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Re-appraisal The Application Of Radiofrequency Ablation And Surgical Resection In Early Solitary Hepatocellular Carcinoma—10 Year Experiencec In A Southern Taiwan Medical Center.

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Background : As the advance of locoregional and ablative treatment, there was little literature regarding the long term(> 10 years) effect of surgical resection and radiofrequency ablation treatment between solitary hepatocellular carcinoma(HCC) below 2cm or 2-3 cm.

Methods : Retrospectively we have enrolled patients diagnosed with primary and solitary which HCCs of which primary diameter below 3 centimeter and apply hepatectomy(either open or laparoscopic approach) or RFA as first line of treatment at E-Da hospital, the entire cohort is divided into 2 subgroups, namely 2cm and 2-3cm in diameter for statistical analysis

Results : A total of 401 patients was included. When primary HCC is 2-3cm in diameter, there are statistically significance in 5th and 10th year overall survival between hepatectomy and RFA group(5 year: 85.7% v.s 58.7%, p = 0.01, OR: 0.24, 95% CI: 0.08-0.72; 10 year: 79.8% v.s 39.4%, p <0.0001, OR: 0.16, 95% CI: 0.09-0.31) and 10 year cancer-specific survival(82.75% v.s 59.80%, p = 0.0005, OR: 0.31, 95% CI: 1.67-6.21). When comparing primary tumor size below 2cm and 2-3cm in RFA subgroup, there is significant difference in overall survival at 5th and 10th year(5 year: 90.3% v.s 58.7%, p = 0.005, OR: 0.15, 95% CI: 0.04 – 0.57; 10 year: 64.3% v.s 39.4%, p = 0.0002, OR: 0.36, 95% CI = 0.21-0.62), cancerspecific survival at 10th year(86.4% v.s 59.8%, p = 0.005, OR: 0.43, 95%CI: 0.24-0.78). On the contrary, there is no significant dicrepencies in 5th or 10th year overall survival(5th year: 95.8% v.s 85.7%, p = 0.23; 10th year: 74.7% v.s 79.8%, p = 0.43.), cancer-specific survival(5th year: 100% v.s 94.3%, p = 0.42; 10th year: 87.4% v.s 82.75%, p = 0.4) and disease-free survival(5th year: 83.3% v.s 71.4%, p = 0.3; 10th year: 54.0% v.s 45.8%, p = 0.92) in hepatectomy subgroup in either comparing primary HCC below 2cm or between 2 to 3 cm.

Conclusions : Contradict to common beliefs, which imply radiofrequency ablation is suitable to most solitary HCCs below 3cm, there is significant difference in overall survival, cancer-specific survival and disease-free survival between HCCs <2cm and 2-3 cm in diameter. As the technologic advances in both tumor ablation and minimally invasive surgery, further study is necessitated to optimize clinical judgement on cancer treatment in HCC patients with impaired liver reserve and old age.

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