



Correction of aortic coarctation using end anastomosis in premature newborn

Correção de coarctação de aorta com anastomose término-terminal em recém-nascido prematuro

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PATIENT CHARACTERIZATION

Born at 36 weeks, 1.27 kg, male.

Aortic coarctation diagnosed with significant hemodynamic repercussion in the Service of origin, with dyspnea at rest and important abdominal distension, with diagnosis of enterocolitis.

He was referred to our service for treatment of congenital heart disease, but there was doubt as to the possible worsening of abdominal presentation due to mesenteric ischemia time needed to correct the defect.

After confirming the diagnosis with echocardiography, we opted for the clinical treatment of enterocolitis until general improvement for subsequent surgical intervention.

The aorta was sectioned proximal and distal to the coarctation and anastomosed through end-to-end suture with 7-0 polydioxanone yarn, without cardiopulmonary bypass [1].

DESCRIPTION OF TECHNIQUE

Left lateral thoracotomy, detachment of tissues beneath the scapula for identification of the intercostal spaces.

Opening of the pleural space in the fourth left intercostal space, the upper edge of the lower rib.

Positioning the retractor and observed the position of the fissure between the pulmonary lobes, which were displaced by flexible blades wrapped in wet gauze.

Examined all structures below the parietal pleura, as follows: the descending aorta, ductus arteriosus, left subclavian artery, aortic arch and hemi-azygous vein.

Passage of polypropylene 5-0 yarn and vein ligation in two distant points. Section of the vein with scissors.

Initiated dissection of the descending aorta structures as it is a region of lower pressure and therefore less risk of injury. Passage of repair wires in the parietal pleura to better expose the operative field. Repositioning of retractors.

Presentation of the dissection and therefore its enlargement to expose the left subclavian artery, and especially the arterial canal, identified by the presence of recurrent laryngeal nerve.

Isolation and identification of the intercostal arteries of the descending aorta with extensive dissection of all structures.

THE VIDEO REFERRING TO THE TEXT CAN BE FOUND AT
BJCVS WEBSITE: <http://www.rbccv.org.br/video/v25n4/>

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Identification of the external site of coarctation, ductus arteriosus, subclavian artery, left carotid artery and aortic arch. It is noted the extensive mobility of tissues, with movements of the descending aorta, necessary to prevent restenosis in the postoperative period.

Passage of two 5-0 polypropylene yarns around the ductus arteriosus, by fixing the equipment to the vessel wall and ligation.

Positioning of two vascular clamps, a proximal occluding blood flow to the aorta, carotid and left subclavian. Another distal one interrupting the flow of the descending aorta and intercostal arteries.

Section of the aorta, in bevel, distal to the coarctation. Aspiration for identification of the region, upper section to the coarctation, isolating the region of the ductus arteriosus with the diseased segment resected [2].

Enlargement of the orifice in the proximal aorta, initiation of anastomosis between the beginning of the proximal and distal aortic suture with 6-0 polydioxanone yarn through running sutures. Reconstruction initiated by the posterior side and finished earlier.

Withdrawal of the distal clamp and then the proximal one. The ischemia time was 17 minutes. Immediately the distal aorta showed tense, similar to the proximal aorta.

There was no thrill to palpation of the vessels and tissues were not too tense.

The ductus arteriosus stump sectioned is then settled as distal as possible in the region of anastomosis, aiming to prevent cell migration and impair the development of the aorta.

The flexible retractors are removed and the parietal pleura is reconstructed with polypropylene 6-0 yarn.

The lungs are hyperinflated so that there is no atelectasis postoperatively.

A 4FR tubular drain is inserted, positioned and settled.

A gauze protects the lung and using absorbable sutures the ribs are approximated and other tissues sutured in layers. Sterile dressings are placed so as to avoid distortions in the drain.

REFERENCES

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