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论文

肿瘤细胞体内扩散盒培养在抗癌药物筛选中的应用

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摘要:

体内扩散盒(Diffusion chamber)培养可使细胞在较接近自然的情况下生长。本文动态地观察了4株小鼠白血病(L615、L7212、L1210、P388)细胞在扩散盒中生长的过程。培养6～7天,细胞经对数生长期后可达生长高峰,细胞数可为植入时的5～14倍。如果使受鼠口服或肌注抗癌药物,可影响扩散盒内细胞的生长,其作用与肿瘤细胞对抗癌药物的敏感性有关。本文研究了体内扩散盒培养的P388细胞对11种抗癌药物的敏感性,其中体内给药有效(生命延长率>25%)者7种,无效者4种。结果除6-巯基嘌呤的生命延长率为33%,而扩散盒培养细胞的生长抑制率为13.3%外(>35%为有效),其余均相符合。本方法将抗癌药物筛选的体内、外实验法的优缺点结合起来考虑,国内外尚未见报道。它具有能综合反映药物对机体毒性、在体内代谢情况以及肿瘤细胞对药物敏感性的特点,并可用于培养人肿瘤细胞。对于寻找人肿瘤细胞敏感的抗癌药物,指导临床用药以及探索药物作用机理具有一定价值,从而为抗癌药物的筛选提供了一个新的途径。

关键词:

THE APPLICATION OF DIFFUSION CHAMBER CULTURE OF TUMOR CELLS IN THE SCREENING OF ANTI-TUMOR AGENTS

Wan Jinghua; You Yuchu; Mi Jingxian; Liao Qing and Yu Yanhua

Abstract:

The diffusion chamber culture *in vivo* provides a nearly natural condition for the growth of cells. In the present study, the growth process of leukemic cells from 4 strains of leukemic mice (L615, L7212, L1210, P388) was observed dynamically. After a period of exponential growth, cell growth peak can be reached on the 6th or 7th day of culture, and the cell numbers were 5-14 folds of the inoculated cells. If anti-tumor agents were given to the recipients orally or intra-muscularly, the tumor cells would be affected in accordance with their sensitivity to the anti-tumor agents. The sensitivities of P388 leukemic cells cultured in diffusion chamber to Ⅱ anti-tumor agents were measured, results to simlar with the sensitivety *in vivo* were obtained.

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