ABSTRACT

MECHANISM OF RECURRENT LOCAL BREAST CANCER TO CYCLOPHOSPHAMID , DOXORUBICIN , FLUOROURACIL CHEMOTHERAPY WITH THE EXPRESSION OF HSP60 , HSP70 AND THE EFFECT OF MICRO-ENVIRONMENT OF TAM, IL6

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Background: Recurrent local breast cancer often occurs after receiving chemotherapy. What is the mechanism of local recurrent breast cancer is not clear. This study aimed to find the mechanisms of local recurrent breast cancer in association with cancer stem cells, cancer cells, TAM and the expression of HSP60 , HSP70 and IL6 . **Methods:** study was designed in vitro experimental research laboratory. Primary cultures from human breast cancer then exposed with combination chemotherapy of Cyclophosphamid 500µg/ml , Doxorubicin 5 ug / ml , 25µg/ml Fluorouracil for 4 days. Observation was taken serially at 24, 48, 72 and 96 hours . IHC double stainning method was done to identify the expression of HSP60 , HSP70 , IL6 in cancer stem cells (CD44) , cancer cells (CD24) and TAM (CD163) . Elisa method was used to measure IL6. Observations apoptosis of cancer cells , cancer stem cells and TAM were using TUNEL method . **Results:** The exposure of CAF chemotherapy caused cancer cell apoptosis (mean 34.25) , cancer stem cells (mean 5) and TAM (mean 11.75) in every 100 cells. The longer of exposure time to chemotherapy led an increasing on apoptosis, but on 72 hours of exposure was identified that cancer stem cells began to adapt . The role HSP60 and HSP70 as chaperon proteins affected apoptosis with optimal amount of protein folding rejuvenate proapoptosis protein, including interleukin 6 , then apoptosis was increased . The apoptosis was needed to kill cancer cells that are damaged and could not be repaired. Interleukin 6 influenced the regulation of apoptosis and educate cancer stem cells which are resistant to chemotherapy. **Conclusion** : HSP60 , HSP70 as chaperones and IL6 as a regulator protein caused resistance of cancer stem cells to chemotherapy, allowing the locally recurrent breast cancer . .

Keywords : HSP 60 , HSP 70 , IL6 , stem cells , recurrent , breast cancer