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Results of left subclavian artery revascularization prior to elective TEVAR

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ABSTRACT

Background:
For TEVAR, coverage of the left subclavian artery may be necessary to assure adequate proximal landing zone. The Society of Vascular Surgery suggests preoperative revascularization to reduce complications as stroke and spinal cord ischemia.
The aim of our study was to evaluate the outcomes of left subclavian revascularization prior to TEVAR

Methods:
94 TEVAR were performed in our institution between January 2005 and December 2016. All pathologies were included: aneurysm, false aneurysm, traumatic rupture, type B dissection, perforating ulcer. 22 left subclavian revascularizations were realized before elective TEVAR. They were reviewed retrospectively. Mean age was 68 years (range, 28-89 years). 59% were men and 41% were women. Indications for TEVAR were 7 aneuryms, 7 traumatic ruptures, 6 type B dissections, one false aneurysm and one perforating ulcer. For all the patients the proximal neck was lower than 20 mm. 18 carotido-subclavian bypasses with proximal subclavian artery ligation and 4 subclavian artery transpositions were realized. Thirty-day mortality and complications related to the revascularization were evaluated.

Results:
Thirty-day mortality was 0%. Complications were one Claude-Bernard-Horner syndrome and one brachial plexus injury with slow recovery. There were one bypass thrombosis and one left subclavian artery ligation after the vertebral ostium without clinical significance.

Conclusion:
Left subclavian artery revascularization is a safe procedure. Most of the complications were due to the proximal left subclavian artery ligation.
Proximal left subclavian artery embolization or branched endograft could be better than left subclavian revascularization with proximal left subclavian artery ligation.

BACKGROUND

Thoracic endovascular aortic repair (TEVAR) is the best treatment for most of the thoracic aortic pathologies. About 40% of the thoracic aortic pathologies involve the origin of the left subclavian artery (LSA) and require coverage of the LSA to assure good proximal seal.

Several studies have reported that LSA coverage is associated with a significantly higher risk of stroke and spinal cord ischemia. Other studies didn‘t do it. The Society of Vascular Surgery and the European Society of Vascular Surgery suggest to revascularize the LSA when coverage is necessary.

PURPOSE

Data about complications after LSA revascularization are rare. The aim of our study was to evaluate the outcomes of LSA revascularization prior to TEVAR.

METHODS

94 TEVAR were performed in our institution between January 2005 and December 2016. 2 LSA were covered without revascularization. 22 LSA revascularizations were realized before elective TEVAR. They were reviewed retrospectively. Mean age was 68 years (range, 28-89 years). 59% were men and 41% were women.

indications	mean age	gender
7 aneuryms	74	2 F – 5 M
7 traumatic ruptures	63	4 F – 3 M
6 type B dissections	70	2 F – 4M
1 false aneurysm	50	F
1 perforating ulcer	78	M

For all the patients the proximal neck was lower than 20 mm. All the LSA revascularizations were performed under general anaesthesia. 18 carotido-subclavian bypasses with proximal LSA ligation and 4 LSA transpositions were realized. TEVAR were not realized on the same day.

Thirty-day mortality and complications related to the LSA revascularization were evaluated.

RESULTS

Thirty-day mortality was 0%.

Complications were one Claude-Bernard-Horner syndrome and one brachial plexus injury with slow recovery. There were one bypass thrombosis and one LSA ligation after the vertebral ostium without clinical significance.

There were no bleeding and no early infection.

CONCLUSION

LSA revascularization is a safe procedure.

Most of the complications were due to the proximal LSA ligation.

Proximal LSA embolization or branched endograft could be better than LSA revascularization with proximal LSA ligation.

DISCLOSURES

No disclosures