

Efek Temperatur Lingkungan Terhadap Proliferasi Sel dan Derajat Nekrosis Adenokarsinoma Mammae pada Mencit = The Effect of Environmental Temperature on the Cell Proliferation Degree of Necrosis of Mice Mammary Adenocarcinoma

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Abstrak

Penelitian ini bertujuan untuk mengidentifikasi efek pajanan suhu lingkungan terhadap proliferasi sel dan derajat nekrosis dari adenokarsinoma mammae Pada penelitian true experimental parallel design ini mencit mencit yang telah ditransplantasikan dengan adenokarsinoma mammae dibagi menjadi empat grup dengan masing masing grup dipajankan temperatur lingkungan dengan satu dari beberapa rentang suhu tertentu 20 220C 25 270C 32 340C dan 37 390C selama enam jam hari selama dua minggu Grup temperatur 37 390C dieksklusi karena semua subjek pada grup ini mati Analisis sampel berdasarkan metode AgNOR HE Dari hasil analisis AgNOR ditemukan terdapat perbedaan signifikan dalam hal respon proliferasi sel antara ketiga grup temperatur ANOVA p mAgNOR 0 000 p pAgNOR 0 000 Grup temperatur 32 340C menunjukkan respon proliferasi sel yang lebih besar dibandingkan dengan grup temperatur 20 220C Namun analisis HE gagal menunjukkan perbedaan signifikansi dalam hal respon derajat nekrosis antara ketiga grup temperatur nilai tes Mann Whitne Asymp Sig 2 tailed antara grup temperatur 20 220C dan kontrol 25 270C 0 241 dan nilai tes Mann Whitney Asymp Sig 2 tailed antara grup temperatur 32 340C dan kontrol 0 575 Studi AgNOR menunjukkan bahwa respon proliferasi sel adenokarsinoma mammae memiliki korelasi positif terhadap rentang temperatur Di lain pihak studi HE tidak menunjukkan adanya pengaruh temperatur terhadap derajat nekrosis adenokarsinoma mammae pada mencit

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This research focuses on identifying the effect of environmental temperature exposure on cell proliferation & degree of necrosis of adenocarcinoma mammae. True experimental design (parallel) research was conducted in which the subjects (mice that have been transplanted with adenocarcinoma mammae) were divided into 4 groups with each group was exposed for 2 weeks (6 hours/day) to a environmental temperature of certain range; 20-220C, 25-270C, 32-340C, & 37-390C. In the process, the last group was excluded since all of the subjects in this group died. Sample analysis based on AgNOR & HE method was then done. From the AgNOR study, it was found that there is a significant difference in cell proliferation response between the remaining three temperature groups (ANOVA: p mAgNOR = 0.000; p pAgNOR = 0.000). The high temperature group (32-340C) shows greater cell proliferation compared to the low temperature group (20-220C). However, HE study failed to show significance in the necrosis response between the three temperature groups (Mann Whitney Test: Asymp. Sig (2-tailed) value between low & control group = 0.241; Asymp. Sig (2-tailed) value between control & high temp group = 0.575). In summary, AgNOR study shows that cell proliferation response in adenocarcinoma mammae shows a positive correlation with the temperature ranges. In contrast, HE study shows that temperature of any range has no effect on the degree of necrosis in mice with adenocarcinoma mammae.