EUROCHIP-II

FINAL SCIENTIFIC REPORT

ANNEX 15a

REPORT OF

EUROCHIP-2 ACTION IN

SLOVAKIA

Breast carcinoma screening program in Slovakia
A short information

December 2007

Dr. Ivan Plesko,
Head Department of Cancer Epidemiology
Cancer Research Institute of Slovak Academy of Sciences
Bratislava, Slovakia
email: ivan.plesko@savba.sk

Dr. Vladimir Bella
President of SEKCAMA, Slovak Oncological Society
Bratislava, Slovakia

Epidemiology and screening of breast cancer in Slovakia

Introduction

As well as in other developed countries of the Europe and world, breast cancer is the most frequent cancer site in women also in Slovakia. It could be expected that in some years after the stabilization of recently dominating incidence of colorectal cancer the breast cancer should occupy the first position by the yearly number of new cases in both sexes together despite its extremely rare occurrence in males. This evolution of incidence is suggested by the extremely rapid increase of incidence of this cancer site in women in postwar period and particularly in recent two decades connected very probably by increasing life expectancy and simultaneously decreasing parity and other risk factors of women in this country.

It seems necessary to stress the high mortality rates from breast cancer in Slovakia relatively early, in the mid 1950s. With regard to the standardized mortality rates from the female breast cancer, former Czechoslovakia was classified among countries with intermediate mortality rates together with Poland, Portugal, Finland, Hungary and Italy. Nevertheless the differences between countries of low and high mortality rates were quite big but the creation of third group encompassing the countries with intermediate rates led to small number of countries in this category – six only in comparison with low rates countries (16 countries or regions) and 24 countries (regions included in the category with high rates). The differences between Czechoslovakia and France (high rates) were small – 15,72 and 16,74 per 100.000 women respectively (1).

Comparison of incidence rates was limited for countries presenting their national and/or regional rates in Vol. II of "Cancer Incidence in Five Continents" (2). Official incidence rates for Czechoslovakia were relatively low in comparison with the national or regional data derived from cancer registries (1, 3). Incidence and mortality rates increased rapidly and gradually and from the year 1971, after the beginning of decreasing incidence rates of stomach cancer, breast cancer has dominant and gradually more expressing position among cancer sites in females in this country (4).

Material and methods

Incidence rates for the whole period studied (1968-2003) were derived from the main file of National Cancer Registry of Slovakia. The incidence rates of in situ breast cancer were available in the registry but were not analyzed in details in this presentation because of their very low and unchanged rates during the whole period under study (5). The mortality rates were derived from the registry for the period 1968-1985) and the following years (1986-2003) from the official mortality statistics produced by Statistical Office of Slovakia and by National Center of Health Statistics. Both indicators – incidence and mortality rates – were age adjusted by direct method using standard world population (2).

Similar sources were used for computation of age-specific incidence and mortality rates from female breast cancer.

The information on screening activities was obtained from Slovak Oncological Society, Section for Breast Cancer – SEKCAMA, from National Center of Health Statistics in Bratislava and Health Insurance Companies.

Evolution of incidence and mortality of female breast cancer in Slovakia

The incidence and mortality rates during the period 1968 to 2003 are demonstrated in Figure.1. As could be seen from this figure, age adjusted incidence rates showed during the whole period dramatic increase from about 20 to nearly 50 per 100 000 women Only in last two years of the given time period the tendency to stabilization and even decrease of incidence rates could be seen, but the period is too short for evaluation of actual incidence trends. Breast cancer participated recently with more than 17% on the whole number of incident cases of cancer in women. As mentioned above incidence rates of in situ cases was extremely low without change during the period.. Nevertheless despite gradual increase of invasive cases in the given period together with the increasing rates of lower clinical stages the proportion of in situ cases remained low and presented about 1 to 1,5% of the total number of all breast cancers (5).

