ROLE OF PROLACTIN IN BREAST CANCER DEVELOPMENT AN IN-VIVO STUDY

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Abstract - Breast cancer in women is a major public health problem throughout the world. One in ten of all new cancers diagnosed worldwide each year is a cancer of the female breast. It is also the principal cause of death from cancer among women globally. More than 1.1 million cases are diagnosed and more than 410,000 patients die of it worldwide. In recent studies, about breast cancer, the emerging factor that has gained maximum focus is the association of prolactin. Many studies from past few decades have led to the possibility that prolactin plays an important role in human breast cancer. Therefore the present study aims to see the role of prolactin in breast cancer progression in mammary tumor induced Sprague dawley (SD) rats. 30 day old inbred SD female rats of body weight 70-80 grams were taken for this study. The rats were induced with Methyl-Nitroso-Urea for mammary tumor development. After the development of palpable and visible tumor the rats were treated with antiprolactin drug (Cabergoline) and a prolactin lowering herb Vitexagnuscastus (VAC) for 2 months. After the treatment the rats were sacrificed for antioxidant estimation and histopathological section examination. The rats treated with anti-prolactin drug showed benign tumors with hyperplasia and lactational change proving the presence of prolactin in the tumor tissue, whereas the plant extract showed mammary tumor regression by the presence of foamy macrophages in the histopathological sections. Prolactin may have a potential role in progression of breast cancer.

Key Words: Breast cancer, Prolactin, Histopathology.