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Impact of body mass index on patients hepatectomy for colorectal liver metastasis – an Asian perspective

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Introduction : Patients with different categories of body mass index (BMI) had different risk and outcome after surgery. We aimed to investigate the perioperative outcome for patients suffered from colorectal liver metastasis (CRLM) undergoing hepatectomy with different BMI.

Methods : This is a retrospective analysis of patients who had undergone hepatectomy for CRLM, either in synchronous or metachronous setting between 2010 to 2018. Perioperative outcomes and survival were grouped and analysed using WHO BMI classification for the Asian population.

Results : There were 215 patients suffered from CRLM identified, in which 137 patients had synchronous and 78 patients had metachronous CRLM. For synchronous CRLM overweight and obese patients had more comorbidities ($p=0.036$), in particular heart problem ($p=0.04$). Obese patients had higher creatinine ($75.0 \mu\text{mol/L}$, $p=0.016$), and lower platelet count ($189 \times 10^9/\text{L}$, $p=0.019$). All groups had similar modality and magnitude in the extent of the major and minor liver resection ($p=0.330$). Obese patients had more blood loss (0.611 , $p=0.048$) and postoperative complication (40%, $p=0.005$), in particular major complication (Clavien-Dindo $\geq 3A$ (22.9%, $p=0.040$). There was no difference in terms of the disease-free ($p=0.160$) and overall survival ($p=0.625$). For metachronous CRLM, no observable difference from the outcome among different categories of BMI. Increase in BMI, simultaneous resection of the synchronous CRLM and longer operative duration would increase the risk of overall complication.

Conclusions : High BMI seemed to have negative impact on the postoperative outcome of patients suffered from CRLM, especially in synchronous metastasis setting. Staged resection for these patients is recommended.

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