

090. Effect of Turmeric Extract (*Curcuma longa*) on Granzyme Exoration and Tumour Mass Diameter

Studi Pada Model Mencit Adenocarcinoma Mammae dengan Pemberian Kemoterapi Adriamycin Cyclophosphamide

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ABSTRACT

Background: Breast cancer accounts for 11.6% of new cancer cases and 6.6% of cancer deaths. Treatment varies based on cancer type and stage, with Complementary Alternative Medicine (CAM) used as adjunct therapy. Turmeric (*Curcuma longa*) inhibits carcinogenesis, angiogenesis, and tumor growth. Granzyme, a protein involved in apoptosis, is a marker for immunity and tumor cell destruction. **Methods:** This in vivo experimental study used a Post Test Only Control Group Design. Twenty-five female Balb/c mice with DMBA-induced mammary adenocarcinoma were divided into five groups: positive control, negative control, and three treatment groups. Granzyme expression was measured through immunohistochemistry, and tumor diameters were assessed using calipers. Data were analyzed with SPSS. **Results:** The P3 group showed the highest granzyme expression (38.71 ± 18.20), while the K- group had the lowest (9.43 ± 3.25). The K- group had the largest tumor diameter (17.11 ± 3.28), and the P3 group had the smallest (10.55 ± 2.33). Granzyme expression significantly differed between groups ($p = 0.022$), with notable differences between the K- group and K+ (0.021), P1 (0.021), P2 (0.014), and P3 (0.021) groups. Significant differences were also found between the K+ group and the P1 (0.016), P2 (0.004), and P3 (0.014) groups. **Conclusion:** Granzyme expression was higher in the turmeric and chemotherapy treatment groups compared to the control groups, while tumor diameters were smaller, suggesting enhanced tumor suppression with turmeric extract.

Keywords: *Curcuma longa*, granzyme, mammary adenocarcinoma, tumor diameter

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