Two Stage Endovascular Treatment of Multiple Supra-aortic lesions for Takayasu Arteritis

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INTRODUCTION

Takayasu aortoarteritis (TA) is a rare, chronic large- vessel granulomatous panarteritis of unknown etiology, affecting the aorta and its major branches. The disease typically presents at less than 40 years of age. The aorta can be affected along its length and all branches can be involved, in addition to the pulmonary and coronary arteries. The most commonly affected branches are the subclavian artery and the common carotid artery. TA is associated with considerable morbidity and premature mortality amongst young patients. Poor outcomes are attributed to a delay in diagnosis, in part due to lack of awareness of the condition, late administration of medical treatment, and inappropriate patient selection and timing of vascular intervention.1,2,3

CASE REPORT

A 38 years old female was referred to our clinic in January 29 2015. She was suffering from frequent attacks of unconsciousness and visual disturbances on the right side. Bilateral radial arteries were not palpable (“puleseless disease”) and signs of retinopathy were markedly revealed. Medical history included hypothyroidism. On 24th of January a CT angiography was done and multiple stenosis of supra-aortic vessels had been detected. The diagnosis of Takayasu arteritis was suspected.

Laboratory results showed: elevated serum C-reactive protein (CRP - 69 mg/l (norma:10 mg/l); active inflammation: 40–200 mg/l); an erythrocytes sedimentation rate (ESR -32 mm/hr), TSH - 8.26 μU/ml (norma 0.55–4.8 μU/ml).

On February 19, DSA (Digital subtraction angiography) was performed which shows multiple stenotic and occlusive lesions in the supra-aortic vessels, which are virtually explained on the picture #1 and picture #2.

BRIEF DISCUSSION

With symptomatic stenotic or occlusive lesions, it appears appropriate and often necessary to revascularize. The published literature however indicates that these procedures should be carefully considered and that restenosis is common; therefore intervention should be reserved for specific indications.4,5,6

METHODS: ENDOVASCULAR TECHNIQUE

The indications for considering intervention include uncontrolled hypertension as a consequence of renal artery stenosis, severe symptomatic coronary artery or cerebrovascular disease, which we have in our case, severe aortic regurgitation or occlusion, stenotic or occlusive lesions resulting in critical limb ischemia, and aneurysms at risk of rupture. In these cases the risk benefit ratio for surgery is good.8,9,10

CONCLUSION

In our case, 48 days follow-up data showed significant improvement of clinical symptoms and laboratory tests: C-reactive protein and erythrocytes sedimentation rate was normal: C-reactive protein (CRP 2 mg/L), an erythrocytes sedimentation rate (ESR -25 mm/hr), TSH - 5.31 μU/ml. According to our patients clinical improvement, to laboratory data and to the repeated CT-angiostudy, which did not detect distal embolic complications, made as to state the following:

Multiple stenting with the combination of medicamentous therapy should be considered as a treatment of choice for the life-threatening supra-aortic lesions in cases of Takayasu arteritis. Our case demonstrate that even multiple, two-stage endovascular intervention could be a safe option of treatment.

REFERENCES


For visualization and analysis of biomedical images, the files were exported from the Tbilisi central hospital to the Laboratory of Surgical NeuroAnatomy (LNSA) of University of Barcelona. They were sent in DICOM format which preserves spatial coordinates. In this laboratory the images were performed pre- and postoperative 3D model reconstruction of CT angiograms images, using the software AMIRAI v5.2.

This software is designed for visualization and analysis of biomedical images, allowing volumetric reconstruction. Data processing was performed by the software AMIRAI v5.2 (Mercury Co, Boston, USA), installed on a graphic station (Dell Precision 690).