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Laparoscopic liver resection in segment 7: Hepatic vein first approach with special reference to sufficient resection margin

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1. Introduction

Laparoscopic liver resection (LLR) for tumors located in the posterosuperior segments of the liver (Segments (S) 7 or 8) is a challenging procedure [1]. Especially, LLR for S7 is difficult because the access of instruments is limited, bleeding control is difficult, major LLR is sometimes required [2]. To overcome these obstacles, we performed LLR in S7 with a lateral approach using intercostal trocar [3]. To obtain competent resection margin, LLR through right hepatic vein (RHV) first approach was performed [4] for mass located near the RHV in a 58 year old female.

2. Case

After full mobilization of right liver including all short hepatic veins and caudate lobe, rotate the whole liver completely to the left side to approach to the root of RHV. One intercostal trocar (8th ICS) was inserted (Fig. 1). Parenchymal transection started from the confluence of hepatic vein and then, followed along RHV with ligating small branches from RHV. Before the parenchymal dissection, the RHV is encircled by vessel loop to prepare for massive bleeding. Resection margin was demarcated after localization using laparoscopic ultrasonography. After completion of dissection using CUSA and ultrasonic shears, hemostatic

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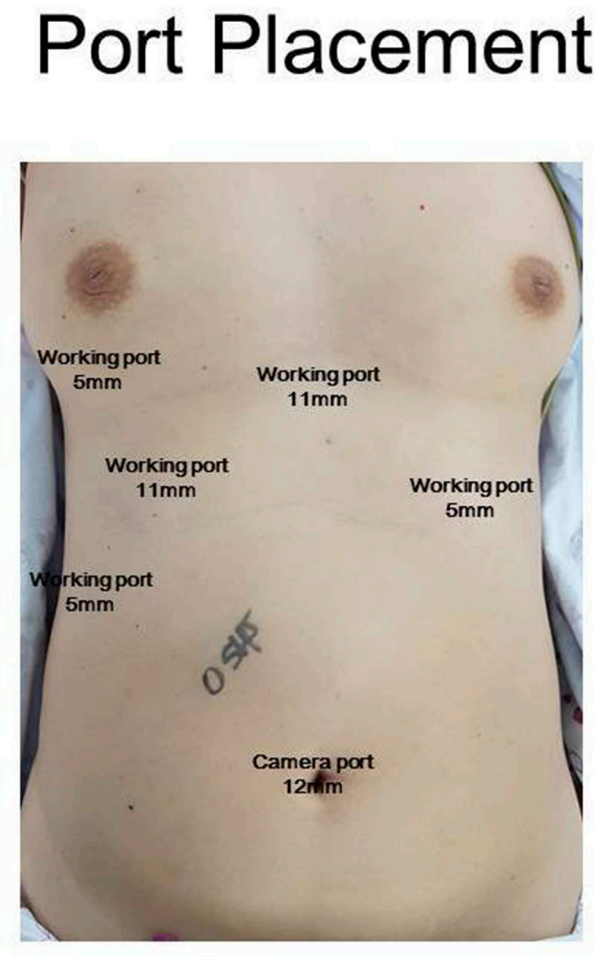

Fig. 1. Port placement.

agents were applied.

Operation time and estimated blood loss were 120 mins and 400 ml. The patient was discharged without any complication on postoperative day 7. Final pathological assessment confirmed clear resection margin (Adrenal rest tumor, Margin: 1.5 cm).

3. Conclusion

Laparoscopic S7 segmentectomy with hepatic vein first approach technique is safe and recommended to obtain resection margin without Pringle maneuver. (Fig. 2).

Conflicts of interest

Dr Lee, Cho, Han, Yoon and Choi have no conflicts of interest or financial ties to disclose.

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Authorship statement

All authors have made substantial contributions to all of the following: the conception and design of the study, or acquisition of data and drafting the article or revising it critically for important intellectual content.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.suronc.2019.06.001.

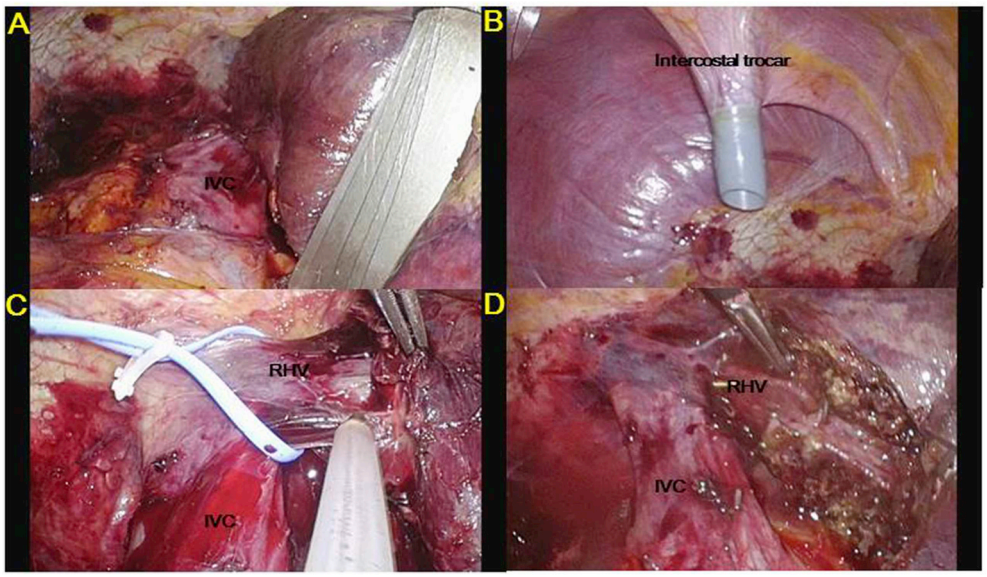

Fig. 2. Video still.
Main steps for laparoscopic liver resection in segment 7: Hepatic vein first approach. A. After full mobilization of right liver, rotate the whole liver completely to the left side. B. One intercostal trocar was inserted to access the lesion. C. Parenchymal transection followed along RHV with ligating several small branches from RHV. D. Final view after resection of S7.
IVC, inferior vena cava, RHV, right hepatic vein.

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