suppression (OFS) added to T or to an aromatase inhibitor (AI) has radically changed the endocrine treatment landscape in this setting. In the joint analysis of TEXT and SOFT, OFS plus exemestane (E) was superior in terms of DFS to OFS plus T without difference in OS. In premenopausal women receiving an AI complete OFS must be obtained usually using a gonadotropin-releasing hormone agonist GnRHa. However, incomplete OFS is expected in approximately 20% of the patients receiving a GnRHa plus AI. Hence when a GnRHa plus an AI is chosen, a continuous monitoring of treatment adherence and the possible signs that suggest potential recovery of ovarian function-are critical. Estradiol and FSH monitoring during treatment can be considered.

Patients and methods: From 6/2017 to 12/2019 twenty-one consecutive premenopausal women with hormone positive HER2 negative early breast cancer participated in the observational study. The treatment was leuprolide (L) 3.75 mg every 4 weeks plus E 25 mg daily. 14 pts received treatment after chemotherapy (CT) and 7 as monotherapy (M). The serum levels of E2, FSH and LH were assayed prior the administration of L plus E and then 1, 3, 6, 9 and 12 months after starting therapy. The laboratory standard values for menopausal levels are 10-40 pg/mL for E2 (limit detection 5 pg/ml), 25.8–134.8 mIU/ml for FSH and 7.7-58.5 mIU/ml for LH.

Results: All pts completed the observational period. The baseline E2 value was menopausal in 8/14 CT pts and normal in all M pts. After 1 month E2 value was menopausal in 12/14 CT pts and normal in all M pts. Three-months E2 values showed menopausal status in 13/14 CT pts and in 5/7 M pts. At six months from the start, the hormonal status remained unchanged therefore after discussion with these pts switched toT. At 12 months all pts in L plus E were in menopausal status. FSH and LH levels showed a marked reduction from the start of treatment.

Conclusions: The majority of the pts (18/21), regardless CT or M, had menopausal E2 value within six months from the start, special attention should be given to chemotherapy-naïve pts.

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HIGH PLASMATIC LEVELS OF IL-4 AND IL-13 ARE ASSOCIATED WITH RECURRENCE AND WORSE SURVIVAL IN BREAST CANCER

Onesti C.E.[1], Onesti C.E.[2], Josse C.[3], Boulet D.[3], Bours V.[3], Jerusalem G.[2]

[1]University Hospital of Liège Sart Tilman, Liège, Belgium; [2]Department of Medical Oncology, University Hospital of Liège Sart Tilman, Liège, Belgium; [3]Laboratory of Human Genetics, GIGA Research Institute, Liège, Belgium

Background: The immune system has a role in breast tumor, in particular in triple negative (TNBC) and in hormone receptor-negative/HER2-positive breast cancers. The aim of this study is to analyze the association between baseline cytokines expression with cancer relapse and outcome.

Material and methods: Baseline plasmatic samples of 66 stage I-III breast cancers treated with surgery with or without radiotherapy and systemic treatment between 2011 and 2017 were collected. A panel of 24 cytokines were analyzed by Luminex MAGPIX technology, using multiplex Luminex Magnetic Assay kits (®R&D System).

Results: Sixty-six breast cancer patients were included in the study. The median follow-up was of 78 months (range 18-99). The median age at diagnosis was of 58.5 years (range 32-86). The stage at diagnosis was I in 29 (43.9%) patients, II in 26 (39.4%) and III in 11 (16.7%). The histological type was ductal in 47 cases (71.2%), lobular in 13 (19.7%) and mixed in 6 (9.1%). Fifty-three (80.3%) patients were estrogen-receptor-positive, 11 (16.7%) HER2-positive and 12 (18.2%) TNBC. All the patients received surgery, combined with neo/adjuvant chemotherapy in 35 (53%) cases, anti-HER2 in 9 (13.6%), hormonotherapy in 53 (80.3%) and radiotherapy in 52 (78.8%). During the follow-up we observed 11 relapses and 4 deaths. IL-4 was associated with relapse, that occurs in 30.7% of the cases in the group with IL-4 $>$ 0.07 (IL4-H) mean fluorescence intensity (MFI) vs in 7.5% in the group with IL-4 $\leqslant$ 0.07 MFI (IL4-L) (p 0.013), with a ROC curve AUC of 0.745. In multivariate analysis relapse was associated with IL-13 (p 0.048) and T stage (p 0.049). Survival analysis showed a better time to treatment failure (TTF) for the group IL4-L (5y-TTF 87% vs 63% for IL4-L and IL4-H, p 0.022) and for the group with IL-13 $\leqslant$ 0.1 MFI (IL13-L) compared IL-13 $>$ 0.1 MFI (IL13-H) (5y-TTF 90% vs 45%, p 0.017). A separation of the curves was also observed for breast cancer specific survival (5y-BCSS: 95% vs 84% for IL4-L vs IL4-H, p 0.118; 91% vs 75% for IL13-L vs IL13-H, p 0.029).

Conclusions: Higher baseline plasmatic level of IL-4 and IL-13 are associated with a worse prognosis in early stage breast cancer. These are two structurally and functionally related cytokines known for regulating the immune system activity, leading to a T helper-2 response and to a macrophage M2 polarization. Data should be confirmed in a larger cohort and a mechanistic study is advisable.

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SUPPORT BREASTFEEDING FOLLOWING BREAST CANCER

Testa I.[1], Gallese M.[1], Giuntini N.[1], Nastasi G.[1], Cattaneo E.[1], Ionio C.[2], Andreol A.[2], Smorti M.[3], Peccatori F.A.[4], Pravettoni G.[4], Pisoni C.[5], Cassani C.[5], Fenaroli V.[1], Bonassi L.[1]

[1]ASST Bergamo Est, Seriate; [2]Università Cattolica del Sacro Cuore, Milano; [3]Università degli Studi di Pisa, Pisa; [4]Istituto Europeo d'Oncologia, Milano; [5]IRCCS San Matteo di Pavia, Pavia

Background: Breast Cancer (BC) is the most common oncological disease diagnosed in pre-menopausal women.