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PS-01-039

Association between clinicopathological markers and survival in hormone receptor-positive breast carcinoma treated with neoadjuvant chemotherapy

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Background & Objectives: Residual cancer burden (RCB) is an important marker for patients with breast carcinoma treated with neoadjuvant chemotherapy (NACT). However, the association is not absolute for residual disease of hormone receptor-positive luminal type breast carcinoma. We analysed which clinicopathological variables including RCB grade and immunohistochemical (IHC) markers were associated with survival.
Methods: Expression of annexin-8, galectin-3, bcl-2, calreticulin, clusterin, ki-67, mucin-1, and p27 were assessed in tissue microarray slides of 55 post-NACT resection specimens from luminal type breast carcinoma patients treated by docetaxel and doxorubicin. Patients' age (≥45 vs. <45), RCB grade (RCB-II vs. RCB-III), lymphovascular invasion, and IHC markers were analysed according to disease-free survival (DFS) using Kaplan-Meier method and multivariate Cox proportional hazard model.
Results: Ten-year DFS of all patients was 65.7%. Only ki-67 index of ≥5% was associated with shorter DFS by Kaplan-Meier method (p=0.021). High expression of galectin-3 showed a tendency for shorter DFS (p=0.1). Patients' age, (p=0.29), RCB grade (p=0.52), lymphovascular invasion (p=0.44) and the other IHC markers were not associated with DFS. Multivariate Cox proportional hazard model showed that high ki-67 index was the only independent marker for shorter DFS (hazard ratio, 3.34; 95% confidence interval, 1.26-8.9; p=0.0151).
Conclusion: Ki-67 index in post-NACT resection specimen can be a surrogate marker for recurrence of luminal type breast carcinoma.

PS-01-040

Prevalence of incidental atypical proliferation lesions in reduction mammoplasty specimens: a 6-year retrospective analysis at a tertiary breast unit

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Background & Objectives: The reported incidence of unsuspected atypical proliferative lesions (APLs) ranges from 0.06 to 4.6% in reduction mammoplasty specimens. We aimed to calculate the prevalence of these lesions at our tertiary breast unit.
Methods: Data pertaining to age, gender, weight, suture orientation, laterality, clinical indication, number of blocks and outcomes was collected by retrieving and analysing archived histopathology reports from 2013 to 2018.
Results: 490 cases belonging to 488 patients were identified in the 6-year period (483 females, 5 males). The ages ranged from 16 to 80 years (median 48 years). A lack of 100% suture coverage was attributed to the piecemeal nature of some surgical specimens. Of interest, the suture orientation showed a steep improvement between 2016 and 2017.
There were two main cohorts: BENIGN comprising macromastia, gynaecomastia and miscellaneous; and POTENTIAL MALIGNANT including symmetrisation for contralateral cancer and risk-reducing mastectomy. 15 cases (3.1%) were eventually removed from the final analysis due to insufficient clinical information.
The most common APL was ALH/ISLN followed by FEA, DCIS, ADH and invasive carcinoma. The POTENTIAL MALIGNANT cohort showed a slightly higher incidence of APLs (n=18/475, 3.8%) compared to the BENIGN cohort (n=13/475, 2.7%).
Conclusion: There has been a steep improvement of suture orientation signifying an increased surgical recognition of the possibility of margin re-excision in incidental APLs. Clinical stratification based on a number of factors such as age, family history, pre-operative imaging and known genetic risk may guide appropriate management of such specimens whilst adopting a pragmatic approach to block-taking.

PS-01-041

Prognostic value of CEACAM1 in breast cancer in situ

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Background & Objectives: Ductal breast cancer can be divided into invasive and non-invasive types (cancer in situ – DCIS). Although there is information about molecular features of these tumours, DCIS remains none fully described pathology. Thus we need to find novel reliable diagnostic markers. One could be the carcinoembryonic antigen related cell adhesion molecules 1 (CEACAM1). This molecule was described in diverse invasive types of cancers. The aim our study presented here was to characterise the exact expression pattern of CEACAM1 in various types of DCIS.
Methods: The investigation was conducted on 20 samples with different types (papillary, cribriform, solid and comedocarcinoma) and grades (low and high) of DCIS. The presence of CEACAM1 was detected by the immunohistochemistry utilizing the mAb C5-1X/8 (0.1μg/ml).
Results: Low grade DCIS (papillary and cribriform) was characterised by apical expression of CEACAM1 on tumour cells which limited the lumens in tumour structures. The disappearance of spaces between cells (solid DCIS) was accompanied by a vanishing of CEACAM1. Comedocarcinoma (high-grade DCIS) were characterised by cytoplasmic and uniform membranous distribution of CEACAM1 with areas of its absence. Some DCIS cases (cribriform, solid and comedocarcinoma) were heterogeneous: I. with and without CEACAM1; II. with different patterns of CEACAM1 expression.
Conclusion: Ductal cancers *in situ* have different variants of CEACAM1 expression: papillary and cribriform – apical, solid – without CEACAM1, comedocarcinoma – cytoplasmic and uniform membranous. The growth of tumour malignancy leads to CEACAM1 distribution translocation and their disappearance. The presence or lack of CEACAM1 cannot be indicator of malignant intraductal tumours.

PS-01-042

HER2 status in breast cancer: immunohistochemistry and gene amplification in the Republic of Kazakhstan

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Background & Objectives: Human epidermal growth factor receptor 2 (HER2) overexpression is present in 15-20% of invasive breast cancers, and is an important predictive and prognostic marker.
Purpose. Determination of HER2 status in patients with invasive breast cancer (IBC).
Methods: Immunohistochemistry (IHC) was used to study material of 745 patients using Pathway anti-HER2/neu antibody (4B5). Equivocal HER2 (2+) status was specified by SISH hybridization and was performed by the INFORM HER2 DUAL ISH DNA Probe Cocktail (USA) implementing a silver tag (HER2 gene, SISH) and a red chromogen (Chr17, Red ISH).
HER2 status by SISH was determined according with ASCO CAP Guideline 2018 as positive, if HER2/CEP17 ratio ≥2 with HER2≥6, HER2/CEP17 ratio<2 with HER2≥6. As a positive control for counting signals were lymphocytes, fibroblasts, endothelial cells.