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152P Prognostic impact of serum vascular endothelial growth factor and VEGF gene polymorphism (rs2010963) in breast cancer patients

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Background: Vascular Endothelial Growth Factor (VEGF) mediates breast carcinogenesis, several studies shown that VEGF is associated with increased breast cancer risk however its prognostic significance and expression in different molecular subtypes remain unclear. The current study aimed to evaluate the diagnostic and prognostic role of serum VEGF and VEGF rs2010963 polymorphism in Egyptian women with breast cancer.

Methods: This study was held in Menoufia University Hospital between January 2019 and December 2021and included 275 participants, 150 women with invasive breast cancer and 125 women healthy controls. For patients, complete staging work up and molecular subtype classification were done with full medical data regarding treatment received. All Epidemiological, clinical, pathological and survival data were studied and correlated with serum VEGF and VEGF rs2010963 genotypes. Serum VEGF was assayed by ELISA technique and Genotyping of VEGF rs2010963 polymorphism was analyzed by real time PCR.

Results: The frequency of GG genotype and G allele were higher breast cancer group compared to control group (p value = 0.001). In breast cancer patients there was significant relation between VEGF gene (C/G) polymorphism and patient age (GG genotype patients 68% > 50 years old), tumor and nodal stage (GG genotype patients 35%, 82% had advanced tumor and nodal stage respectively), molecular subtype (GG genotype 40% had luminal B subtype compared to 13.6% in CC genotype) and higher level of serum of CA15-3, CEA and VEGF for patients with GG genotype (P <0.05). Multivariate Cox regression analysis of factors affecting survival showed that advanced tumor stage, presence of metastasis, serum level of VEGF and GG rs 2010963VEGF gene polymorphism were independent factors affecting patient survival (P <0.05).

Conclusions: rs2010963 VEGF gene polymorphism and serum VEGF could be considered as potential risk factors for breast cancer, Patients with breast cancer presenting the GG genotype have the highest serum VEGF levels, large tumor size, advanced tumor stage and shorter survival than CC carriers.

Legal entity responsible for the study: Menoufia University.

Funding: Has not received any funding.

Disclosure: All authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2022.03.169

153P The role of screening in the timely diagnosis of breast cancer in the COVID-19 pandemic context

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Background: Breast cancer (BC) ranks first in the structure of cancer incidence among women in Kazakhstan. Mammography screening was implemented in 2008. Lockdowns and restrictive procedures with the full and partial cancellation of screening, took place in Kazakhstan in 2020-2021.

Methods: The indicators of primary incidence of BC in Kazakhstan and the results of screening (coverage, cancer detection, stages) for the period 2018-2021 were studied. In order to determine the COVID-19 pandemic impact, a comparative analysis of the above indicators before (2018-2019) and during the pandemic (2020-2021) was carried out.

Results: 9603 new cases of BC were detected in 2018-2019 and 9328 – in 2020-2021. In the first year of the pandemic (2020) there were 13% of BC cases fewer than in the previous year. In 2018-2019 the share of BC stage I was 31.8%. During the pandemic, early cancer detection rate dropped to 29.7-30.3%. In Kazakhstan, 75-77% of BC cases are detected at the age of 40-70 years. This age group is defined as the target one for screening. 1,624,667 women underwent BC screening in 2018-2019 (96.2% of the planned amount of 1,688,829 women). In 2020-2021 - 1,532,591 (79.4%) women were examined, though the planned amount was 1,930,515. 3343 cases of BC identified by screening in 2018-2019, in 2020-2021 - 2474, which is 26% less than detected in the pre-COVID period. In 2018-2019 the number of BC cancer screening cases was 45.1-45.9% of all new cases of age group of 40-70 years. During the pandemic, the share of screening cancers decreased to 32.9-36.8%.

Conclusions: Screening was resumed when the epidemiological situation improved, but coverage did not reach the planned target. As a result, the early cancer in the general population has decreased, as well as the proportion of BC screening cases in the 40-70 age groups. Due to the suspension of screening, an increase in the number of women with BC who applied on their own with clinical signs of advanced cancer is expected. Thus, cancer screening should not be stopped during the COVID-19 pandemic but should be conducted in compliance with all anti-epidemic safety measures.

Legal entity responsible for the study: The authors.

Funding: Has not received any funding.

Disclosure: All authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2022.03.170

154P Screening of breast cancer: Clinical and biological profile of Tunisian women

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Background: Breast cancer is one of the most frequent malignancies among women worldwide. Unfortunately, it is still discovered at an advanced stage with a multimodal treatment often mutilating. Diagnosed early, breast cancer is curable and requires a less aggressive approach. The objective of the study is to evaluate the clinical and biological profile of breast cancer in a pilot program of breast cancer screening by mammography conducted by the center of DAR EL AMAL.

Methods: This is a retrospective descriptive study. We reviewed the files of the patients screened during 4 years (February 2016-December 2019). The screening population was women over 45 years old in Sfax region. All these women had a digital mammography with double incidence. Two different radiologists did double blind reading. The tests were classified according to the BI-RADS classification. The diagnosis of breast cancer was confirmed by anatomopathological analysis.

Results: During the study period, 16 533 mammograms were performed and 85 cases of breast cancer were diagnosed. The median age of the patients was 58 years [46-76]. Multifocality was noted in 13.4% of patients. Pure carcinoma in situ was found in 10.6% of cases. The histological tumor size ranged from 20 to 50 mm with a median of 20 mm. Smaller tumors were more frequently detected (pT1:56.6% followed by pT2:36.8%). The tumors were mostly Grades II types (67, 1%). For lymph node, 71.2% were pN0. All patients had no distant metastasis (MO). Immunophenotyping showed that hormone receptors were positive in 90.5% of cases, HER2 overexpression (score 3) in 17.6% and Ki67 was high (≥20%) in 23% of cases. Molecular subtyping of these cases revealed 51.4 % of luminal A, 25 % of luminal B HER2-negative, 13.9% luminal B HER2-positive, 5.6% triple-negative and 4.2% HER2-negative cases. Conservative treatment was performed in 58.8% of cases. Adjuvant chemotherapy and radiotherapy were administered in 68% and 88% patients respectively.

Conclusions: Screen-detected breast cancer help to diagnose early stage tumors with better prognosis molecular profile, which may contribute to less aggressive treatment and better survival. Hence, it is important to encourage to develop a national plan for mass screening and to carry out awareness campaigns to motivate women to get screened.

Legal entity responsible for the study: The authors.

Funding: Has not received any funding.

Disclosure: All authors have declared no conflicts of interest.

https://doi.org/10.1016/j.annonc.2022.03.171