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**Radiofrequency ablation does not induce the significant increase of CD4(+) CD25(+) Foxp3(+) regulatory T cells compared with surgical resection in Hepal-6 tumor model.**

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**Abstract**

Surgical resection (SR) and radiofrequency ablation (RFA) are all currently recognized as important and effective treatment in solid tumors. This study aimed to investigate change in level of CD4(+) CD25(+) Foxp3(+) regulatory T (Treg) cells in tumor-bearing mice after SR vs. RFA and the relationship of this level with tumor progression. Hepa1-6 tumor cells were inoculated subcutaneously into C57BL/6J mice. The population of Treg cells was measured by flow cytometry at selected post-SR or post-RFA times. Tumor growth was measured by rechallenge in the contralateral flank. The tumor volume was calculated and compared with that of a control group. The correlation between the population of Treg cells and tumor volume was analyzed. A significant increase in Treg cells was observed after SR compared with the preoperative level, while the level after RFA was relatively stable. A significant difference in tumor growth between the SR and RFA groups was observed in the initial postoperative phase but not in the later phase. A correlation was found between tumor volume and level of Treg cells. Our study revealed that RFA stabilizes the level of Treg during postoperative recovery, whereas SR activates the immunosuppressive reaction by upregulating the level of such cells, promoting tumor growth.

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