

Daya hambat retinil asetat terhadap pertumbuhan tumor transplantabel kelenjar susu mencit GR

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Abstrak

RINGKASAN EKSEKUTIF

Ruang Lingkup dan Cara Penelitian: Pengobatan kanker payudara sudah banyak diupayakan, melalui tindakan bedah, radioterapi, kemoterapi dan terapi hormonal, namun hasilnya kurang memuaskan. Yang sangat didambakan dan ideal ialah cara pencegahan timbulnya kanker atau setidaknya upaya menekan perkembangan kanker. Beberapa jenis bahan makanan telah dilaporkan mempunyai kemampuan mencegah timbulnya keganasan. Vitamin A alami maupun sintetik dilaporkan dapat mempengaruhi pertumbuhan sel, sehingga vitamin A dosis tinggi diperkirakan dapat mencegah atau menghambat pertumbuhan tumor.

Dilakukan penelitian eksperimental untuk menilai daya hambat retinil asetat terhadap pertumbuhan tumor transplantabel kelenjar susu mencit. Tiga kelompok mencit jantan strain GR, umur $\pm$ 2 bulan dan berat badan 18 - 23 g, masing-masing 12 ekor, diinokulasi secara subkutan dengan 0,2 ml suspensi tumor kelenjar susu yang diperoleh dari mencit GR donor. Tiga jam kemudian kelompok perlakuan RA dicekok dengan sonde lambung 0,2 ml larutan retinil asetat 1500 IU, dan dilanjutkan setiap hari selama 14 hari. Kelompok kontrol I KP memperoleh 0,2 ml akuades sebagai ganti retinil asetat, sedangkan kelompok K tidak diberikan apa-apa. Daerah inokulasi diraba setiap hari untuk mengetahui pertumbuhan tumor. Volume tumor dan berat badan mencit diukur setiap 3 hari, dan pada hari ke-15 semua mencit dimatikan dengan cara dislokasi servikal. Tumor diangkat dan diukur volumenya, lalu dibuat sediaan mikroskopik dengan pewarnaan HE.

Hasil dan Kesimpulan: Volume tumor pada mencit kelompok RA ternyata lebih kecil daripada kelompok KP dan K ($p < 0,01$). Tumor pada kedua kelompok kontrol maupun perlakuan RA menunjukkan gambaran adenokarsinoma, namun indeks mitosis pada kelompok RA lebih kecil daripada kedua kelompok kontrol. Dengan demikian dapat disimpulkan bahwa pemberian retinil asetat 1500 IU setiap hari selama 14 hari dengan dicekokkan dapat menghambat pertumbuhan tumor transplantabel kelenjar susu mencit GR.

Scope and Method of Study: Breast cancer has been treated by various means of surgery, radiotherapy, chemotherapy and hormonal therapy, however, the outcome are still unsatisfactory. The ideal approach should be through prevention, or at least the development and progress of cancer inhibited. Different kinds of foodstuffs have been reported to be useful in the protection against malignancy. Vitamin A, either natural or synthetic, has been reported to affect cell growth, and a high dose was considered to be protective and inhibit tumor growth.

An experiment was carried out on male GR mice, approximately 2 months old and weighing 18 - 23 g, to evaluate the inhibitory action of retinyl acetate on the growth of transplantable mammary tumor. Thirty six mice were divided into 3 groups of 12. They were all inoculated subcutaneously with a porridge of tumor cells (0.2 ml) prepared from a donor mouse. Three hours following inoculation, each of the treatment group (RA) was given through a gastric tube 1500 IU of retinyl acetate in 0.2 ml of distilled water, and the treatment continued daily for 14 days. The control group KP received daily 0.2 ml of distilled water, and group K was without any treatment. The mice were observed daily for tumor growth, and tumor volume and body weight were measured every three days starting from day 3. At the end of the experiment (day 15), the mice were sacrificed by cervical dislocation. The tumor was excised from each mouse and the volume measured, and further processed for microscopic examination by HE stain.

Findings and Conclusions: The volume of the tumor of the mice receiving retinyl acetate was significantly smaller than those of the control groups K and KP ($p < 0.01$). Tumors from the treatment group as well as both control groups showed the characteristics of adenocarcinoma, but the mitotic index was significantly smaller in the treatment group. It is concluded that treatment with retinyl acetate, 1500 IU daily for 14 days, could inhibit the growth of transplantable mammary tumor in GR mice.

