THE RELATIVE RISK RATES OF THYROID CANCER MORTALITY AND MORBIDITY AMONG THE POPULATION FROM POMERANIAN VOIVODESHIP (POLAND)

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Introduction. Thyroid cancers are one of the few cancers that are more common in women than men. In Poland, the number of cases of thyroid cancer in 2010 was 2192, of which about 384 in men and 1808 in women. The thyroid neoplasms constitute 0.5% of cases in men and 2.6% in women. Over the past two decades, the number of cases has increased significantly. The risk of disease increased for both sexes until the seventh decade of life, after which it decreased. Starting from the 90s of the XX century, a sharp increase in the incidence of women is visible and slightly slower in men population. The incidence among both sexes in all age groups duplicates trends observed in the entire population: faster growth in women, especially since the beginning of the 1990s (Wojciechowska and Didkowska, 2010, 2016; http://onkologia.org.pl).

The variation within Europe in the survival rates of patients with thyroid cancer is similar to that found for many other cancers, with certain countries characterized by higher than average (or lower than average) survival rates for most cancer types. This means that prognostic factors specific to thyroid cancer do not necessarily explain the observed differences in country-specific survival rates (Teppo and Hakulinen, 1998). The most likely cause of the rise in the incidence of thyroid cancer is increasing detection due to incidental findings through advanced imaging and the systematic diagnostic exploration of small thyroid nodules (Jegerlehner et al., 2017).

Aim of the study. Our aim was, therefore, to compare recent secular trends in the morbidity and mortality rates of thyroid cancer among the children and adult populations of Pomeranian Voivodeship in 2000 and 2016. Our hypothesis was that an increase in the incidence of

thyroid cancer would provide indirect evidence for the increase in the relative risk rates.

Materials and methods. In order to study both the morbidity and mortality of thyroid cancer among different population groups in the Pomeranian Voivodeship regions in 2000 and 2016, a database of the Cancer Registry of the Republic of Poland for 2000–2016 was analyzed [Wojciechowska and Didkowska, 2010, 2016; http://onkologia.org.pl]. The population was considered according to the Statistical Information Center [https://stat.gov.pl/].

The relative risk (RR) calculations at confidence intervals (CI) and the statistical significance (p) was performed using the WHO-recommended Epi Info program, using absolute disease values. Mathematical processing of the obtained results was performed using the standard statistical package STATISTICA 8.0 software (StatSoft, Krakow, Poland).

Results and discussion. The intensive rates of thyroid cancer morbidity and mortality among different age groups of the Pomeranian Voivodeship regions in 2000 and 2016 were analyzed. The increase in the incidence rates among the female population was observed (from 11.31 per 100,000 persons in 2000 to 32.04 per 100,000 persons in 2016). Among the child population of the voivodship, the incidence has increased slightly among girls. The adult mortality rate remained unchanged during the study period and was not recorded among other populations.

The highest relative risk (RR) rate of thyroid cancer morbidity from 2000 to 2016 was noted among the female population of the Pomeranian Voivodeship (RR = 2.77, $p<0.0001$). Among the male population, there was also an increase in RR of the thyroid cancer morbidity during the study period (in Pomeranian Voivodeship: RR = 1.68, $p = 0.0214$).

The morbidity of thyroid cancer among girls remains unchanged (RR = 1.02, $p = 0.9768$). In the other groups of the children population, the risk of thyroid cancer mortality is not observed.

Our study demonstrates a large rise in the incidence of thyroid cancer in 2016 compared to 2000. A significant decrease in thyroid cancer mortality among men was observed. These findings suggest that a substantial and growing part of the detected thyroid cancers are over-diagnosed and over-treated. The slight decrease in thyroid cancer-

specific mortality over time may reflect improved treatment strategies, thanks to e.g. to refined surgical techniques with a lower complication rate and better post-surgical care (Jegerlehner et al., 2017).

