

## ***A Review on Role of Metformin for TNBC Obese Patients***

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### ***Abstract:***

Triple negative breast cancer (TNBC) is the most aggressive type of breast cancer. It is a heterogeneous disease that based on immunohistochemistry analyses. It is negative for estrogen receptor, progesterone receptor and human epidermal growth factor receptor 2. TNBC is significantly observed in young African American women and Hispanic women who carry a mutation in the BRCA gene. Obesity has an increased risk for developing TNBC, especially for premenopausal and postmenopausal women. The relation between obesity and TNBC remains difficult to understand. Many studies hypothesized that increased adipose cytokine, Adipokine, mainly Apelin levels due to obesity could be a major factor contributing to both tumor growth and metastasis in TNBC obese patients. Poor prognosis and poor response to treatment are the major characteristics of TNBC.

The anti-type II diabetes drug metformin can reduce risk of breast cancer, improves survival of breast cancer patients. It helps to inhibit specific molecular subtypes. Also metformin inhibits cell proliferation, colony formation, GM1 lipid rafts in TNBC. It activates intrinsic and extrinsic metformin signaling pathways only in TNBC cell lines. These breast cancer cells are extremely dependent on glucose and lipids which are metabolized for the production of energy and proliferation of TNBC cells. So, metformin can induce lipid metabolisms, especially targeting fatty acid synthase, cholesterol biosynthesis. Many researches demonstrated that Metformin can stop several strong enzymes going into glucose metabolism. It has significant role on inhibiting carbohydrate metabolism and lipid metabolism. By increasing key metabolic defect of carbohydrate and lipid metabolism this drug can reduce obesity for TNBC patients. The actual aim of this paper to highlight the partial role of metformin in cellular building blocks and in decreasing a high rate of Triple negative breast cancer cells proliferation, especially against highly aggressive malignant cancer cells for Triple negative breast cancer obese patients.

### ***Biography:***

Tasnia Jannat has completed her B.Sc. at the age of 24 years from Pabna University of Science and Technology in the department of Physics. She is very interested in the field of Triple Negative Breast Cancer research. She is doing mentorship in “Introduction to Breast Cancer” course at COURSERA.

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