)



Therapy

- viral lesions separate or combined with CIN I - 40-80% of spontaneous regression
 - observation
 - destructive methods - electrocoagulation
 - laser technology
 - cryotherapy

INDICATION: exocervical lesions

HISTOLOGY FINDINGS ALWAYS REQUIRED !!!

Histological findings CIN II,III - excision methods

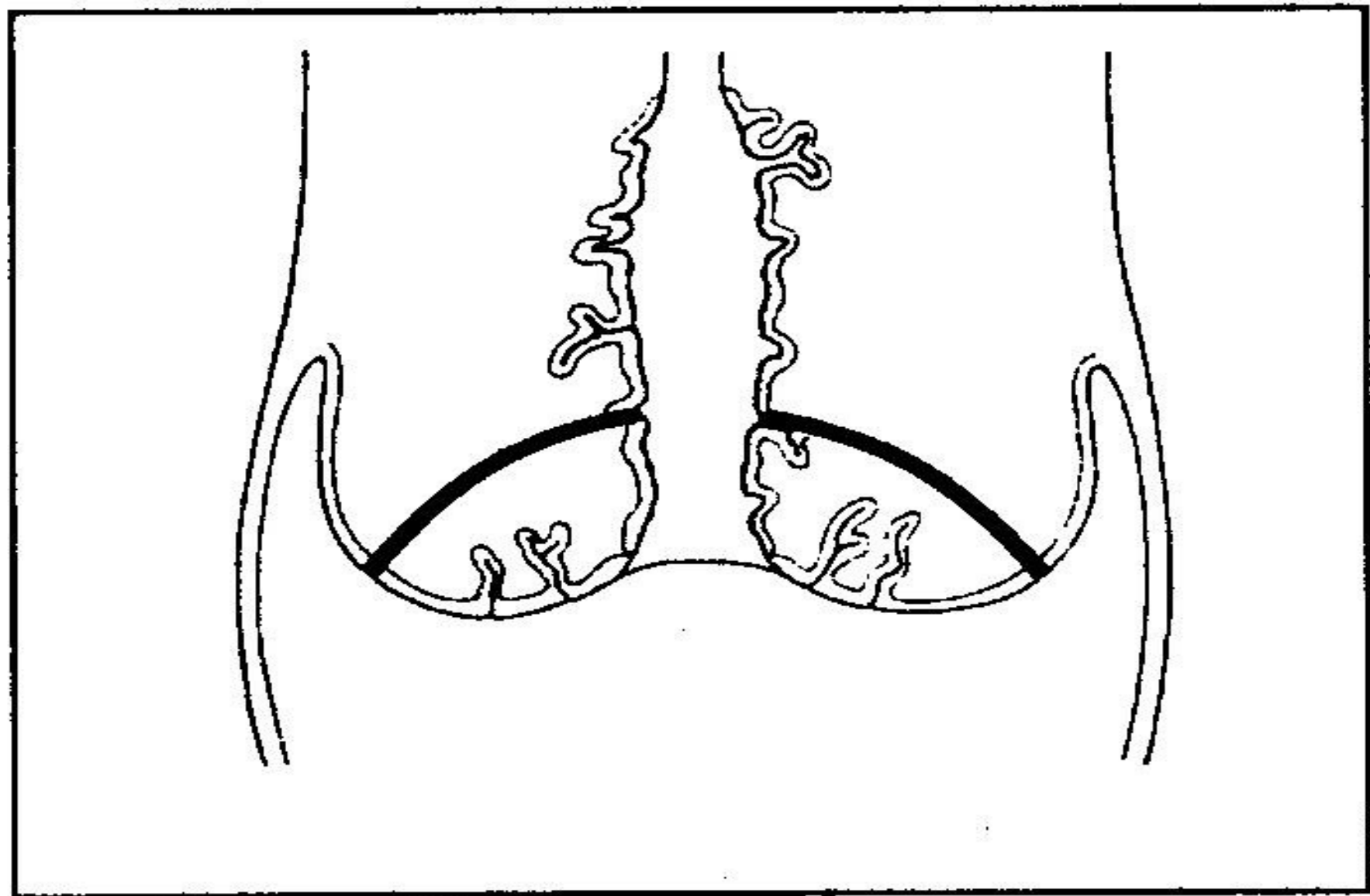
- **radio(electro)surgery**

: LETZ, LLETZ (dissection of exocervix)

