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SHORT COMMUNICATION

Comparison of epidemiology of selected female reproductive cancers in Poland against three European countries

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ABSTRACT

Female reproductive system cancers are the most common cancers in women. A significant percentage of gynecological malignancies are malignant tumors in which prognosis and treatment outcomes depend on the stage of cancer and early diagnosis. Therefore, the analysis of age-standardized rates of incidence and death among different countries, which provide different healthcare strategies, can be helpful while inventing new strategy for cancer prophylaxis and treatment. In this study we collected newest available data on female reproductive system cancers from official European data base and PubMed data base and confronted it against contemporary facts concerning three analyzed cancers, such as cervix uteri cancer, ovarian cancer, corpus uteri and other unspecified cancer. We made comparative table to clearly show dependence between four European selected countries – Poland, Czech Republic, Denmark and England. We used age-standardized rate of incidence and death as a basic tool to make comparison of given data. According to the constructed all investigated countries present increasing tendency for age-standardized rate of incidence of corpus uteri and unspecified uterine cancer. Moreover, there is visible increasing tendency for age-standardized rate of death due to corpus uteri and unspecified uterine cancer in Poland, England and

Denmark. According to the analyzed data age-standardized rate of incidence of ovarian cancer in Poland seems to be slightly increased over investigated period. Furthermore, England manifests the lowest ASR of incidence and death of both uterine cervix and corpus uteri and unspecified uterine cancer, which indicates good quality of healthcare and prophylaxis. The analyzed statistic data provided by four European countries indicates that still some of them manifest significant or slight but stable increase of incidence or/and death of selected types of cancer, while the other carcinoma conditions are dropping over investigated period.

Keywords: cervix uteri cancer, ovarian cancer, corpus uteri cancer

1. INTRODUCTION

Female reproductive system cancers are the most common cancers in women. A significant percentage of gynecological malignancies are malignant tumors in which prognosis and treatment outcomes depend on the stage of cancer and early diagnosis [1].

Cervical cancer remains to be serious problem in developing countries, which stay for 85% of new incidents each year. The incidence of cervical cancer in the last three decades has decreased by approximately 30%. In adult young women (20-44 years), the decline in morbidity began in the early 90s of the twentieth century and by the end of the first decade of the 21st century it decreased almost 2.3 times. A little earlier, in the mid-1980s, a decrease in the incidence of middle-aged women (about 1.5 times) and among the oldest women (about 1.8 times) also began [2]. Regard to the Polish statistics after the age of 50, 90% of cases of endometrial cancer occur, with the highest number of cases occurring in the sixth/seventh decade of life. The risk of endometrial cancer increases until the end of the seventh decade of life, and then decreases [3]. Malignant neoplasms in the uterine body cause 3% of cancer deaths in women. The majority of deaths from endometrial malignancies occur after the age of 50 (97%). The risk of death due to this cancer is systematically increasing after the age of 50 with the transition to older age groups. The last three decades have brought a dropping mortality, although in the last few years there has been a slight increase in the value of coefficients [4,5].

Basing on Polish statistics ovarian malignant neoplasms account for 5% of cases in women. Over the age of 50, 80% of cases occur, with more than 50% of diagnoses diagnosed between 50 and 69 years of age [5,6].

Ovarian malignant neoplasms cause 6% of cancer deaths in women in Poland. Most deaths from ovarian malignancy occur between 50 and 79 years (75%), with the death rate remaining at similar levels in the subsequent 5-year age groups at this age (about 11-13% of deaths) [5,7].

2. MATERIAL AND METHOD

In our study we collected newest available data on female reproductive system cancers from official European data base and PubMed data base and confronted it against contemporary facts concerning three analyzed cancers, such as cervix uteri cancer, ovarian cancer, corpus uteri and other unspecified cancer. We made comparative table to clearly show

dependence between four European selected countries – Poland, Czech Republic, Denmark and England. We used age-standardized rate of incidence and death as a basic tool to make comparison of given data.

3. RESULTS

3. 1. Cervical carcinoma

Comparing four European countries in terms of cervical cancer statistics there is significant decrease in age-standardized rate (ASR) of incidence in two of them, which means Czech Republic and Poland. During investigated period ASR for Denmark tends to deviate, however, from 2011 to 2013 statistics show stable decrease of new incidences. Surprisingly, England is the only country in discussed group of countries to have increasing tendency for ASR incidences of cervical carcinoma. Still, England has the lowest ASR of cervical carcinoma during investigated period in contrast to Czech Republic which seems to have the highest ASR against the background (Figure 1).

