LAPAROSCOPIC PROCEDUREOF CELIAC ARTERY COMPRESSION SYNDROME IN CHILDREN

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Background. The celiac artery (CA) compression syndrome (CACS) is a rarely diagnosed disorder, which is characterized by chronic abdominal pain and vegetative symptoms. The role of surgical treatment in CA decompression has been discussed controversially by numerous authors.

Patients and methods. Three patients (median age, 15 years) diagnosed with CACS underwent laparoscopic decompression. The patients presented with chronic abdominal pain, vegetative symptoms and a reduced quality of life. Doppler sonography showed an increased blood flow velocity of the CA with maximum of 190-300 cm/s (mean 205 cm/s). CT angiography and angiography demonstrated a characteristic hook-shaped appearance of the CA with severe localized compression.

Results. All patients underwent laparoscopic decompression of the CA. Four or five ports we used during laparoscopic approach. The procedure consisted of division of the median arcuate ligament and complete mobilization of the CA from its origin on the aorta to its trifurcation. Average operating time was 65 minutes, and the average length of stay was 4 days. We did not observe any complications. Postoperatively all patients were immediately free of abdominal pain. Doppler sonography showed a marked reduction in CA blood flow velocity. Anincrease of vessel diameters to normal dimensions was documented by postoperative CT angiography.

Conclusions. Laparoscopic treatment of celiac artery compression syndrome offers a novel, safe, reliable and, compared to open surgery, less invasive approach. The surgical treatment is indicated in patients with characteristic symptoms and typical findings at Doppler sonography and CT after exclusion of other abdominal pathologies.

SLIDE TRACHEOPLASTY IN CHILDREN WITH CONGENETAL TRACHEAL STENOSIS

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Introduction. Congenital tracheal stenosis (CTS) is a rare life-threatening condition that often requires early surgical intervention. Treatment of CTS remains challenging.

Patients and methods. Between 2011 and 2016, 16 patients underwent slide tracheoplasty. The median age at surgery was 14.9 months (range, 18 days - 10.5 years). The median body weight was 9.4 kg (range, 1.8-32.8kg) at operation. Thirteen (81%) patients had long-segment CTS (>50% of total tracheal length), including 6 (38%) patients withtracheal stenosis extended to the bronchus. Abnormal bronchial arborization presented by an anomalous right upper lobe bronchus was detected in 6 patients. Fourteen (88%) patients had associated cardiovascularmalformations, which were previously operated on 5(31%) patients and simultaneously operated on 8(50%) patients. These defects and CTS were repaired with intraoperative usage of ECMO in 9(56%) patients versus conventional ventilatory support under cardiopulmonary bypass (CPB) in 7(44%) patients.

Results. There was no airway-associated mortality. One child died for some technical reason. Another died of multiple organ failure one year after the STP. The median follow-up period for the survivors was2.2 years (range, 0.2 – 5.1 years). In these15 patients, the median duration of ventilatory support was 8 (range, 1-25) days. The median duration of postoperative hospitalization period was 36 (range, 8-64) days, including the median duration of ICU stay 26 (range, 6-42) days.

Post-STP airway intervention (bougienage or laser photocoagulation) was necessary in 6 of our patients, no one required additional surgical procedures, stenting was not required either.All survivors (100%, 15 out of 15) were asymptomaticat last follow-up.

Conclusions. Our data suggest that children with CTS benefit from the usage of ECMO and the policy of simultaneous surgical treatment of associated cardiovascular malformations. Moreover, using intraoperative ECMO provides comfort conditions for surgeons facilitating a technically complicated operation and decreasing intra- and postoperative risks of common complications.