Our results are consistent with several studies showing a rapidly increasing thyroid cancer incidence without a substantial change or a slight decrease in mortality in various countries, as well as in different regions of Poland. For example, Zonenberg and co-workers (2009) have evaluated the descriptive epidemiological features of incident thyroid cancers diagnosed among the residents of the North-Eastern Region of Poland between 1996 and 2007. Thyroid cancer was more frequently diagnosed in women (81.9%) than in men. The majority of all cases were diagnosed in the age group of 46–55 years. The commonest histological type was papillary carcinoma (73.3%). Follicular type accounted for 11.4%, oxyphilic – 6.4%, medullar – 4.0%, anaplastic – 3.1% and other types – for 1.8% of cases. The increased incidence of thyroid cancers observed in a 12-year period is most likely explained by the improvement in diagnostic techniques. Iodine deficiency seems to be a less probable factor in view of the predominance of the papillary type of carcinoma (Zonenberg et al., 2009).

Conclusions. The detailed analysis of the development of thyroid cancer among the different age groups in the Pomeranian Voivodeship showed that there is a tendency for the increase of thyroid cancer risk among adults, especially women and men. Both thyroid cancer morbidity and mortality are occurring mainly at the expense of the female population. These trends, combined with overall high mortality and high 15-year increase of morbidity, raise concerns on the extent to which the situation may be taking place. Further research is needed, quantifying the importance of the most likely determinants of these trends as well as the extent and potential effects of diagnosis and treatment in these settings.

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Summary

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The objective of our study was to compare recent secular trends in the morbidity and mortality rates of thyroid cancer among the children and adult populations of Pomeranian Voivodeship in 2000 and 2016. The increase in the incidence rates among the female population in the Pomeranian Voivodeship was observed (from 11.31 in 2000 to 32.04 per 100,000 persons in 2016). Among the child population, the incidence has increased slightly among girls. The adult mortality rate remained unchanged during the study period and was not recorded among other populations. The relative risk of thyroid cancer morbidity was increased among the adult population of Pomeranian Voivodeship. Both thyroid cancer morbidity and mortality are occurring mainly at the expense of the female population. These trends, combined with overall high

mortality and high 15-year increase of morbidity, raise concerns on the extent to which the situation may be taking place.

ДИАГНОСТИЧЕСКАЯ ЗНАЧИМОСТЬ ЭЛАСТАЗНОЙ АКТИВНОСТИ СЫВОРОТКИ КРОВИ И РОТОВОЙ ЖИДКОСТИ ПАЦИЕНТОВ С ИНФЕКЦИОННО-ВОСПАЛИТЕЛЬНЫМИ ПРОЦЕССАМИ ЧЕЛЮСТНО-ЛИЦЕВОЙ ОБЛАСТИ

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Введение. Своевременная диагностика одонтогенных инфекционно-воспалительных заболеваний челюстно-лицевой области и шеи имеет первостепенное значение для оказания эффективной медицинской помощи данной категории пациентов. Для диагностики инфекционно-воспалительных процессов (ИВП) челюстно-лицевой области и шеи широко используются дополнительные методы обследования, первенство из которых принадлежит лучевым методам. Классическое лабораторное исследование воспалительных заболеваний челюстно-лицевой области и шеи базируется на анализах крови и анализе мочи. Несмотря на разнообразие методов исследования и успехи, достигнутые в оказании помощи пациентам с одонтогенными ИВП челюстно-лицевой области и шеи, число диагностических ошибок, по данным современных авторов, остается на достаточно высоком уровне [2]. В связи с этим совершенствование существующих способов и разработка новых эффектных методов диагностики одонтогенной инфекции не утратила своей актуальности.

Цель исследования. Определить диагностическую значимость уровня активности эластазы сыворотки крови и ротовой жидкости пациентов с ИВП челюстно-лицевой области разной распространенности.

Материал и методы. Проведено комплексное обследование 198 пациентов с ИВП челюстно-лицевой области, проходивших