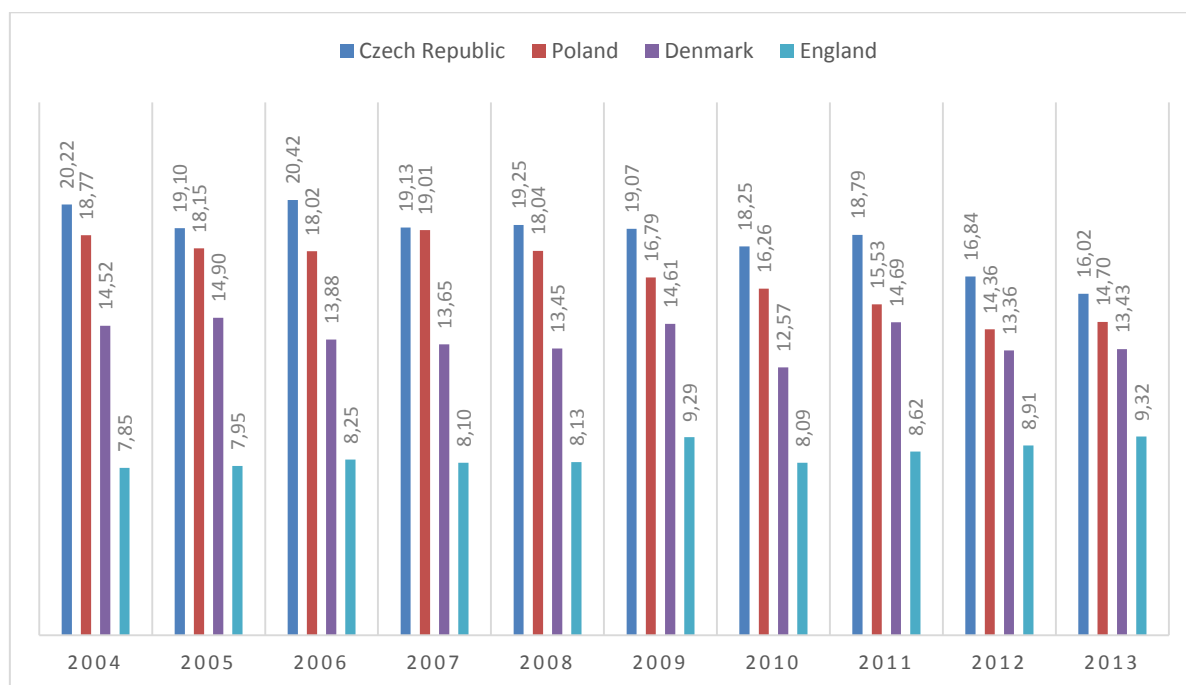


Figure 1. Age-standardized rate of incidence of cervical cancer

England has the most stable decrease in age-standardized rate of mortality of cervical cancer. On the contrary Czech Republic along with Poland and Denmark manifest visible increase of ASR from 2011 to 2013, although at the beginning Czech Republic and Denmark presented decreasing tendency. However, Poland stays for the highest ASR over discussed period– minimal 8,33, maximal 9,68 – whereas England is the country with the lowest ASR, which dropped from 3,51 in 2004 to 2,65 in 2013 (Figure 2).

