

Combination of transcatheter arterial chemoembolization and anti-PD-L1 liposomes therapy suppressed hepatocellular carcinoma progression in mice

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Abstract

Background To study the effects of combination TACE and anti-PD-L1 liposome drug in treating HCC in mice models. Methods We constructed the liposome drug with lecithin and cholesterol and mannitol, etc. Besides, the HCC mice model was established through abdominal subcutaneous injection HepG2 cancer cells in SD mice, then the PE-10 polyethylene catheter was used for TACE therapy. The SD mice were separately received TACE treatment, avelumab liposome drug therapy, and TACE combined with avelumab liposome drug therapy. Results The liposomes drug was successfully constructed with a diameter of 125.5 nm. After the mice received TACE and (or) immunotherapy, the combined liposome drug therapy significantly reduced the volume of hepatic carcinoma tissues, besides, the apoptotic rates of hepatic carcinoma cells in the combined liposome drug treatment group was increased obviously compared with other groups. Moreover, the protein TGF β R2 located in the cellular membrane was obviously down-regulated in the combined liposome drug therapy, whilst, the expression of SMAD7 and PTPN14 was up-regulated in the treatment groups compared with the mice without treatment, besides, the protein PTPN14 was mainly located in the nucleus. Additionally, the mRNA expression of genes SNAI1 and Vimentin was significantly down-regulated in the combined liposome drug therapy. Conclusion Combination of transcatheter arterial chemoembolization and anti-PD-L1 liposome drug therapy significantly suppressed hepatocellular carcinoma proliferation and metastasis in mice models.

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