Case report of successful hybrid repair of aortic arch aneurysm.

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Introduction:
Current approaches imply the involvement of endovascular techniques for aortic aneurysm repair using stent grafts. But endovascular repair of the aortic arch is complicated by its specific anatomical and physiological features, in this way, the use of interventional techniques only is often insufficient.

We present our experience with a hybrid procedure for aortic arch aneurysm that included simultaneous extra-anatomical bypass and endovascular aortic repair.

Case presentation:
A 78-year-old man with a symptomatic (dysphagia, chest pain, hoarseness) saccular aortic arch aneurysm was treated with the hybrid procedure. Computed tomography (CT) angiography of the aorta showed a saccular aneurysm (95mm x 61 mm) immediately distal to the ostium of the left common carotid artery (CCA) (Fig. 1).

Surgical strategy:
Open repair of the aortic aneurysm was associated with extremely high risk of postoperative complications due to the advanced age, comorbidities (chronic obstructive pulmonary disease and stroke in patient’s history), location of the aneurysm, and specific features of proximal aortic branches.

The hybrid procedure was carried out in two one-time stages, first (open surgical approach) performing an extra-anatomic bypass – left-right carotid and left subclavian-carotid arteries synthetic graft bypass for increase proximal landing zone (Fig.2).

Second stage was endovascular aortic arch stent graft placement. (Fig.3,4)

On the 10th day after hybrid procedure, the patient was discharged in a stabilized condition for ambulatory care. At the third month, CT angiography showed thrombosed aneurysm sack and no endoleaks.

Conclusions:
This case report represents that hybrid arch repair may be an alternative to standard open procedures in high risk patients with promising midterm results. This procedure is less invasive, which is important for high surgical risk patients with comorbidities.

References: