

عنوان مقاله:

Comparative Proteomic Analysis of Breast Cancer Tissue and the Adjacent Normal Tissue in Iranian Patients with HER2 Negative Ductal Carcinoma of Breast

محل انتشار:

چهاردهمین کنگره بین المللی سرطان پستان (سال: 1397)

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خلاصه مقاله:

Background: There is very limited evidence about the differences between proteome of breast cancer tissue and the adjacent normal tissue. Given the importance of identifying factors involved in the tumorigenesis of breast cancer; herein we aimed to compare the proteome of HER2 negative invasive ductal carcinoma and their adjacent normal tissues. Methods: During the removal surgery, 50mg of cancer tissue as well as 50mg of adjacent normal tissue were obtained from 5 female patients with ductal carcinoma in stage 3. The total protein content of the tissues was extracted and subjected to two-dimensional gel electrophoresis and MALDI-TOF MS/MS mass spectrometry. Results: A total of 1300 spots were found in the cancer tissues and 751 spots in the adjacent normal tissues, 46 of which were matched between the groups. Cytoskeletal keratin types I and II showed a 4-fold increase ($P < 0.001$); C region of Ig kappa chain, 2 folds increase ($P < 0.001$); serum albumin and Collagen VI, 16 fold decrease ($P = 0.007$); and tropomyosin alpha-4 and alpha-3 chains, 41 fold decrease ($P = 0.04$) in the cancer tissues compared to the normal tissues. In addition calreticulin, galectin-1, and constant region of Ig gamma-1 chain were only identified in the former, and alpha-1-antitrypsin and hemoglobin subunit beta only in the latter. Conclusions: It seems that overexpression of galectin-1, the types I and II keratin, as well as down-regulation of collagen VI and alpha 1-antitrypsin in the cancer nest might be implicated in the progression of advanced breast carcinoma, and therefore, be used as independent biomarkers for the disease. However, much more studies are suggested to confirm our results.

کلمات کلیدی:

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