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## Laparoscopic Resection of the Retroperitoneal Castleman Disease

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**Introduction:** Castleman disease is a rare benign disorder that may grow in any area where lymphoid tissue is normally present but the most frequent site is mediastinum (67%). Diagnosis of Castleman disease is difficult and the diagnostic certainty is obtained only by histologic examination. Castleman disease has been reported rarely as a solitary retroperitoneal mass, moreover resected by laparoscopic surgery is seldom reported. We report a case of a Castleman disease presenting as a retroperitoneal nodal localized mass which removed by laparoscopic approach.

**Case:** A 46-year-old female with known retroperitoneal mass which was periodically followed up by abdominal computed tomography was presented for surgical resection due to progressive increased of mass size. The preoperative impression was accessory spleen in the retroperitoneal space in the view point of well marginated iso-splenic enhancement on CT scan. On laparoscopic exploration, there was 4 cm sized soft mass at the pancreatic upper border of retroperitoneal space. The patient underwent laparoscopic mass excision and operative time was 135 minutes. Microscopically the retroperitoneal mass was revealed as Castleman disease, hyaline-vascular variant. The postoperative course was uneventful.

**Discussion:** Castleman disease was first described in 1954 and further defined in 1956 by Castleman. Since then much has been learned about the heterogeneity of this condition. Two clinical classifications are established. The unifocal, localized, pseudoneoplastic form, first described in 1956, has a good prognosis, but the multifocal form has a more aggressive course. Three histological types have been identified: hyaline vascular, plasma cell and mixed. At present, there is no standard therapy for Castleman disease, because it's rarity and heterogeneity. However surgical removal could be curative treatment for localized Castleman disease. If surgical resection isn't possible,

irradiation is an effective alternative, with response rates up to 72%. Most of reported case of surgically removed retroperitoneal Castleman disease were done by laparotomy, until now. Recently Ahn et al. reported successful resection of 2-cases of retroperitoneal Castleman disease with laparoscopic surgery. As laparoscopic technique and equipment develops, much more retroperitoneal mass such as Castleman disease could be treated safely in the future.

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## The Effect of Splenectomy on Liver Regeneration is Different According to the Amount of Hepatectomy in Rats

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**Research Purpose:** Small-for-size syndrome (SFSS) is a major problem in liver surgery, and splenectomy has been tried to decrease the incidence of SFSS. However, the prevention mechanism of splenectomy is not fully understood. To elucidate how splenectomy can counteract SFSS, we tested following hypothesis: the effect of splenectomy on liver regeneration can be affected by the extent of hepatectomy.

**Materials and Methods:** Thirty-six male Sprague-Dawley rats (220-260 g) were divided into splenectomy ( $n=18$ ) and non-splenectomy ( $n=18$ ) groups. Each group has three hepatectomy subgroups including non-hepatectomy ( $n=6$ ), 70% hepatectomy ( $n=6$ ), and 90% hepatectomy. 3 groups: the non-hepatectomy group, the 70% hepatectomy group, and the 90% hepatectomy group. The animals were euthanized 24 hours after surgery. To assess the liver regeneration, immunohistochemistry of liver tissue using 5-bromo-2-deoxyuridine (BrdU) labeling and western blot analysis of hepatic growth factor (HGF) in the liver tissue were performed.

**Results:** We found that BrdU-positive cells increased depending on the amount of the liver resected in a dose-dependent manner. Splenectomy group showed higher BrdU-positive cell count in 90% hepatectomy subgroup ( $P<0.001$ ), but not in 70% hepatectomy and non-hepatectomy subgroups. Non-hepatectomy sub-