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Effect of acupuncture on the IL2-IFN-NKC immunoregulatory system of mice with HAC grafting hepatocarcinoma

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Abstract

AIM: To study the effect of acupuncture on the IL2-IFN-NKC immunoregulatory system and tumor inhibition of HAC grafting hepatocarcinoma mice models, and to provide the latest theoretical evidence of curing diseases immunologically with acupuncture.

METHODS: The 28 HAC-vaccinated BALB/C mice were randomly divided into a tumor-bearing controlled group and tumor-bearing group to be needed. For the latter group, the selected acupoints are Dazhui (DU, 14) and Zusanli (St, 36) which are localized according to the corresponding positions indicated in the comparative anatomy of animals. The mice in the group were needled once a day for 12 d with the supplementing and reducing methods, the frequency being 60 times/minute and the needles being retained for 2 min. The former group was treated in the same way as the latter except needling. Twenty-four hours after the last needling, the mice were killed and the spleen taken out to prepare a cell suspension at required concentration, The IL-2 (MTT method) and NKC (colorimetric method) were determined respectively; the IFN (CPE microplate staining) was determined by using the serum separated from the mice's orbit blood; the tumor mass was taken and weighed with an analytical balance (1/1000) to calculate the tumor inhibitation rate according to the formula.

RESULTS: In the tumor-bearing group after having been needled. the activity of IL-2 (OD value), the titer of IFN (U/mL), the soluble rate of NKC (%) and the tumor weight were respectively 1.3542 ± 0.226, 50 ± 0.12, 33.19 ± 4.01 and 70.88 ± 22.8, while those corresponding items in the controlled group were 1.1049 ± 0.028, 3.1 ± 0.22, 21.58 ± 2.77 and 112.45 ± 21.1, When all the concerned items were compared with, the difference was obvious ($P < 0.01$), showing the IL-2, NKC and IFN of the tumor-bearing group after being needled were greatly increased, and the tumor weight is much decreased (inhibitation rate 43.06%). The difference between groups was studied by Student's t test.

CONCLUSION: Acupuncture can strengthen the positive immunoregulatory function of the IL2-IFN-NKC system of the HAC bearing mice with hypoimmunity.

Key words: Acupuncture; HAC grafting hepatocarcinoma; Interleukin-2; Interferon; Killer cell, natural

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