

Cervical Cancer Screening in the Czech Republic

Ruth Tachezy¹ and Lukáš Rob²

¹ Department of Experimental Virology, National Reference Laboratory for Papillomaviruses, Institute of Hematology and Blood Transfusion, Prague, Czech Republic

² Department of Oncogynaecology, Obstetrics and Gynaecology Clinic, Second Medical Faculty, Charles University, Prague, Czech Republic

ABSTRACT

Cytological diagnosis of atypical cells of cervix uteri by the Papanicolaou method was introduced in the Czech Republic (CR) very early – in 1947. The first data on the incidence of cervical cancer in CR are available from 1960 when the rate was 32.3 cases/10⁵ women. In 1966 the Czech National Health Law was passed that guaranteed women a yearly preventive examination by a gynaecologist including screening for cervical carcinoma that would be covered by the compulsory health insurance. Notwithstanding high frequency of screening visits and the fact that all women are eligible, the incidence of CC has not changed in the last 34 years. The reasons for this include the coverage of Czech women, which is estimated to be low (50% at the most), and that none of the cytology laboratories are accredited for screening, there are no national registries for any aspect of screening and there are no mechanisms for evaluation of the screening process. As a result, it is likely that the majority of cervical screening activity that is undertaken is ineffective and the implementation of an organised and quality controlled screening programme, in compliance with the recommendations of many European Institutions, is urgently required to ensure that Czech women are properly protected against this disease and that scarce healthcare resources are used in the most cost-effective manner.

Key words: cervix, cancer, screening

Introduction

Cervical cancer prevention in the Czech Republic (CR) had a very auspicious start. Cytological diagnosis of atypical cells of cervix uteri by the Papanicolaou (Pap) method was introduced very early – in 1947 – and by 1954, Herold and Luksch had already published the manual, »Cytodiagnosics of cancer of female genitals«, in the Czech language¹. In 1960, cytological consultation centres were established and these resulted in a drop in incidence 32.3 cases/10⁵ women to 27.2 cases/10⁵ women by 1965. Then, in 1966 the Czech National Health Law was passed which guaranteed women a yearly preventive examination by a gynaecologist, which included a Pap test and the incidence of cervical cancer decreased again, from 28.8 in 1966 to 21.9 in 1983. A further decline in incidence from 21.9 to 20.7 in the period of 1984–90 can be attributed to the establishment of a system of Centres of Gynaecology–Oncology Prevention. However, since 1990, no further decreases in the incidence of cervical cancer have been observed (Figure 1)².

Guidelines

In 1999, a committee of experts including gynaecologists, pathologists, cytologists and virologists prepared the first Guidelines for the management of patients with lesions of cervix uteri, which also included suggestions for algorithms for primary screening. However, these guidelines were never introduced into routine clinical practice. Subsequently, the Ministry of Health has on three occasions convened committees for screening for cervical carcinoma with the first two of these cancelled shortly after their establishment. Then, in July 2004, the third committee published recommendations that included a 1-year screening interval with classical cytology as the primary screening test and HPV detection for the triage of borderline findings up to 4% of the amount of Pap smears for each laboratory. The recommended age range is 25–60 and the insurance companies should send invitation to women. If woman does not respond, the invitation should be repeated after 2 years. The basic requirement for cytological laboratory to be able to apply

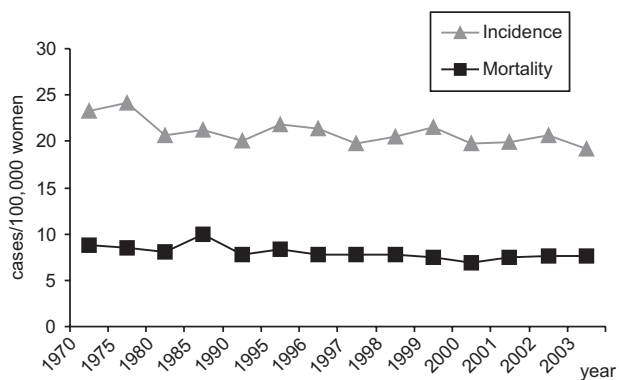


Fig. 1. Incidence and mortality of cervical cancer in the Czech Republic².

for accreditation is a minimum amount of 15,000 cervical smears per year. Originally, the start of the screening was expected in July 2006, but it has not yet begun.

