

#1560 Nipple Aspirate Fluid (NAF) Cytology Predicts Residual Disease After Diagnostic Biopsy. Sauter, E.R., Ehya, H., Babb, J., Diamandis, E.P., Daly, M., Klein-Szanto, A.J.P., Sigurdson, E., Hoffman, J., Malick, J., and Engstrom, P.F. *Fox Chase Cancer Center, Philadelphia, PA 19111, Mt. Sinai Hospital, Toronto, Ontario, CANADA M5G1X5*

In order to determine the ability of NAF to predict histologic evidence of residual carcinoma in the breast, samples from 102 fresh mastectomy specimens were obtained. Evaluated candidate markers of breast cancer risk were: cytology, DNA index, cell cycle parameters (S phase fraction, % cells in G₂M, % hypertetraploid cells), prostate-specific antigen (PSA), epidermal growth factor (EGF), gross cystic disease fluid protein-15 (GCDFP-15), testosterone, and prostaglandin D synthase (PGDS). Atypical NAF cytology was significantly associated with histologic evidence of DCIS or invasive cancer in the breast ($p=0.0006$). Malignant and atypical NAF cytology were 100% and 87% specific for residual disease. The method of disease diagnosis (excisional biopsy vs. fine needle aspiration) did not influence the ability to obtain abnormal cytology using nipple aspiration. In addition to cytology, G₂M ($p=0.03$) and PSA ($p=0.03$) were correlated with risk of residual carcinoma. None of the remaining candidate markers correlated with risk. In conclusion, NAF cytology, PSA and G₂M are associated with residual carcinoma after biopsy of the breast. Atypical or malignant NAF cytology is highly specific for the presence of residual carcinoma, and may be useful in determining treatment method.