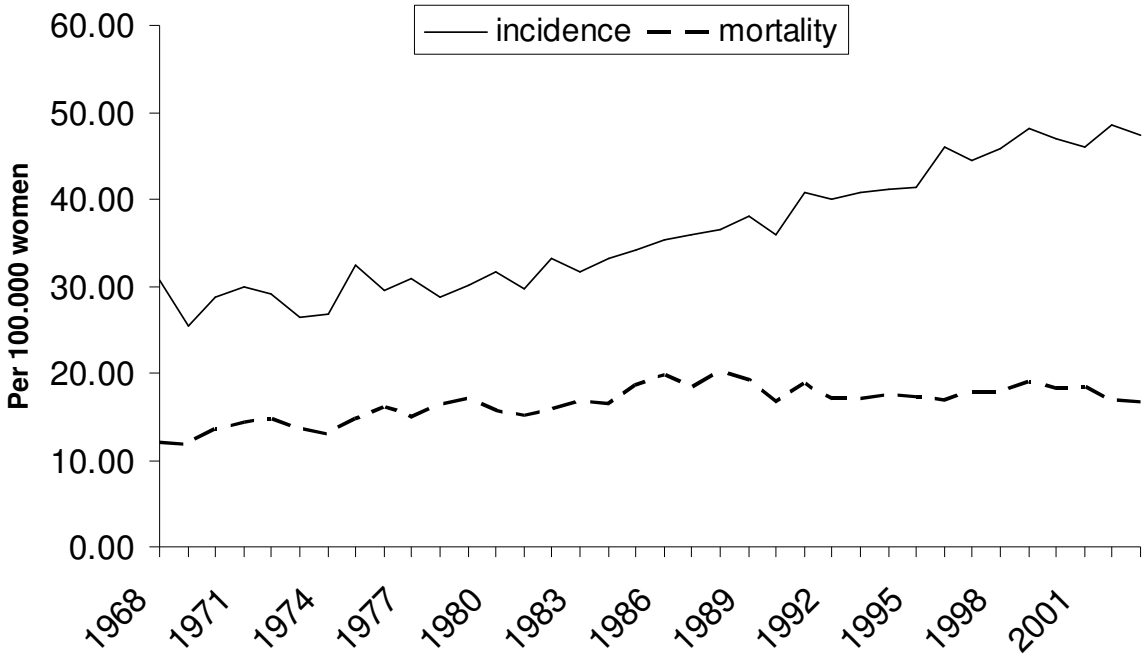

Fig. 1. Age-adjusted incidence and mortality rates of female breast cancer in Slovakia 1968-2003

On the other hand, in contrast with increasing incidence rates in all age-groups mortality rates from breast cancer showed gradual increase until the mid 1980s, followed by their flattening after 1985. The estimated annual percent change (EAPC) of mortality showed in decade 1986-1995 highest decrease in the age-group 35-49 -3,1%, lower in age group 50-74; -0,7% and increase in the age-group 65-74 - 2,2%. In the whole age-group 35-74 years the EACP showed decrease -1,1% (6, 7). This decrease in mortality rates continued and even was more expressed in following years (4).

Age-specific incidence and mortality rates of female breast cancer in this country are indicated in the Figure 2. Only rare cases are present in lower age-groups with small increase of incidence rates in age group 25-29 and their gradual increase in the following age groups, with peaking in women aged 75-79 years and small decrease in highest age gro)-. Mortality rates are lower, show similar evolution as incidence rates but are increasing without flattening and peaking to the highest age-groups.