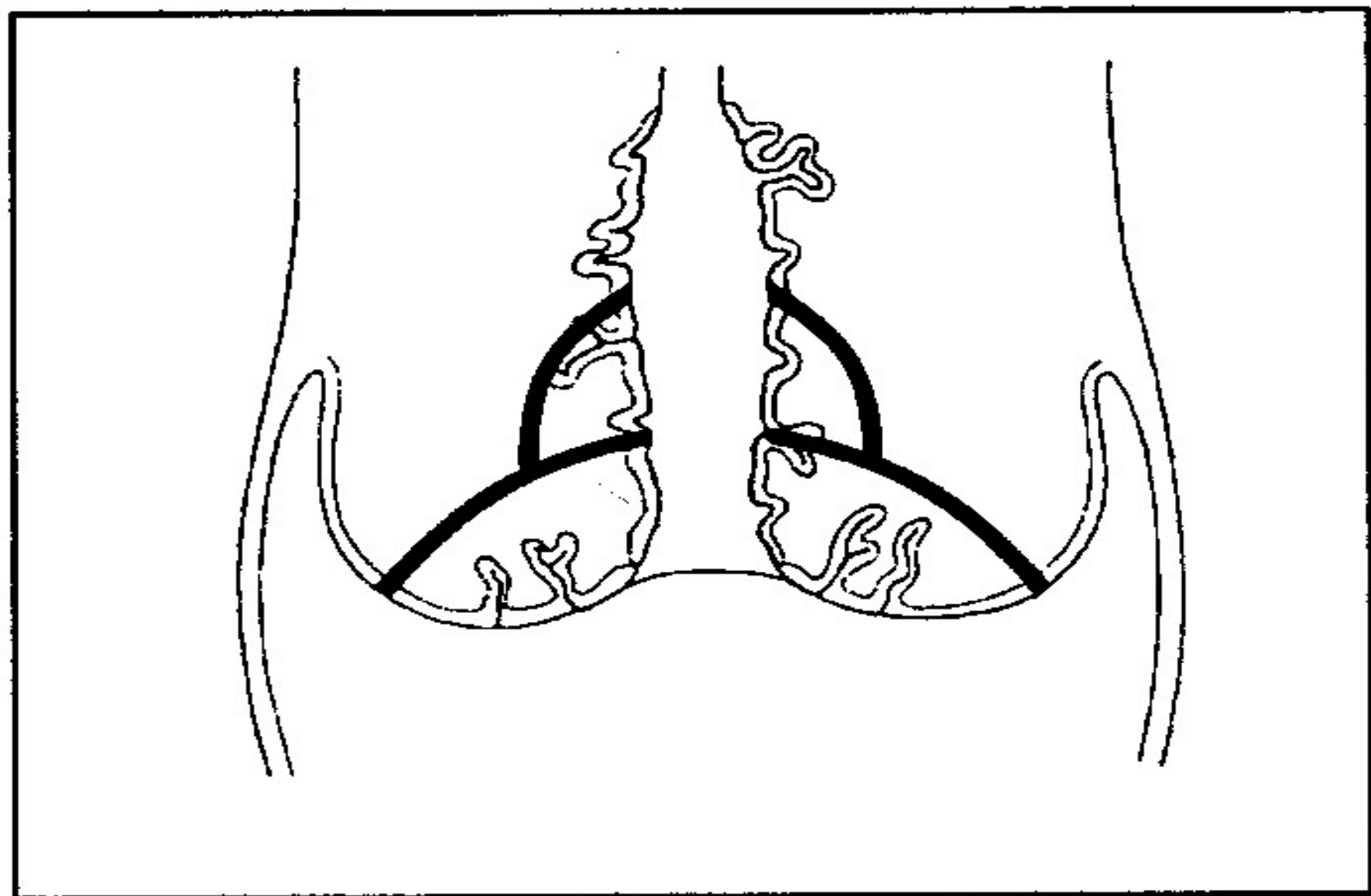
: NETZ (dissection of endocervix)

