

Associating liver partition and portal vein ligation for staged hepatectomy (ALPPS) in a hepatocellular carcinoma patient with inadequate remnant liver volume

Rohan Siriwardana¹, Suchintha Tillakaratne¹, Prabath Kumarasinghe², Bhagya Gunathilake¹

¹ Faculty of Medicine, University of Kelaniya, Sri Lanka.

² Colombo North Teaching Hospital, Ragama, Sri Lanka.

Key words: Liver remnant; volume; staged hepatectomy

Introduction

A 24-year-old patient was diagnosed with large hepatocellular carcinoma involving 2,3,4A, 4B, 5 and 8 segments of the liver. His background liver was normal. An extended left hepatectomy was needed for a curative resection. Future remnant liver volume was considered inadequate (Figure 1). The patient was offered Associating Liver Partition and Portal vein ligation for Staged hepatectomy (ALPPS) procedure.

Discussion

In the first session the liver hilum was dissected and the left portal vein was ligated. Subsequently the liver was completely split in to two (Figure 1) in the plane between the right anterior and right posterior sectors keeping the inflow from both hepatic arteries and right portal vein intact. After the first step, the liver functions were stable. On the seventh postoperative day following a repeat CT scan, the second step

of completion hepatectomy was done after dividing the left hepatic duct, hepatic artery, left and middle hepatic veins. Significant hypertrophy was noted in the right posterior sector (Figure 2). Postoperative recovery was unremarkable.

Small size of the future liver remnant (FLR) is a limiting factor in liver resections. Portal vein embolization, portal vein ligation and staged hepatectomies are some of the techniques traditionally used to enhance the future liver remnant.

These techniques need 6 to 8 weeks and can delay further oncological management. A newly emerging technique, Associating Liver Partition and Portal vein ligation for Staged hepatectomy (ALPPS), claims to achieve rapid liver regeneration to complete the resection in a week period [1, 2].

However early data shows that ALPPS is associated with higher morbidity and mortality compared with the other procedures for managing small remnant liver [4]. ALPPS though remains a viable option to improve the resectability of liver lesions in selected patients.

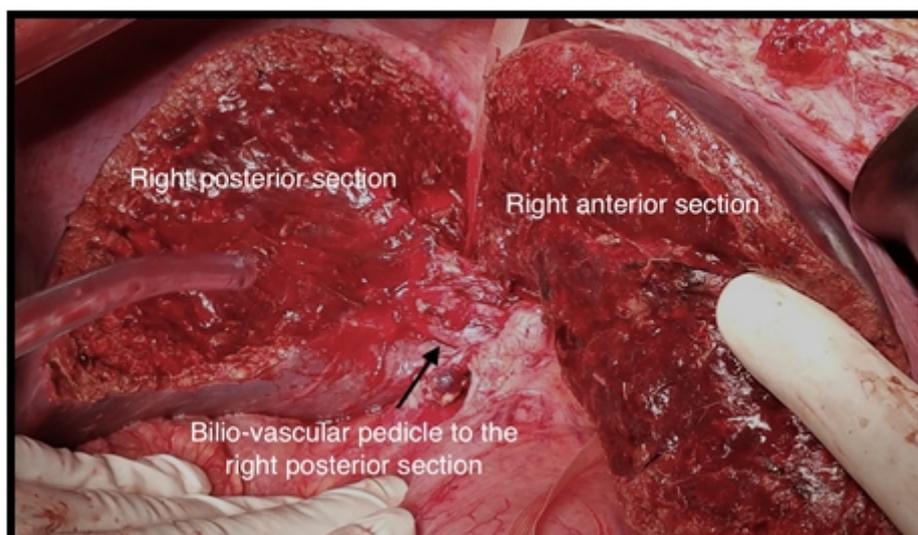


Figure 1. Ligation of the left portal vein and splitting the liver in the plane between the right anterior sector and right posterior sector.

Correspondence: Suchintha B Tillakaratne

E-mail: suchinthat@gmail.com

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 <http://orcid.org/0000-0002-6499-4644>

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Figure 2. Hypertrophied right posterior sector

All authors disclose no conflict of interest. The study was conducted in accordance with the ethical standards of the relevant institutional or national ethics committee and the Helsinki Declaration of 1975, as revised in 2000.

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IMAGES IN SURGERY

Brodie Absces

Buddhika Uragoda, Tania Ekanayake, Ranil Fernando
Colombo North teaching hospital, Ragama, Sri Lanka

A 56 year old driver presented with upper shin pain for 10 months' duration. He has a history of compound fracture of tibia

- 1) What is the most likely diagnosis?
- 2) What are the differential diagnosis for the radiological appearance of above condition?
- 3) What are the other imaging modalities that will support your diagnosis?



Figure 1. AP and lateral view of upper end of left tibia / fibula

- 4) What are the management strategies that will help in treating the above condition?
- 5) What is the most likely culprit organism for the above condition?

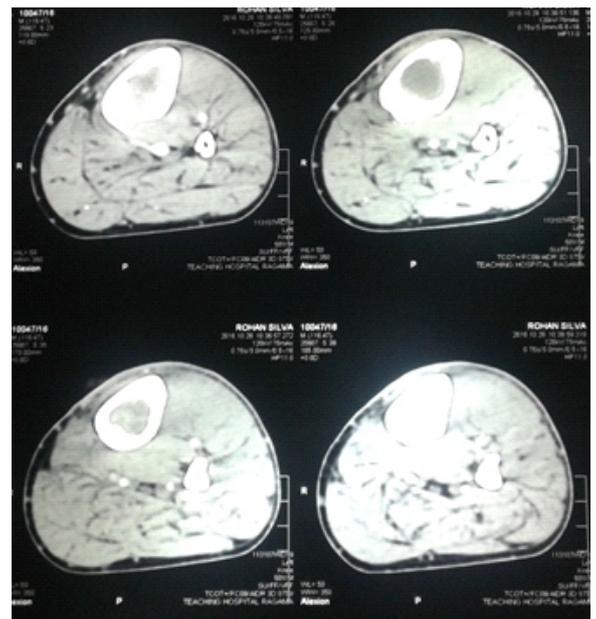


Figure 2. CT appearance of left upper tibia

Correspondence: Buddhika Uragoda

E-mail: buddhikauragoda@gmail.com

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<http://orcid.org/0000-0002-9118-6722>

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