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Double-bullet radioimmunotargeting therapy in 31 primary liver cancer patients

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Abstract

AIM: To observe the effect of double bullet immunotargeting therapy with chemotherapy and internal radiotherapy on primary liver cancer.

METHODS: The polyclonal horse antibody against human AFP (anti-AFPAb) and the monoclonal murine antibody against human AFP (anti-AFPMcAb) were used as carriers, and ^{131}I and mitomycin C (MMC) were used as warheads to form double bullet, *i.e.* ^{131}I anti-AFPMcAb-MMC (double bullet 1) and ^{131}I anti-AFPAb-MMC (double bullet 2) prepared using the modified chloramine T method. Double bullet targeting therapy was administered by intravenous drip once a month in 31 patients (treatment group) with unresectable primary liver cancer. Among them, 4, 17 and 10 patients were administered 1, 2 and 3 times, and the median radiation dose (MBq/case) was 193.5 ± 37.74; 651.9 ± 232.4, and 992.0 ± 230.5 respectively.

METHODS: Tumor shrinkage, decrease in AFP, and 1 and 2 -year survival rates were significantly higher than the control groups who received transarterial infusion (TAI) or transarterial chemoembolization (TACE) at the same time (50.0%, 15/30 *vs* 30.0%, 9/30, $P < 0.05$; 66.7%, 18/27 *vs* 28.0%, 7/25, $P < 0.01$ and 50.0%, 34.0% *vs* 33.0%, 3.3%, $P < 0.01$, respectively). Furthermore, the tumor progression rate (10%) in the treatment group was significantly lower than that of the control group (40.0%, $P < 0.01$).

CONCLUSION: Double bullet target therapy is more effective than traditional therapies due to the synergistic effects of the antibody, radioisotope, and anticancer agents, which together, enhance tumor killing.

Key words: Liver neoplasms/therapy; Immunotherapy; Alpha fetoproteins; Antibodies, monoclonal

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