

Fine-needle aspiration cytology of axillary lymph node in patients with breast lump: assessment and variable correlation

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ABSTRACT

Introduction The breast is a glandular organ responsive to hormonal changes, therefore, according to the woman's reproductive stage, the prevalence of different types of breast diseases varies. Breast cancer is the most prevalent (34,6%) in Portuguese women, its incidence has been rising and is most common in postmenopausal women (75%). However, younger women often present worst prognosis and more aggressive behaviour. Age, histological type and grade, axillary lymph node metastases and molecular subtypes are all important factors for therapeutic selection, patient's follow-up and prognosis.

Purpose The aim of this investigation was to correlate five variables: age, lymph node status, histological type-grade and molecular biomarkers, in women with breast lumps submitted to core biopsy of the breast and fine-needle aspiration cytology of the axillary lymph nodes.

Materials and Methods The sample included 41 patients that were submitted to core biopsy of the breast and fine-needle aspiration cytology of the axillary lymph nodes. Breast tissue samples were stained with Hematoxylin-Eosin technique, which allowed the assessment of histological type and grade of the lesion. Besides that, immunohistochemistry techniques were performed, to evaluate the expression of estrogen and/or progesterone receptors, HER-2 and Ki67. In fine-needle aspiration cytology of the axillary lymph node, half of the slides were stained with May-Grünwald-Giemsa technique, and the other half with Papanicolaou technique. Fisher's Exact Test was used with a confidence level of 95% and a p-value<0.05.

Results It was ascertained a correlation between histological grade and molecular subtype (p-value=0.047), and between histological grade and the expression of Ki67 (p-value=0.004). There was no significant association between other variables.

Conclusion In conclusion, it was established that there is a correlation between histological grade and the proliferative index and with the molecular subtype of the carcinoma.

Key-Words: Breast, Breast Cancer, Lymph Node Metastasis