

## Summary

In the first part of the dissertation the author summarizes the current knowledge of breast cancer, which is the most frequent malignancy in female population. The author deals with etiology, classification, diagnostics, biological behaviour, therapeutical forms ranging from surgical treatment and radiotherapy, to systemic therapy. In the following part of the manuscript the author describes specifics of breast cancer diagnosed in premenopausal women. She describes how the risk factors, treatment and prognosis differ from the disease in postmenopausal women.

Next section of the dissertation includes a retrospective case series evaluating group of patients with breast cancer  $\leq 35$  years. There were 16 294 cases of breast cancer proven histologically in Biopsticka lab Pilsen, Ltd. and Siki's Department of Pathology, Faculty Hospital Pilsen, during 2006-2015. The cohort of patients in our retrospective study includes 356 young women (2,2%) with breast cancer, under 35 years of age by the time of setting the diagnosis.

We sorted out a group of 93 patients from the basic cohort, that were or have been treated in the Department of Oncology and Radiotherapy, Faculty Hospital in Pilsen. A control group consists of 100 postmenopausal women  $\geq 65$  years of age, chosen randomly from all patients treated in the Faculty Hospital in Pilsen for invasive breast cancer during the same period 2006-2015. We analysed prognostic and predictive markers, and followed details about treatment and course of the disease.

Our retrospective analysis confirmed, in compliance with recent literature, that young women with breast cancer have higher incidence of prognostically unfavourable histological types, higher negative prognostic markers (grade, mitotic activity), higher incidence of lymph node metastases and higher incidence of cancers caused by hereditary predisposition. We also confirmed higher and earlier incidence of relapsed disease following adjuvant treatment.

We described characteristics and used treatment of 18 BRCA positive breast cancers and 6 cases of PABC from our cohort.

**Key words:** Breast cancer – young women  $\leq 35$  years – predictive and prognostic markers – BRCA-positive breast cancer – pregnancy-associated breast cancer (PABC)