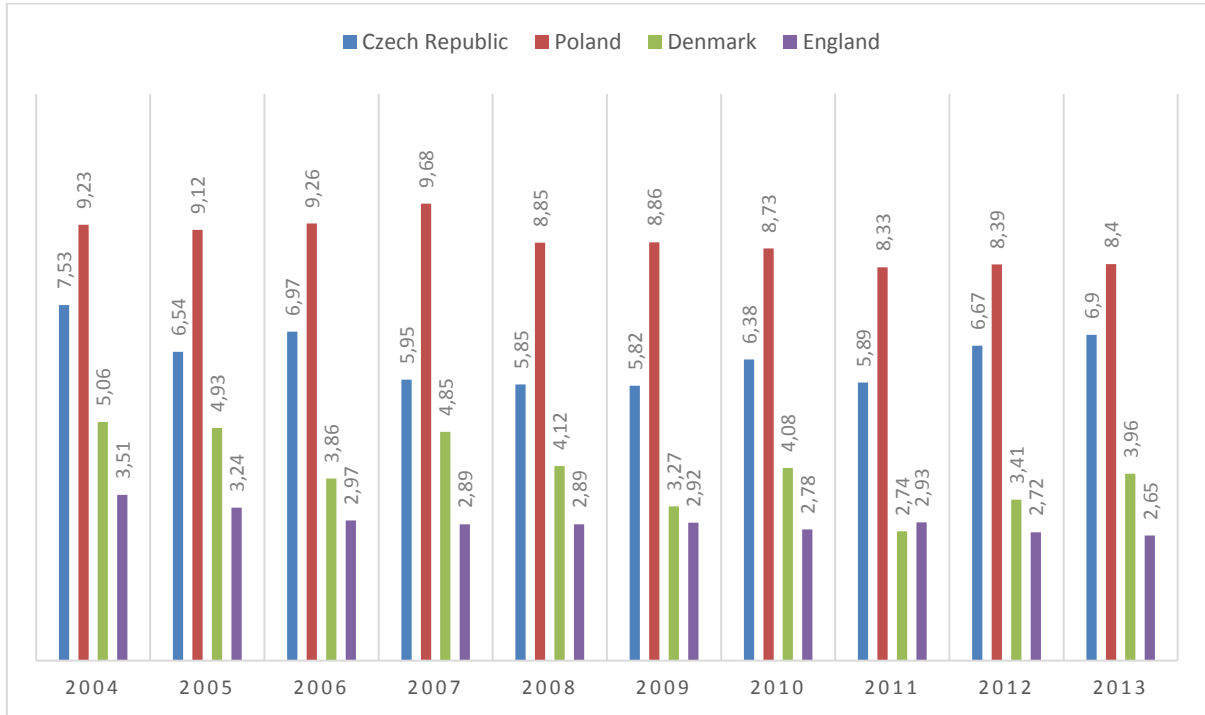


Figure 2. Age-standardized rate of mortality of cervical cancer

3. 2. Corpus uteri and unspecified uterine cancer

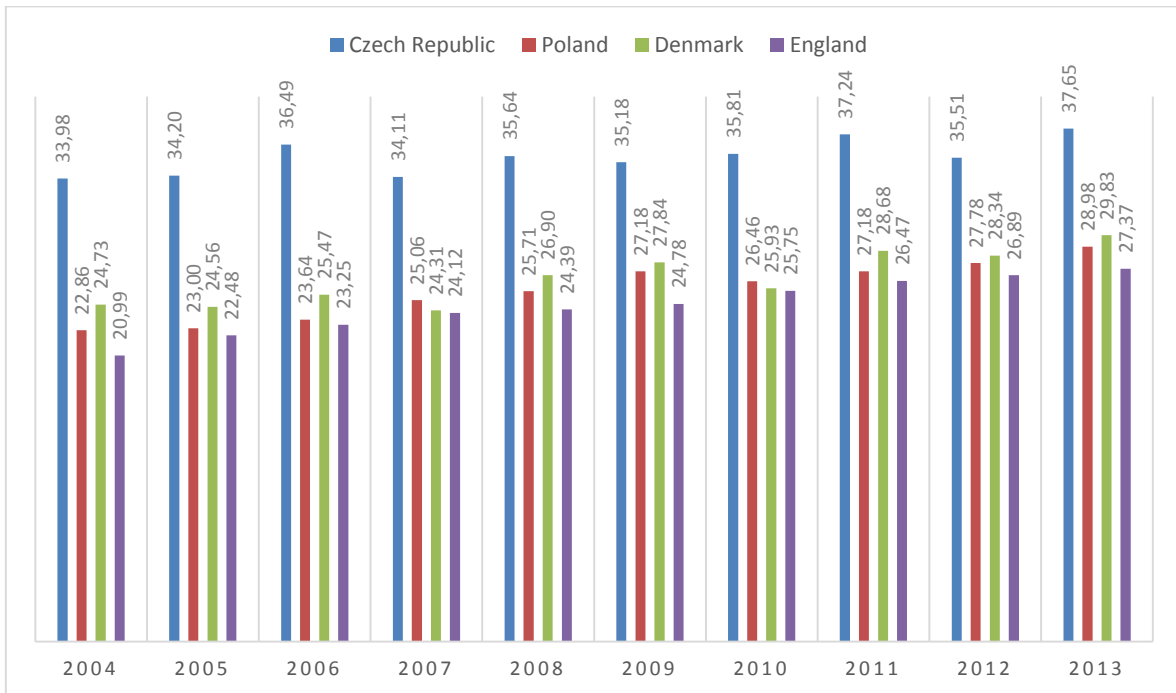


Figure 3. Age-standardized rate of incidence of corpus uteri and unspecified uterine cancer

