Introduction

In Egypt breast cancer is the commonest cancer in women representing 24.3% (**El-Bolkainy, 1998).**

Breast cancer is the most common malignant tumor and the second leading cause of carcinoma death in women worldwide (**Parkin et al., 2001).**

In United States breast cancer representing 29.7% of major cancers in women and the seconed cause of death (16.4%) after lung cancer (24.2%) (**Andrson et al., 2002).**

Early stage breast cancer typically produces no symptoms when the tumor is so small and treatable. It is therefore very important for women to follow recommended guidelines for finding breast cancer at an early stage before symptoms develop (**Ostean, 2001).**

American Cancer Society guidelines for early detection of breast cancer consider fine-needle aspiration cytology as one of the

commonest methods for early detection of breast mass (**Humphreg et al., 2002).**

Fine needle aspiration (FNA) is a fast, accurate, and minimally invasive means of obtaining a preoperative cytological diagnosis in symptomatic and screen detected breast lesions (**Schmitt, 2002).**

Moreover, FNA offers the potential advantages of retaining extra material for the purpose of further studies. Ploidy analysis and immunohistochemical study in order to offer information concerning the expression of prognostic markers such as c-ErbB2, estrogen and progesterone receptors, and special stains as alcian blue and mucicarmin (**Kontzoglou et al., 2005**).

Periodic Acid Schiff (PAS) stain is a simple and quick histochemical technique based on periodic acid oxidation of a substance containing the 1,2-glycol grouping, then the aldehyde groups are detected by the Schiff reagent. Substances that can be

demonstrated include carbohydrates, mucins, matrix, collagen, reticulum, basement membranes, fibrin, thyroid colloid, amyloid, glomerular hyaline deposits, and a number of other secretions or tissue constituents (**Youngberg, 2001**).

The presence of strong intracytoplasmic PAS positive, diastase resistant (DPAS) staining within atypical cells was noticed in fine needle aspirates from alveolar, cervical, germ cell tumors and breast lesions that may help in predicting malignancy (**Johnson et al., 2001 and Amit et al., 2004**).

Episialin/MUC1 (also known as MUC1, PEM, CA15-3 antigen, or EMA) is a polymorphic, highly glycosylated transmembrane molecule with a large extracellular mucin-like domin. In normal cells episialin/MUC1 is expressed by ductal epithelial cells of many organs including pancrease, gastrointestinal tract, and airway; it is exclusively present at the apical side of the cell (**Muller and Hanisch, 2002).** It is believed

to contribute to invasive and metastatic potential by contributing to cell surface adhesion properties in which it co-localizes with adhesion molecules such as integrins and cadherins as well as diagnostic and therapeutic potential in the treatment of cancer (**Kohlgraf et al., 2003**).