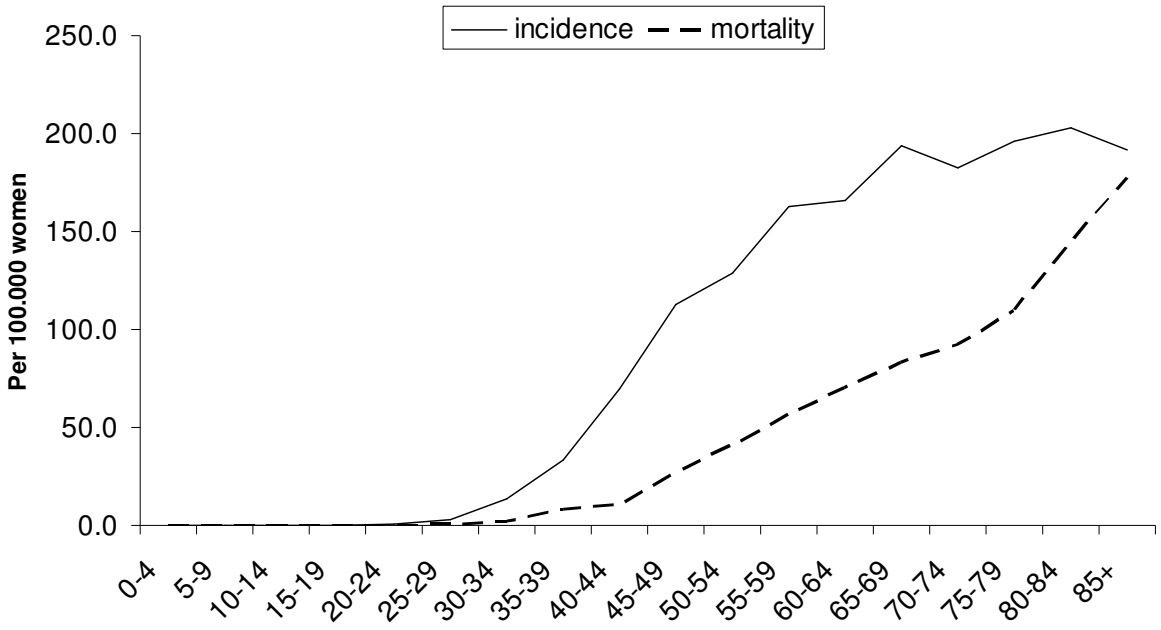

Fig. 2. Age-specific incidence and mortality rates of female breast cancer in Slovakia, in time period 1999-2003

Breast cancer screening – experiences and recommendations

Risk factors of female breast cancer – increasing age of women at the birth of first child, decreasing parity, early menarche and delayed menopause, increasing height and obesity, increasing consumption of food - are closely connected with the improving of life style and education of women and therefore exclude completely the application of the methods of primary prevention in the fight against this cancer. At least it is necessary to accept the fact, that the benefit of the application of primary prevention in this cancer site was not demonstrated (8). On the other hand there are experiences with several methods of secondary prevention using different method of screening enabling the discovery of premalignant lesions or early stage of this disease, application of treatment and consequently to decrease mortality despite dramatic increase of breast cancer incidence (8, 9).

The mammography was and is still considered as an expensive test requiring not only great expertise and facilities in its performance but particularly in interpretation of results. However if facilities are available the application of mammography alone with or without physical examination of the breast and then follow-up of women with positive or suspicious results will reduce mortality by up to one third among women aged 50-69 years. Much of benefit could be obtained by screening once every 2-3 years, but the evidence of benefit of such screening in women aged 40-49 years is limited (8, 9).

Among other methods breast self-examination was repeatedly used and tested in past decades with different results. In cohort study in Finland breast self –examination led obviously to reduction of mortality because mammography detected only low proportion of breast cancer especially in women under age 50. Similarly in Canada breast self-examination offered some benefit. but in large randomized trial in China did not led to reduction of mortality (9). Despite this fact women should be encouraged to use breast self examination and to see the doctor after detection any change in breast (9). It seems that good clinical examination of breast by specially trained doctors or health workers may play an important role in reduction of mortality. In the Health Insurance Plan study in Finland adequate clinical examination of breast by surgeon led to reduction of mortality in younger women only when they reached 50 years. Good clinical examination showed some benefits also in Canadian National Breast Screening Study, where the addition of mammography in women aged 50-59 years did not led to reduction of mortality (9).

It could be concluded that the actual knowledge and experiences on breast cancer prevention did not recommend screening by the breast self–examination or physical examination alone. These experiences indicate the early diagnosis of breast cancer for women aged 40-69 years by offering clinical examination of breast to women attending health care centers or hospital for other reasons and promoting awareness in the community. Widespread introduction of mammography is advised only when the resources and conditions ensuring effective screening of at least 70% of women aged 50 years and more are available (9). The introduction of widespread screening for women aged 40-49 years may led to reduction of mortality only when they attain the age of 50 years or more, which could be explained by the effect of age (8, 9).

Of great importance is the evaluation and monitoring of breast screening programmes by population –based, national or regional cancer registries (9, 10) or by specialized the "minimal breast cancer registries (MSCR), established under the aegis of the Victorian Cancer Registry in Australia (11).