: SWETZ

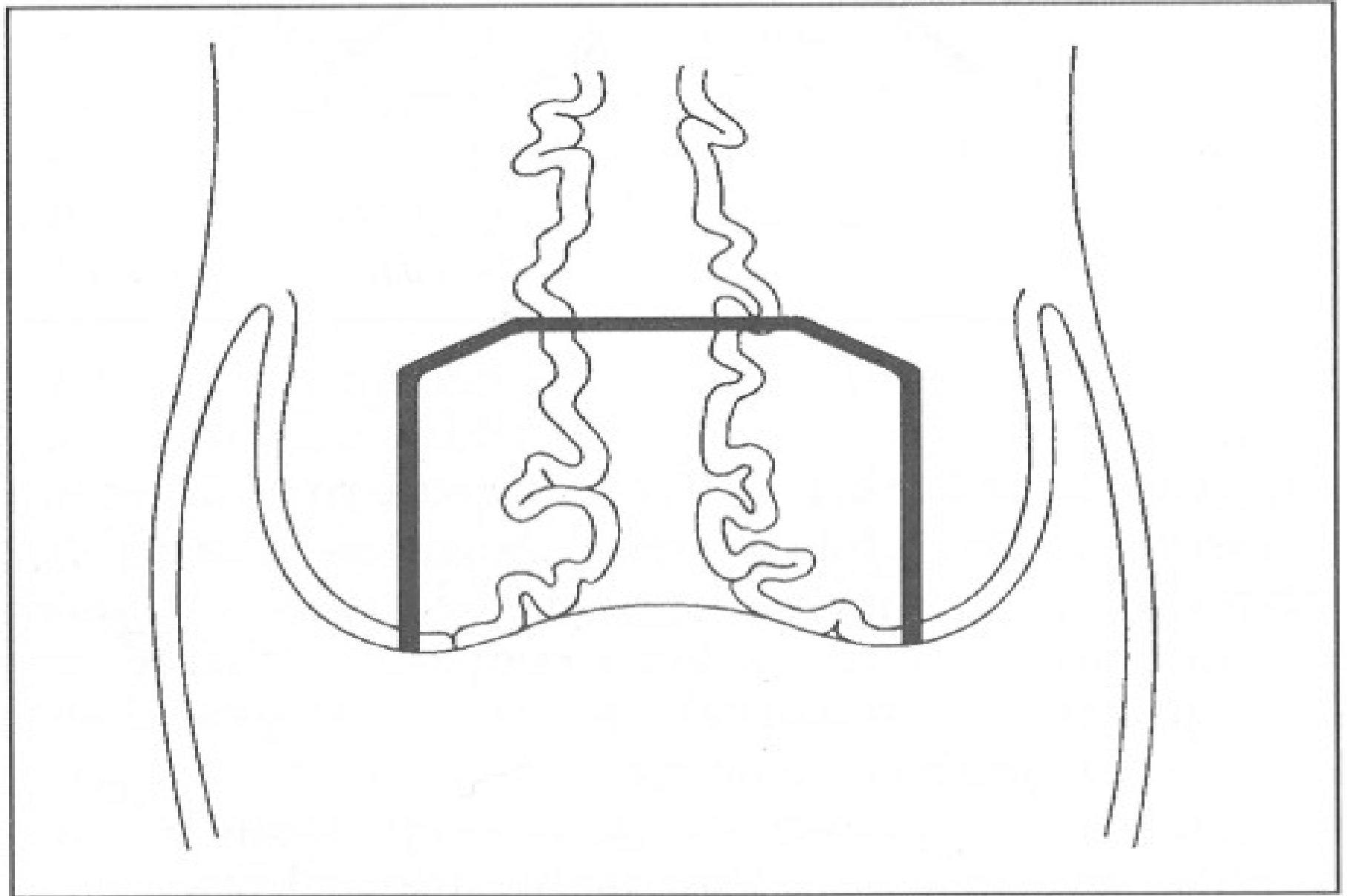
LETZ - klíčková excize transformační zóny



