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RADIO FREQUENCY ABLATION FOR HCC RESULTED FROM HEPATITIS B AND LIVER CIRRHOSIS INDUCED INSUFFICIENT CELLULAR IMMUNE RESPONSES TO VIRAL LOAD AND TUMOR RECURRENCE

Yuesi Zhong, Meihai Deng, Ruiyun Xu and Zhaofeng Tang

Third Affiliated Hospital, Sun Yat-Sen University, China

Introduction: Radio frequency ablation (RFA) for hepatocellular carcinoma (HCC) can induce tumor-specific immune responses; however, whether the anti-immune responses are sufficient for affecting HCC recurrence remains controversial.

Method: 28 cases with HCC resulted from hepatitis B and liver cirrhosis were included. Each case was with tumor number ≤ 2 , diameter of each tumor ≤ 3 cm. Serum samples were collected with written consent pre-RFA, and 1, 2 and 3 weeks post-RFA, which subsequently were tested for hepatitis B virus DNA (HBVDNA) load with real time polymerase chain reaction, and CD4⁺, CD8⁺ T cells and natural killer (NK) cells with flow cytometer respectively. All cases were followed up until the end point of HCC recurrence according to tumor markers and contrast-enhanced ultrasound or computed tomography. Student's t-test and Pearson Correlation were used for statistical analysis.

Results: There were 4 cases with no HCC recurrence during 3-year follow-up. The HBVDNA loads of pre-RFA and 1 week, 3 weeks post-RFA were not significantly different ($p > 0.05$), except for HBVDNA load of 2 weeks post-RFA which was significant lower than that of pre-RFA ($p = 0.03$). The proportions of CD4⁺ T cells, NK cells and ratios of CD4⁺/CD8⁺ T cells of pre-RFA and 2, 3 weeks post-RFA were significantly different (41.30 ± 6.52 vs 36.32 ± 2.36 for proportions (%) of CD4⁺ T cells of pre-RFA vs 3 weeks post-RFA, 7.43 ± 4.62 vs 18.42 ± 7.56 for proportions (%) of NK cells, 2.01 ± 0.84 vs 1.75 ± 1.06 for ratios of CD4⁺/CD8⁺ T cells). Pearson Correlation revealed that correlation between changes of serum immune cells pre- and 3 weeks post-RFA and disease-free survival time (median: 13 months) was not significant (related coefficient 0.088, $p = 0.49$).

Conclusions: RFA for HCC can induce cellular immune responses from 2 weeks post-RFA; however, which was insufficient for decreasing HBVDNA load and HCC recurrence.

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EARLY GOAL DIRECTED RESUSCITATION AFTER MAJOR HEPATECTOMY IMPROVES LIVER FUNCTION AND MAY DECREASE HOSPITAL LENGTH OF STAY

Achilleas Ntinias, Dimitrios Kardassis, Panagiotis Kottos, Antonios Manias, Ioannis Konstantinopoulos and Dionisios Vrochides

"Euromedica Geniki Kliniki" General Hospital, Greece

Introduction: The concept of goal directed treatment is well established and applied in critically ill patients. This study evaluates the impact of early goal directed resuscitation after major hepatectomy.

Method: This is a retrospective case control study of 62 consecutive patients who underwent major hepatectomy. Laparoscopic procedures ($n = 5$) were included, whereas cases with caval reconstruction were excluded. All patients underwent a fast-track recovery pathway. The first 35 patients received standard post-operative resuscitation (control group), whereas the rest 27 (study group) were enrolled to the early goal directed resuscitation protocol. Early goals included (but not restricted to): mean blood pressure (>65 mmHg), central venous pressure (<5 cmH₂O), cardiac index (>2.5 L/minutes/m²), urine output (>0.25 mL/kg/minutes), oxygen extraction fraction ($<27\%$) and lactic acid (<20 mg/dL). Primary endpoints included postoperative (30-day) mortality, morbidity and length of hospital stay. Secondary endpoints included lactic acid clearance, liver biochemistry values and coagulation profile during the postoperative period.

Results: Central venous pressure goal was reached by the 6th postoperative hour in 88.9% and 57.1% of the study and control group, respectively ($p = 0.006$). Lactic acid goal was reached by the 6th postoperative hour in 85.9% and 60.0% of the study and control group, respectively ($p = 0.028$). There was no postoperative mortality in either group. The SGPT value on the 2nd postoperative day was 221 ± 142 IU/L and 312 ± 160 IU/L for the study and control group, respectively ($p = 0.024$). The lactic acid value on the 1st postoperative day was 14 ± 6 mg/dL and 18 ± 6 mg/dL for the study and control group, respectively ($p = 0.015$). Length of hospital stay was 6.9 ± 1.8 and 7.7 ± 1.7 days for the study and control group, respectively ($p = 0.091$).

Conclusions: Early goal directed resuscitation after major hepatectomy improves liver function and may decrease hospital length of stay.