Breast cancer screening in Slovakia

Study and comparison of trends of incidence and mortality from female breast cancer in time period 1978-1990 revealed the parallel evolution of these trends as well as the great and unchanging proportion of higher clinical stages III and IV. This alarming situation led as (direction of National Cancer Registry) to the repeated requirements of rapid improvement of health education, including the propagation of breast self-examination and regular examination of breasts in specialized out patient clinics. Large number of advanced stages (40-60 % in different counties of Slovakia) did not indicated the great importance and priority of the use of mammography in nationwide screening in that time.(12, 13). It seems necessary to stress that in extremely large National Cancer Control Programme prepared in 1976 (which was never completely introduced and realized) the necessity to secure regular and systematic performance of breast cancer screening in women aged 30 years and more was mentioned only in one short sentence (14).

In recent time the down- staging of clinical stages and decline of mortality despite dramatic increase of incidence of breast cancer was remarked in Slovakia. This positive evolution despite absence of screening has been attributed to great progress of treatment and to diagnostic of this cancer in earlier stage of disease. Stabilization and even decline of mortality from female breast cancer in Slovakia was more evident than the evolution of mortality in some countries with nation- or region wide screening using mammography (6). Despite this positive evolution it is necessary to introduce mammography and to improve the health awareness of female population in this field (15).

According to the information obtained from different sources there is not organized nation-wide screening of breast cancer, this screening is only opportunistic oriented to the confined groups of women employed in banks or great private companies or supported and performed in some smaller regions by local enthusiastic physicians. The awareness of women on the importance of breast cancer screening, on risk factors of this disease and its signs is very low, only in postmenopausal women gained about 50% according to the last survey supported by Avon company and performed in previous year (2007). The work of League Against Cancer in health education of women is excellent and long lasting, but limited to greater cities with local branches.

There are information on the number of mammography examination performed yearly but the only data on the size of preventive mammography are available only for the year 2005 from the biggest health insurance company. In the mentioned year 140 798 preventive mammography examinations was performed in Slovakia, the required number of these examinations corresponding to the number of women in age-group 45-69 was 651 668, that means that only 21,61 % of women received preventive mammography examination. On this sad situation contributed besides low health awareness of women also bad organization, low collaboration of physicians and limited number of examination reimbursed by health insurance companies. There is adequate number of modern mammography apparatuses but there are problems with evaluation of the results. This is made mainly by roentgen specialists, having no experiences and time for this supplementary work. Therefore the time for complete evaluation of examinations, that means to confirm or exclude breast cancer was and remains in many cases too long. It is necessary but to stress that in this very year (2008) the heath insurance companies are ready to pay for the preventive examination of breast cancer.

Moreover the level of diagnostics, treatment and longtime follow-up of women treated for breast cancer is very well secured and equal in all big hospitals and corresponds to the standards in developed countries of world, which was also confirmed by IARC (6).

The group of experts present in the board of SEKCAMA (Section for breast cancer in the frame of Slovak Oncological Society) is active and suggests the following main activities, aims, structure and organization of breast cancer screening:

1. In this proposition the priority has the nationwide screening programme of all women in the aged 45 – 69 years, at the beginning of realization of this action in two years interval. The women sent to preventive mammography should have the complete clinical examination of both breasts, of regional lymph nodes and personal and familiar anamnesis, including the information of the occurrence of breast cancer in relatives. The women with palpable tumors and with obvious signs or confirmation of breast cancer by other methods are not suitable for mammography. The clinical examination and recommendation for mammography should be done by physician (general practitioner, gynecologist, oncologist or surgeon oriented to oncology).
2. Special attention should be given to the women using hormonal substitution therapy (about 15% of women in the given age-group) and to women with high familiar occurrence of breast cancer (about 10% in given age group). These women should have the preventive native mammography in one year interval.
3. In Slovakia the system and structure of breast cancer screening planed and performed in Czech Republic (with population about 10 millions) should be applied. The breast cancer screening should be performed in 20 to 30 mammographic preventive centers , well equipped with modern apparatuses for mammography, ultrasonography and facilities for the performance of biopsy and cytology. Every center should have the prescribed number of at least 5 000 mammography examination per year. Having in mind this example, it is suggested to create in Slovakia 15 to 20 preventive centers of high quality secured by certification every year. Confirmation or exclusion of the presence of breast cancer should be made in no more than 10 days.
4. The health insurance companies are obliged (they are ready) to secure the financial covering of these preventive examinations.
5. Of absolute importance is the increase of health awareness of women in the given field.
6. The physicians with specialization “general medicine” may require according to the recent decision of the Ministry of Health for the women with suspicious symptoms directly the performance of mammography (equipped with clinical examination etc. as mentioned in point 1).
7. On the other side the physicians allowed to perform mammographic examination should have the “Certificate of Quality Management ISO 9001” and the “Audit of Quality of Ministry of Health “ could recommend the performance and evaluation of preventive mammography.
8. The exact evaluation and quality of breast screening programme necessities the establishment of special center which will be able to control and evaluate the quality and size of screening in individual districts of the country.

