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Case report

Rare mycotic aneurysms of internal jugular vein and innominate vein secondary to untreated parapharyngeal abscess: A case report

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HIGHLIGHTS

- We report a 31 year old female with multiple venous mycotic aneurysms.
- We intend to highlight that mycotic aneurysm can be found in any of the vessel types, and early surgical repair promises better outcomes.
- In addition, autograft use is advocated in mycotic aneurysmal repair for better surgical outcomes.

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ABSTRACT

We report a 31 year old woman presented with three months history of large untreated parapharyngeal abscess and bleeding from the mouth. On evaluation chest CT scan identified the abscess extending down to the superior mediastinum and multiple small lung abscesses. Echocardiography showed tricuspid valve insufficiency. Patient was brought to the operating room (OR) and intra-operatively it was found that she had multiple large mycotic pseudoaneurysms of the internal jugular vein and right brachiocephalic veins. All these pseudoaneurysms were repaired with pericardial patches under cardiopulmonary bypass. Patient did well in the short postoperative follow up and was then referred to plastic surgery and ENT for further surgical interventions.

1. Introduction

Mycotic aneurysms are infrequent conditions representing approximately 0.9% of all aneurysms [1]. Osler coined the term mycotic aneurysm for the first time in 1885 to describe infected mushroom-shaped aneurysm associated initially with endocarditis [2]. Later the term “mycotic” has been reportedly used to describe infected aneurysms regardless of the etiology [3]. Such lesions are classified to true and pseudoaneurysms; true aneurysms involve all the three layers of vessel wall while pseudo- or false aneurysms involve one of the layers leading to formation of pulsatile hematoma. An infected pseudoaneurysm occurs as a localized and irreversible dilatation caused by infection of the arterial wall leading to its development or a preexisting aneurysm is secondarily infected.

We present here the case of a patient with paraphayngeal abscess and tricuspid vegetation complicated by the formation of mycotic pseudoaneurysms at right brachiocephalic vein and the junction of internal jugular vein and right subclavian vein. The patient underwent successful repair with pericardial patches under cardiopulmonary bypass.

We report this case in line with the SCARE criteria [4].

2. Case

A 31 year old lady presented to us with three months history of bilateral neck swelling. Examination revealed large untreated parapharyngeal perforation on the right side of the neck and bleeding from the mouth. On evaluation with thoracic CT scan, the perforation was found in association with an abscess on the right side of the neck extending down to the superior mediastinum. Multiple small lung abscesses were identified, Fig. 1. The overall appearance was reported as secondary to infectious etiology with tuberculosis (TB) as a possibility. Echocardiography showed tricuspid valve vegetation with regurgitation.

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Tuberculosis gene expert was found negative and the Acid Fast Bacillus (AFB) smear didn't show bacilli. Blood culture was positive for Escherichia Coli, and the patient was started on intravenous antibiotics according to sensitivity chart (Amikacin) in addition to Vancomycin.

Patient was taken to the operating room and underwent sternotomy. Multiple large mycotic pseudoaneurysms were identified at right brachiocephalic vein and at the junction of internal jugular vein and right subclavian vein intra-operatively. All these pseudoaneurysms were repaired with pericardial patches under cardiopulmonary bypass, Figs. 2 and 3.

The histopathology report identified multiple fibrocollagenous tissue with fibrinoid necrosis and karyorrhectic debri in the venous walls tissue. The findings were consistent with the pseudoaneurysms identified intra-operatively.

Patient did well in the short postoperative follow up and was then referred to plastic surgery and otolaryngology for further surgical interventions.

3. Discussion

Maxillopharyngeal or parapharyngeal space is located between the lateral prevertebral aponeurosis, mandibular ramus and pharynx. Antibiotics use has led to a decrease in the number of infections of paraphangeal space, these days it is usually seen secondary to dental infections or parotiditis [5]. Such infections pose the danger of spread to carotid axis and respiratory tract along with the pericardial region [6]. In our case the venous walls were involved in the infection, leading to mycotic aneurysms. Escherichia Coli has previously been associated with aortic mycotic aneurysm [7].

Mycotic aneurysms of the arterial system have been found in association with endocarditis. None has reported any case of mycotic aneurysm of the veins. We found parapharyngeal abscess with bacteremia and tricuspid regurgitations in our patient. The bacteremia and abscess can lead to venous wall infection and increased propensity of dilatation. In our patient the multitude of venous aneurysms can be attributed to the development of back pressure with tricuspid regurgitation [8].

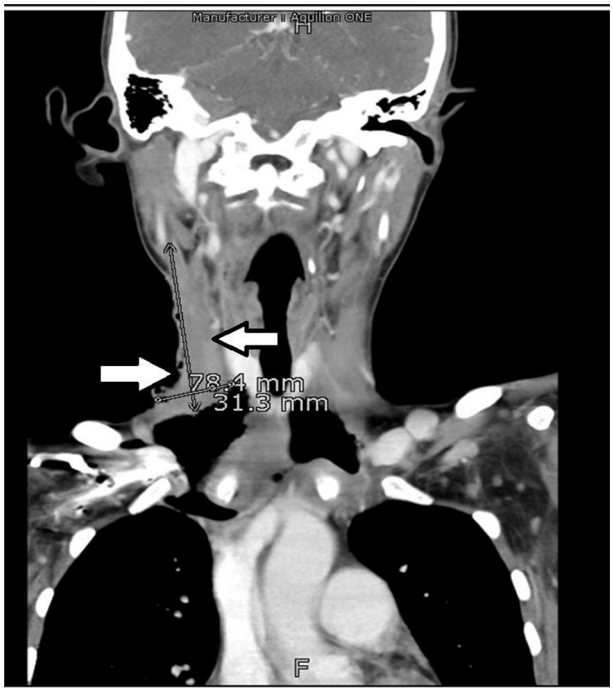

Fig. 1. Thoracic CT scan, perforation identified in association with an abscess on the right side of the neck reaching up to the superior mediastinum.

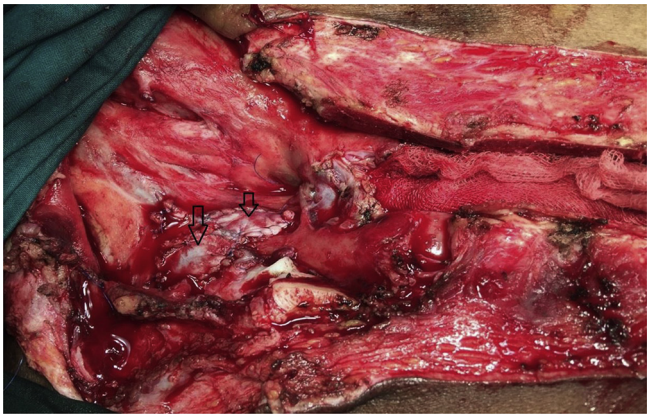

Fig. 2. Intraoperative findings, Arrows point towards the pericardial patch grafts.

Fig. 3. Intraoperative dissection and findings.

The paraphyrngeal abscess was surgically drained and debridement was undergone. Surgical excision of the aneurysm and wide debridement of infected walls and replacement of the aneurysm with a Dacron graft or homograft is the standard of care at extracranial sites in patients with an acceptable surgical risk [9]. In the presented case we used autologous pericardial patches for its availability and ease of use, lowers the infectious risk with added benefit of growth [10].

4. Conclusion

Mycotic aneurysm can be found in any of the vessels type, and early surgical repair promises a better outcome. In addition, autograft use is advocated in mycotic aneurysmal repair for better surgical outcomes.

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Conflicts of interest

None.

Informed consent

None Required.

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