The Current Situation

In 2003, there were 1,007 new cases of cervical carcinoma and 398 women died from this disease in the CR². The highest incidence of cervical cancer occurs in the 45–49-age category (Table 1). In the age category of 15–34 years the death rate is low – 3.3%, but it is very high in the category of 35–59 – 38.4%. These numbers are smaller in the age category of 60–74 – 28.9% as well as in the category of 75+ years of age – 29.4%.

The Czech National Health Law from 1966 is still valid and it is the basis for screening in CR today where all women (no age is specified) are entitled to a free pre-

ventive gynaecological examination once per year. This preventive visit includes basic colposcopy and a Pap test. All gynaecologists can perform basic colposcopy in their office and it is paid for by the compulsory health insurance (€ 1.7). Only those specialists who are certified perform expert colposcopy and it is more expensive (€ 10). To become certified, a gynaecologist has to prove that he diagnoses ≥50 high-grade lesions annually and he has to pass an exam in one of two accredited colposcopy centres in CR. Altogether, there are about 2,000 private gynaecologists in the CR who provide this service.

For the cytological analyses of cervical smears in the CR, there are about 50 laboratories but only three of these process ≥50,000 slides per year as recommended by the European guidelines³ and only about half of them that process ≥15,000 slides per year as required by the new recommendations of the screening committee of the Ministry of Health of the CR⁴. For the evaluation of cytological slides the 2001 Bethesda system⁵ is used. Mortality and incidence data are available from the National cancer registry which was established in 1976 and since 1991 is a member of the International Association of Cancer Registries (IACR).

In the CR, there are 5,2 million women in total and 2.9 million women in the screening age (25–65 years of age). The Institute of statistics and health information reported more than 2.9 million preventive visits to gynaecologists in 2005 but as the identification number of the women is not recorded, these data are of limited value because it is impossible to distinguish repeat visits from new visits or in any way relate the number of visits to the number of women in the target population. Indeed, there are no data sources concerning screening coverage, but it is estimated to be 30–50%.

TABLE 1
INCIDENCE AND MORTALITY FOR CERVICAL CANCER (C53) BY AGE GROUPS IN THE CZECH REPUBLIC IN 2003²

	Total	Age group														
		15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85+
New cases	1007	1	7	38	70	105	110	124	115	132	73	62	60	55	34	21
Incidence*	19.2	0.3	1.9	8.5	19.2	30.8	34.9	33.2	28.7	34.8	25.8	27.0	25.4	26.9	26.2	30.3
Dead	398	–	–	2	11	12	17	43	43	38	48	35	32	49	44	24
Mortality*	7.6	–	–	0.4	3	3.5	5.4	11.5	11.5	10	17	15.2	13.5	24	34	34.6

*per 100,000 women/year

TABLE 2
WOMEN WITH AND WITHOUT GYNAECOLOGICAL EXAMINATION ACCORDING TO THE TUMOR (C53) STAGE (2002)

Stage	Number	Mean age [years]	Colposcopy/cytology examination in the last 3 years	No examination	
				>5 years	>10 years
IB-1	105	44.7	59 (56.2%)	21 (20%)	2 (1.9%)
IB-2	42	44.1	20 (42.9%)	14 (33.3%)	4 (9.5%)
IIB	91	54.5	31 (34%)	35 (38.4%)	14 (15.4%)
IIIB-IV	14	74	1 (7%)	6 (43%)	6 (43%)

IB-1 to IV – The FIGO (International Federation of Gynaecology and Obstetrics) system for clinical staging of cancer of the cervix

Data from the Clinic of Obstetrics and Gynaecology in Motol also show that 44.0% of women diagnosed with invasive cervical cancer had visited a gynaecologist for colposcopy/cytology within the 3 year, and 60.0% had visited within the 5 years before being diagnosed with cancer (Table 2). These data clearly indicate that the diagnostic process is failing a large proportion of the Czech women who are attending for screening.

