Risk factors for precancerous lesions of the cervix in a population of Georgian women

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Background:

- Cervical cancer remains one of the most important issues of oncogynecology worldwide, being not only a medical, but also a social problem.
- Cervical cancer is the most common cancer and leading cause (after breast cancer) of cancer-related death among middle-aged women in developing countries.
- Almost 260,000 death annually, from which approximately 80% occurs in developing countries.
- Some studies indicate that both incidence and mortality rate in developing countries are likely to be underestimated.
- Epidemiological pattern of cancer in developing countries may differ in many aspects:
  - Cancer natural history
  - Microbiologic environment
  - Patient’s immune system
  - Drug availability
Prevalence of cervical cancer in developing countries

In Georgia cervical cancer ranks as 2nd most frequent cancer among women aged 15-44, but precise data about cervical precancerous lesions are not available.
The main cause of cervical precancerous and cancerous lesions is Persistent Human Papillomavirus (HPV) infection.

- It can be detected in 70-90% of all cervical cancers.
- More than 120 known genotypes of HPV.
- 15 of them can cause cancer of cervix and other sites.
- The most oncogenic genotypes are HPV 16 and 18. These high-risk types are mostly associated with the persistence of infection.
- HPV is highly transmissible. It is the most common STI.
- Co-infection with multiple HPV occurs more frequently than expected.
Age-dependent prevalence of hrHPV

- Prevalence of HPV vary greatly around the world: between 2% and 44%

From Br J cancer (2008); 98
“Age-dependent prevalence of 14 high-risk HPV types in the Netherlands: implications for prophylactic vaccination and screening.”
The dashed lines represent the lower and upper 99% confidence bands of the fitted curves.
Role of co-factors

HPV positive women

Virus clearance within 2 years

HPV Negative

hrHPV

Risk co-factors

CARCINOGENESIS

Multistep
Multifactorial process

Current Epidemiologic Challenge:
Identify potential risk co-factors
(environmental, host)

HSIL

Cancer

Potential risk co-factors:

- Women’s age
- Parity
- Early sexual debut
- Smoking
- Multiple sexual partners
- Use of OC
- Other, non-HPV STIs
Objectives of the study

- To determine the real rate – frequency of precancerous cervical lesions (CIN 1,2,3) in a population of women in Tbilisi (Georgia).
- To identify the risk co-factors and their significance to the development of high-grade CIN.
- To work out recommendations for preventing cervical precancerous lesions and to optimize FUP.
Materials and methods

**Study design:** descriptive epidemiology

**Selection of participants:** all women who attend our clinic for gynecological exam.

**Setting:** Medical Diagnostic Centre “Microgen” with cooperation of Tbilisi Oncocentre.

**Data collection** during the usual pelvic examination:
- Vaginal smear
- Culture of vaginal swab
- Pap smear
- Serology for anti-Chlamydial IgM and IgG antibodies
- Colposcopy

**Outcome measures:** CIN 1, 2, 3, confirmed by Pap Smear.

**Statistical Analysis:** to assess the effect of potential risk co-factors, method of logistic regression will be used.
Expected benefits:

- Identify women at greatest and least risk for cervical precancerous lesions.
- Work out a risk management model (primary prevention).
- Rationalize clinical decisions.
- Better allocation of resources: increase safety for women at greatest risk and reduce unnecessary investigations and overtreatment for women at lowest risk.
- By educating women and their partners, creating awareness about the potential risk factors for cervical pre- and cancerous lesions.
Cervical cancer is completely preventable
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