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The Learning Curve Of The Laparoscopic Liver Resection According To The Previous Surgical Experience

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Background : Liver resection is a difficult operation due to anatomical complexity or unexpected bleeding. Among them, laparoscopic liver resection is an operation that requires a very high level of technique. We tried to analyze the learning curve of liver resection according to the previous surgical experience.

Methods : All consecutive cases of laparoscopic liver resection between July 2007 and July 2019 in a tertiary referral hospital were enrolled in this retrospective cohort study. One surgeon performed all surgical procedures. The total number of cases was 1000, and the learning curve was analyzed by dividing them by surgical type using a cumulative sum control chart of the operative time.

Results : The first laparoscopic liver resection was left lateral sectionectomy, and its cutoff value of the learning curve was 50. The second one was left hemihepatectomy, and its cutoff value of the learning curve was 45. Laparoscopic right hemihepatectomy was performed for the first time in case 14, and its cutoff value of the learning curve was 35. Laparoscopic donor right hemihepatectomy was performed for the first time in case 390, and its cutoff value of the learning curve was 5.

Conclusions : For the simplest anatomical liver resection, left lateral sectionectomy, the cutoff value of the learning curve for the laparoscopic liver resection was 50, and for complex donor right hemihepatectomy, the cutoff value of learning curve for the laparoscopic liver resection was 5. As a result of these analyses, we found that the learning curve of laparoscopic liver resection is greatly affected by the previous surgical experience.

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