It is hoped that these activities in breast cancer prevention should start in the near future. The next conference of SEKCAMA (24 April 2008) is oriented to the evaluation of the actual state of breast cancer screening and the plans for future.

This document was prepared by
Dr. Ivan Plesko, Head , Department of Cancer Epidemiology, Cancer Research Institute of Slovak Academy of Sciences, Bratislava, Slovakia and
Dr. Vladimir Bella, president of SEKCAMA, Slovak Oncological Society, Bratislava, Slovakia

References:

1. Logan WPD, Cancer of the female breast International mortality trends. Wrld. Hlth. Stat. Rep., 1975; 6: 232 – 251.
2. Doll R, Muir C, Waterhouse J, (eds: Cancer Incidence in Five Continets, Vol. II. Berlin Heidelberg, New York 1970, Springer Verlag: 520 p.
3. Wunder R, Analysis of mortality and morbidity from breast cancer in Czechoslovakia. Dissertation work, Medical Faculty of Comenius University, Bratislava 1966:142 p (In Slovak).
4. Pleško I, Barakova A, Dudova M, Cancer Epidemiology in Slovak Republic. Bratislava, Institute of Health Information and Statistics 2005:74 p.
5. Plesko I, Obsitnikova A, Cuninkova M, Epidemiological aspects of in situ female breast cancer in Slovakia. Klin. Onkol. 2003, 16: 227-230 (in Slovak).
6. Botha JL, Bray F, Sankila R, Parkin DM, Breast cancer incidence and mortality trends in 16 European countries. Eur. J. Cancer 2003; 39: 1718-1729
7. Tyczynski JE, Plesko I, Aareleid T, Primic-Zakejl M, Dalmas M, Kurtinaitis J, Stengrevics A, Parkin DM, Breast cancer mortality patterns and time trends in 10 European countries (new EU member states): mortality declining in young women, but still increasing in the elderly. Int. J. Cancer 2004; 112: 1056-1054.
8. Segnan N, Armaroli P, Sancho-Garnier H, Le depistage. In: Prévention des Cancers: Stratégies d´actions a l' usage des ONG européens. Geneva, UICC 2005: 183-198.
9. WHO Working Groups on National Cancer Control Programmes: National Cancer Control Programmes: Policies and Managerial Guidelines 2nd Ed.: Geneva WHO 2002: 180 p.
10. Wait S, Cancer registries in evaluation of breast cancer screening programmes. In:Sankila R, Démaret E, Hakama M, Lynge E, Schouten LJ, Parkin DM,. Eds.: Evaluation and monitoring of screening programmes. Brussels-Luxembourg ,European Commission; 2000: 133-150
11. Higgins V, Ryan D, The minimal breast cancer register. Canstat 1988; 13:12
12. Plesko I, Manka I, Dimitrova E, Epidemiology of cervical and breast cancer. In: Cytology in Gynecology and Obstetrics. Collective Volume from County Seminar 9. 12. 1977. Banska Bystrica 1978: 10-24 (in Slovak).
13. Bella V, Plesko I, Vlasák V, Obsitnikova A, Korienkova E, Epidemiological basis for screening of breast cancer in Slovakia Klin. Onkologie 1995;6:172-176.
14. Ministry of Health: National Cancer Control Programme in Slovakia. Bratislava, 1976; Ministry of Health of Slovak Republic: 24 p.
15. Plesko I, Obsitnikova A, Bella V, Epidemiology of breast cancers. In: Bella V, (ed.): Breast cancer. Banska Bystrica, 2005; Advert: 5-14.(in Slovak).

.