According to the graph all four countries show increasing tendency for age-standardized rate of incidence of corpus uteri and unspecified uterine cancer. Furthermore, England and Poland seem to have the lowest ASR during investigated period. Despite the fact that Czech Republic manifested the lowest increase of ASR of uteri cancer from 2004 to 2013, it had the highest ASR over discussed period (Figure 3).

Regard to discussed graph, there is significant decrease of ARS concerning death due to corpus uteri and unspecified uterine cancers for Czech Republic, while comparing statistics in 2004 and 2013. However, there is deviation of the results over investigated period of time and stable decrease of ARS in Czech Republic cannot be seen. Moreover, there is visible increasing tendency for ASR of the rest three countries. It should be emphasized that ASR in Denmark was the lowest among four countries from 2009 up to 2013. Furthermore, Poland manifests the highest increase of ASR in investigated period (Figure 4).

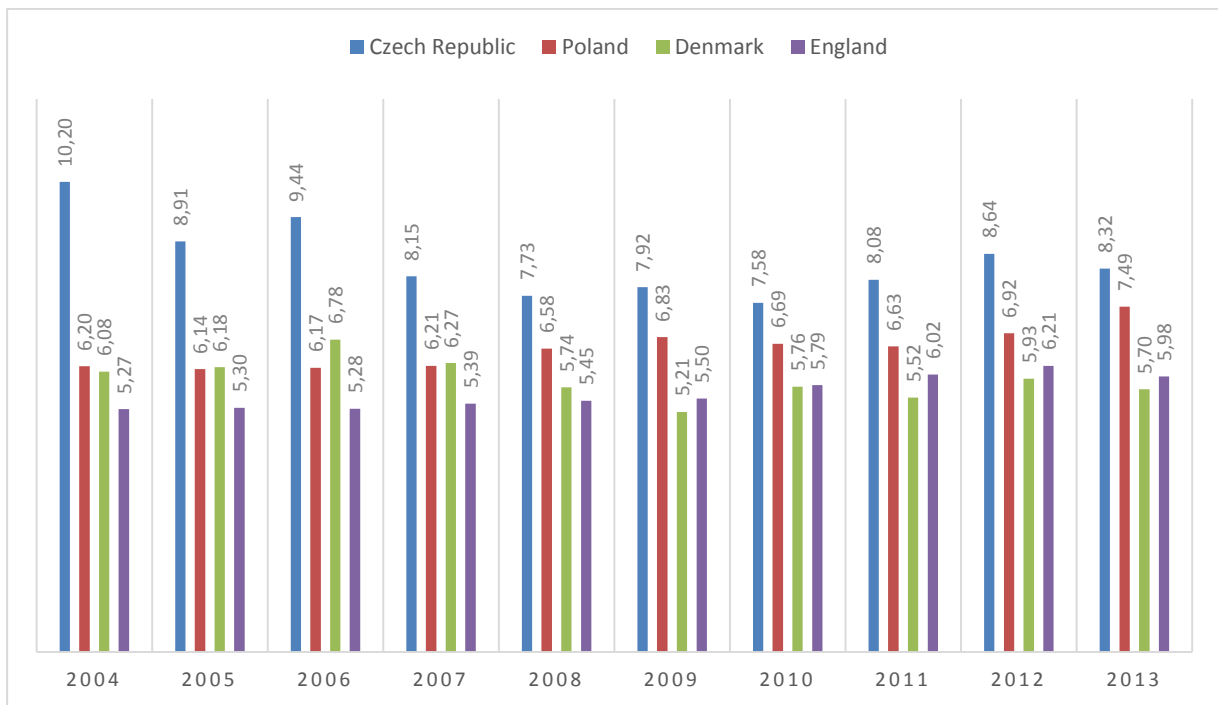


Figure 4. Age-standardized rate of death of corpus uteri and unspecified uterine cancer

3. 3. Ovarian cancer

According to the graph age-standardized rate of incidence of ovarian cancer in Poland seems to be slightly increased over investigated period. The highest decrease in ARS is seen for Czech Republic, where ARS declined from 24,64 to even 19,50, which in total stands for decreasing tendency. ARS manifested by England was the highest at the beginning of investigated period, however, tends to fluctuate around numerical value of 18. Similarly, to results obtained by England Denmark tend to have ARS around numerical value of 18-19 (Figure 5).

