

## 간세포암 환자에서 간 등맥 화학색전술 시행 후 조영제 신증의 발생빈도와 위험인자

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### Incidence and Risk Factors for Radiocontrast Induced Nephropathy in Hepatocellular Carcinoma Patients who Undergo Transcatheter Arterial Chemoembolization

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**Background :** Transcatheter arterial chemoembolization (TACE) is effective for treating unresectable hepatocellular carcinoma (HCC). A large amount of radiocontrast agents is used for TACE and this may induce renal dysfunction. Patients with HCC have coexisting liver cirrhosis at the time of diagnosis. Advanced cirrhosis is characterized by peripheral vasodilatation associated with decreased renal perfusion that's due to the activation of vasoconstrictor systems. We conducted a retrospective investigation to determine the incidence and risk factors for radiocontrast-induced nephropathy (RCIN) in HCC patients who underwent TACE.

**Methods :** A total of 101 hepatocellular carcinoma patients with 221 transarterial chemoembolization treatment sessions were included. These patients had medical records to confirm the follow up serum creatinine level within 96 hours after TACE. RCIN was defined as an increase by at least 25% of the baseline serum creatinine level at between 48 hours and 96 hours after TACE.

**Results :** RCIN developed in 20 (9%) of the 221 treatment sessions after TACE. Univariate analysis showed that the Child- Pugh score ( $6.03 \pm 1.30$  vs  $6.75 \pm 1.94$ , respectively,  $p=0.005$ ), ascites (14.4% vs 40%, respectively,  $p=0.008$ ), the volume of contrast medium ( $257.3 \pm 66.8$  vs  $275.0 \pm 44.0$ , respectively,  $p=0.009$ ), the total bilirubin level ( $1.28 \pm 1.67$  vs  $3.43 \pm 7.97$ , respectively,  $p=0.000$ ) the basal serum creatinine level ( $0.9 \pm 0.29$  vs  $1.02 \pm 0.51$ , respectively,  $p=0.001$ ) and creatinine clearance ( $90.49 \pm 21.8$  vs  $88.44 \pm 29.57$ , respectively,  $p=0.015$ ) were significantly associated with the development of RCIN. Multivariate logistic regression analysis disclosed that only the Child- Pugh score was linked with RCIN (odds ratio: 1.506,  $P=0.015$ ). Overall, the in-hospital mortality after TACE was 4.07 percent: it was 30% for the patients with RCIN and 1.5% for the patients without RCIN ( $p=0.000$ ). Multivariate analysis showed that the Child- Pugh score and the occurrence of RCIN were linked with the in-hospital mortality after TACE (odds ratio: 2.755,  $p=0.001$ , odds ratio: 26.65,  $p=0.002$ , respectively)

**Conclusion :** RCIN after TACE is closely associated with the severity of liver cirrhosis. Effective preventive measures should be undertaken for HCC patients with advanced liver cirrhosis and who are undergoing TACE.

**Key Words :** 조영제 신증, 간세포암, 간 등맥 화학색전술  
RCIN, Hepatocellular carcinoma, TACE