

Image analysis in virtual slides: Comparison between the expression of hormonal receptors and DNA ploidy (static cytometry) in breast carcinoma.

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BACKGROUND

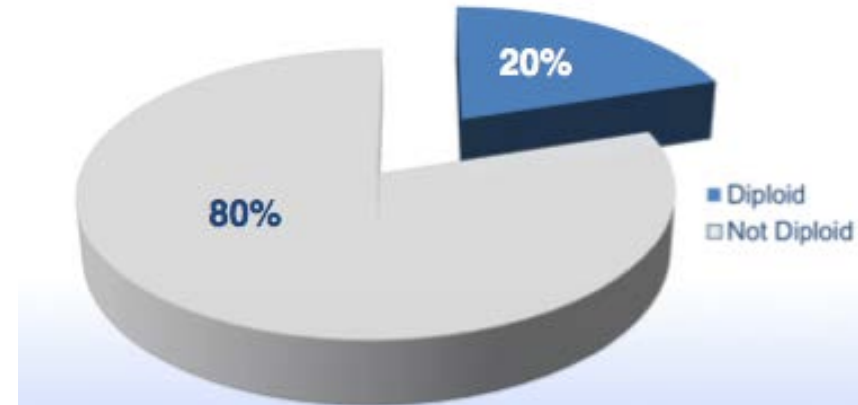
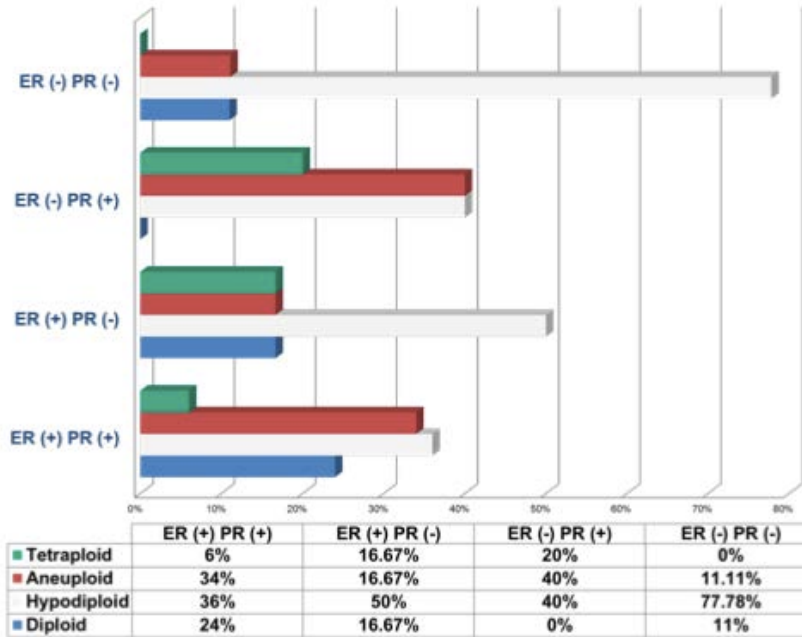
Breast carcinoma is the most common malignant neoplasm in women in the world and has an unpredictable clinical course. There have been some studies that analyzed several parameters that predict their biological behavior; one of them is DNA ploidy (quantification of DNA content).

The aim of this study is to compare the expression of hormone receptors and DNA ploidy in breast carcinoma, using computer algorithms in virtual slides.

MATERIALS AND METHODS

- **Retrospective, descriptive and comparative study of 70 cases of breast carcinoma at The American British Cowdray Medical Center (Mexico City).**
- **All the cases in which hormone receptors (immunohistochemistry) and DNA ploidy (Feulgen stain) were performed were selected to be scanned using an iScan Coreo Au scanner (Ventana Medical System, Inc, Tucson AZ, US) at 20x magnification.**
- **The virtual slides were analyzed by one operator using SLIS and Virtuoso 5.1 software.**

RESULTS



DISCUSSION AND PERSPECTIVE

- We demonstrate that most of the tumor cells showed alterations in DNA content measured by static cytometry, with a predominance of hypodiploid cells.
- There was no significant relationship between histologic grade and DNA content, rather it was observed that in cases of ductal carcinoma in situ the neoplastic cells were mostly aneuploid.
- These results must be analyzed in a subsequent clinical study to define the prognostic value of static cytometry and DNA ploidy in breast carcinoma.