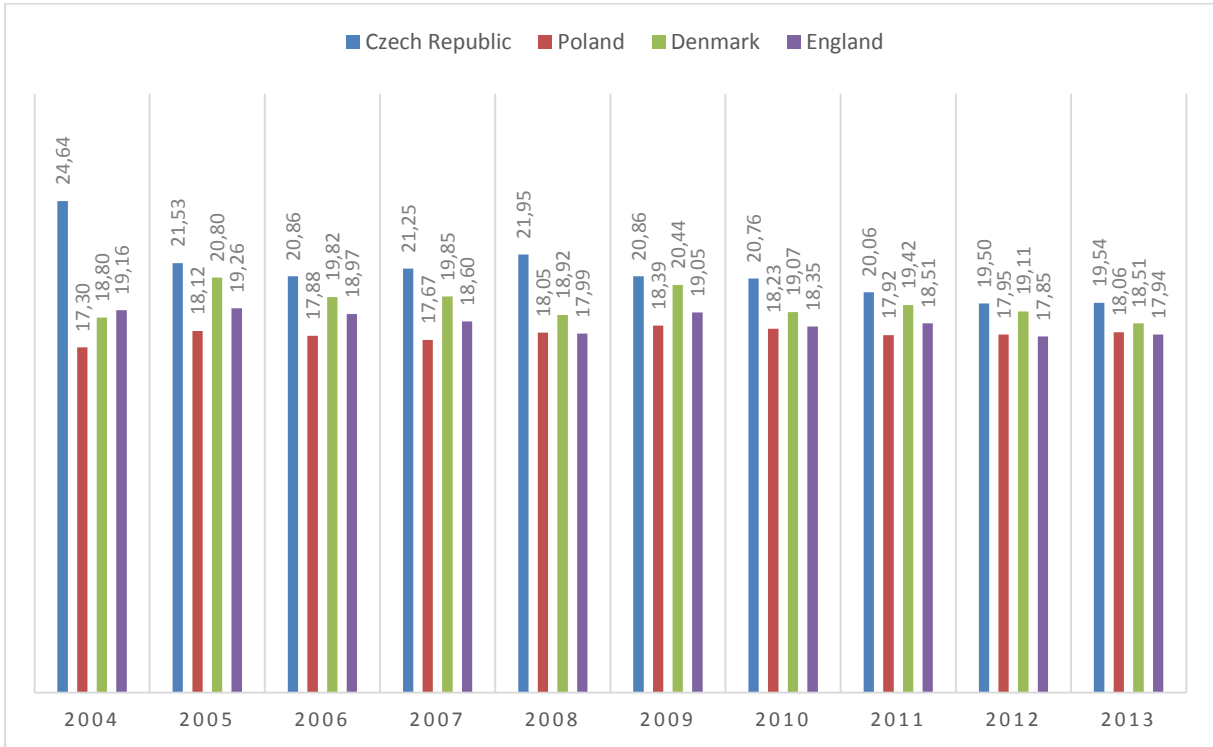


Figure 5. Age-standardized rate of incidence of ovarian cancer

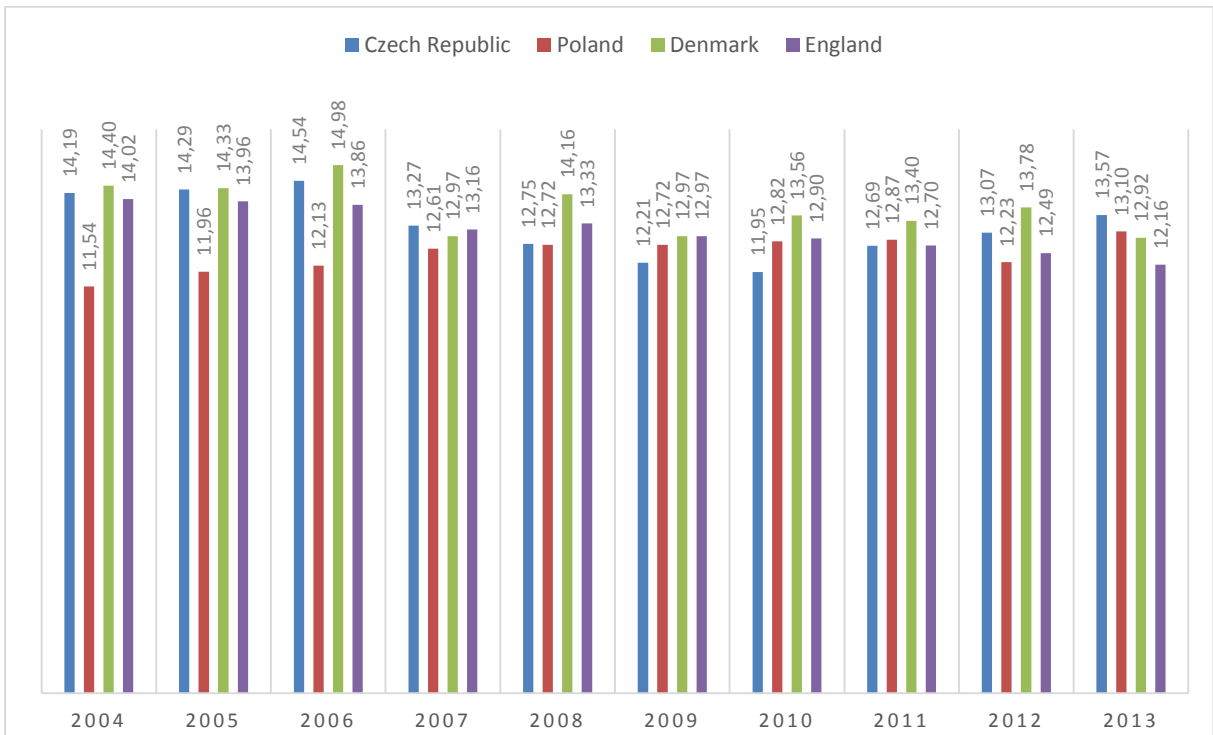


Figure 6. Age-standardized rate of death of ovarian cancer

Regard to the information presented on the graph it is clearly indicated that all four countries have very similar age-standardized rates of death of ovarian cancer. Nevertheless, ASR presented by Polish data seems to increase slightly over analyzed period. Surprisingly, the highest ASR over discussed period was provided by Denmark 2006 – 14.98 (Figure 6).

4. DISCUSSION

The recognition of conditions predisposing to gynecological malignancies, i.e. precancerous lesions, in which the tumor develops more often than in a healthy organ (e.g. erosion), is of great importance in combating malignant tumors of the female reproductive system. In terms of preventive action against gynecological cancer, particular attention is paid to women's education in the field of hygiene of life, diet and genetic determinants [8]. It is worth noting that, unlike men, women watch their own body more closely and skillfully, are more sensitive to disturbing symptoms of cancer and report to the doctor earlier [9].

However, according to the analyzed statistic data provided by four European countries, still some of them manifest significant or slight but stable increase of incidence or/and death of selected types of cancer. It should be emphasized that in all investigated countries there is increasing tendency for age-standardized rate of incidence of corpus uteri and unspecified uterine cancer. Moreover, there is visible increasing tendency for age-standardized rate of death due to corpus uteri and unspecified uterine cancer in Poland, England and Denmark. According to the analyzed data age-standardized rate of incidence of ovarian cancer in Poland seems to be slightly increased over investigated period. Furthermore, England manifests the lowest ASR of incidence and death of both uterine cervix and corpus uteri and unspecified uterine cancer, which indicates good quality of healthcare and prophylaxis. ASR of incidence and death of ovarian cancer seems to be quite similar among four countries, except ASR of incidence of ovarian cancer represented by Czech Republic, which is relatively higher in comparison to other. The most remarkable change in statistic is presented by first graph, which reveals great decrease in ovarian cancer incidence.

5. CONCLUSIONS

The analyzed statistic data provided by four European countries indicates that still some of them manifest significant or slight but stable increase of incidence or/and death of selected types of cancer, while the other carcinoma conditions are dropping over investigated period. However, most of the time Czech Republic and Poland present visibly higher age-standardized rate of incidence and death comparing to Denmark and England.

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