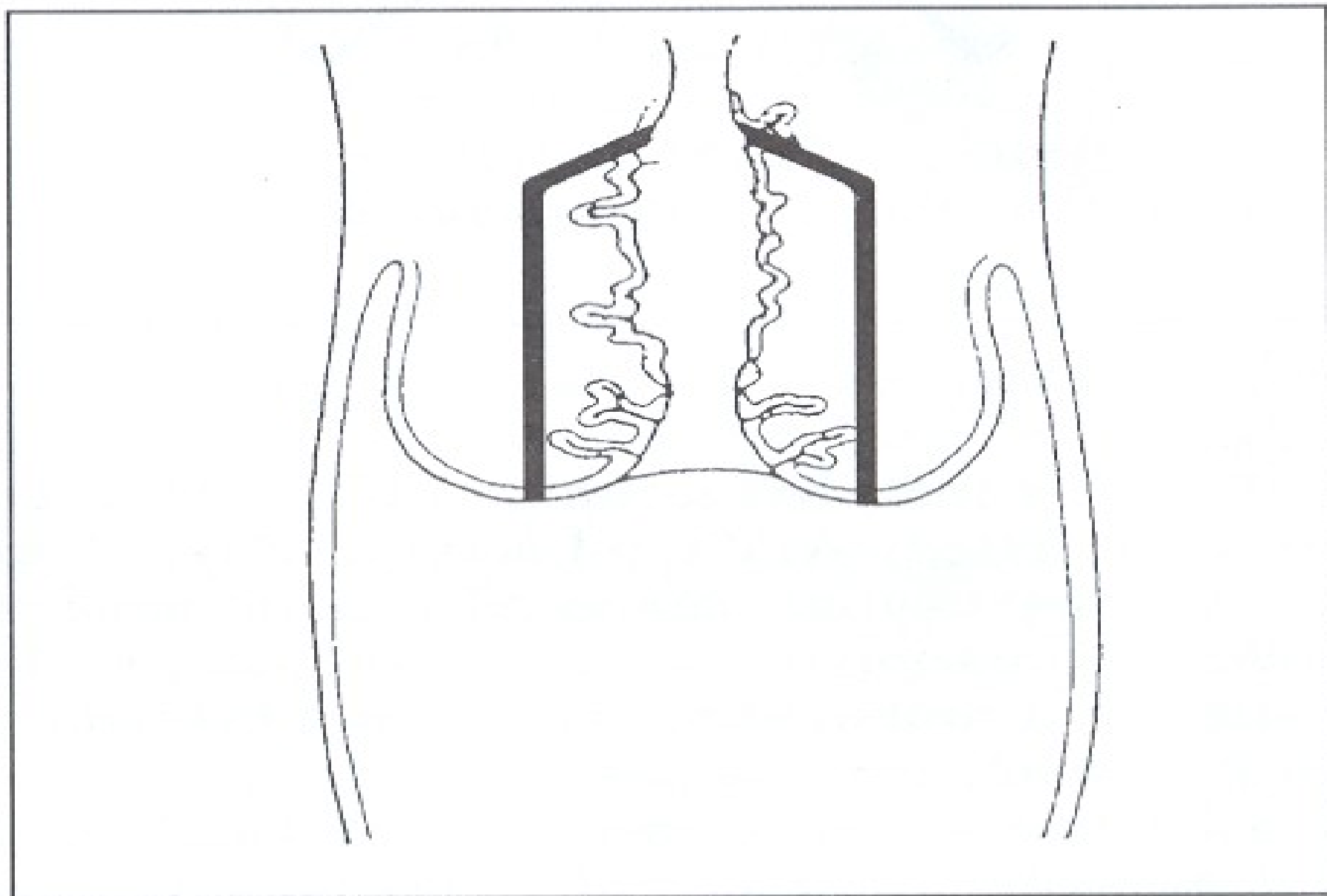
LETZ - konizace - metoda dvou řezů klíčkou



Konizace jehlou



Cylindrická disekce endocervixu



Others excisional techniques

- „cold knife“ cone
- laser technology
- combination of excision and destructive techniques



Thank you for your attention !