Conclusion

Screening cervical carcinoma in the Czech Republic has been opportunistic since 1966. Despite a very high frequency of screening visits and a historically wide age range, the incidence of cervical cancer has not changed in the last 34 years. The coverage of Czech women by the screening is not known exactly but it is estimated to be 50% at the most. Further, for those who are attending for screening, the high percentage of women with IB-2 cervical cancer, who have been examined by cytology and colposcopy within the last 3 years, suggests that the screening and diagnostic processes are inadequate.

REFERENCES

1. HEROLD J, LUKSCH, F. Cytodiagnostika rakoviny rodidel. (Státní zdravotnické nakladatelství, Praha, 1954) [in Czech]. — 2. Cancer Incidence in the Czech Republic 2003, ÚZIS CR, NOR CR 2006 [in Czech]. — 3. COLEMAN D, DAY N, DOUGLAS G, FARMERY E, LYNNE E, PHILIP

It has been clearly established that organised cervical cancer screening programmes with quality control at all levels of the process offer the most cost-effective protection against cervical cancer and can prevent up to 80% of cervical cancers in the populations they serve. Because of these facts, the Council of the European Union, the European Commission, the International Agency for Research on Cancer, the European Parliament Cervical Cancer Interest Group, together with a number of other prestigious organisations has recommended that all European countries should implement organised cervical cancer screening programmes. The data noted above clearly indicate that the Czech Republic is not fulfilling its obligations to the women of this country and the implantation of these programmes must now be a priority.

Acknowledgements

This work was supported by a grant NR/8852-3/2006 from the Ministry of Health of the Czech Republic.

J, Eur J Cancer, 29 Suppl 4 (1993) S1. — 4. Bulletin of the Ministry of Public Health, 7/2004, pages 7–11 [in Czech]. — 5. WRIGHT T, COX JT, MASSAD LS, TWIGGS LB, WILKINSON EJ, JAMA, 287 (2002) 2120.

R. Tachezy

*Institute of Hematology and Blood Transfusion, Department of Experimental Virology, NRL for PV,
U nemocnice 1, 128 20 Prague 2, Czech Republic
email: rutach@uhkt.cz*

PROBIR RAKA VRATA MATERNICE U REPUBLICI ČEŠKOJ

SAŽETAK

Citološka dijagnoza atipičnih stanica vrata maternice metodom Papanicolaou-a je uvedena već 1947. g. u Republici Češkoj. Prvi podaci o pojavnosti raka vrata maternice u Republici Češkoj su dostupni od 1960. g. kada je stopa pojavnosti iznosila 32,3 slučaja/10⁵ žena. 1966. g. Češko nacionalno zdravstveno pravo je donijelo jamstvo ženama da će godišnji preventivni ginekološki pregled uključujući probir raka vrata maternice biti pokriven obaveznim zdravstvenim osiguranjem. Unatoč visokom odazivu na probir i činjenici da su sve žene podobne, stopa pojavnosti raka vrata maternice se nije mijenjala u posljednje 34 godine. Razlozi za to uključuju nisku pokrivenost žena u Republici Češkoj (najviše 50%), činjenicu da niti jedan citološki laboratorij nije ovlašten za probir, nepostojanje nacionalnih registara za bilo koji aspekt programa te nepostojanje načina procjene procesa probira. Kao rezultat se može očekivati da će većina aktivnosti probira raka vrata maternice biti neučinkovita te je uvođenje organiziranog programa probira s kontrolom kvalitete, zajedno s preporukama mnogih Europskih institucija, hitno potrebno kako bi se ženama u Republici Češkoj osigurala pravilna zaštita od ove bolesti te da oskudni izvori zdravstvenog osiguranja budu upotrijebljeni na najučinkovitiji način.