Training Course in Sexual and Reproductive Health Research

Geneva, 2 March 2009

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

Maia Chiokadze, M.D.
Medical Diagnostic Centre Microgen,
Tbilisi, Georgia
GFMER scholarship

Tutor: Lale Say

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

TABLE I – THE 7 DEVELOPING COUNTRIES WITH THE LOWEST CC RATES AND THE 7 DEVELOPING COUNTRIES WITH THE HIGHEST CC RATES[1]

Lowest CC rates		Highest CC rates	
Syrian Arab Republic	3.0	Tanzania	61.4
Iraq	3.3	Zambia	61.1
Turkey	3.9	Nicaragua	61.1
Azerbaijan	4.2	Bolivia	58.1
Jordan	4.2	Malawi	56.2
Yemen	4.8	Swaziland	52.2
Saudi Arabia	5.0	Zimbabwe	52.1

[1]Incidence rates, per 100,000 females, were adopted from IARC Globocan 2000 estimates.[3]

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.

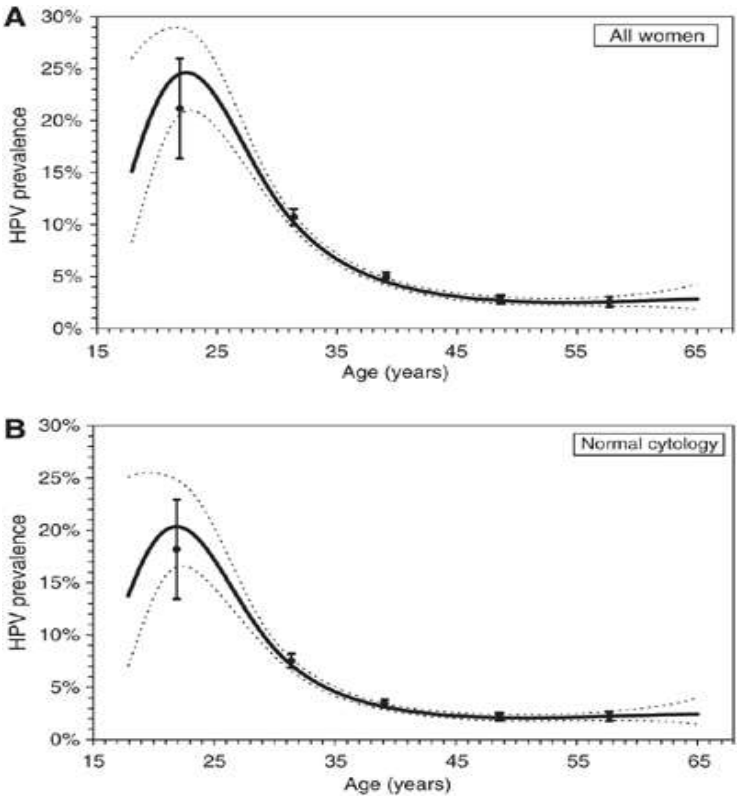
The main cause of cervical precancerous and cancerous lesions is

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%



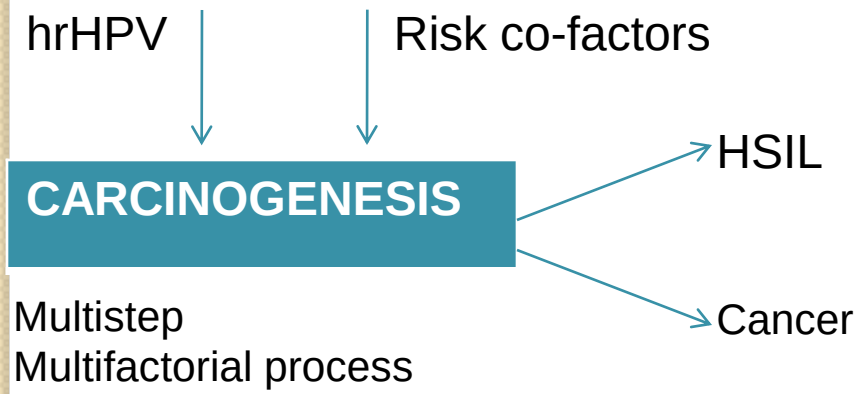
From Br J cancer (2008); 98
"Age-dependent prevalence of 14 high-risk HPV types in the Netherlands: implications for prophylactic vaccination and screening."
The dashed lines represent the lower and upper 99% confidence bands of the fitted curves.

Role of co-factors

HPV positive women

Virus clearence within 2 years

HPV Negative



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

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 measure**s: 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

Acknowledgements:

GFMER
WHO
LECTURERS
TUTOR: LALE SAY

Thank you