Egyptian Journal of Anaesthesia (2016) 32, 241–242

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Egyptian Society of Anesthesiologists

Egyptian Journal of Anaesthesia

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Case report

Resection of left external jugular vein aneurysm – A challenge for anaesthetist and surgeon☆

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Received 11 January 2015; accepted 13 November 2015
Available online 12 December 2015

KEYWORDS

Aneurysm;
External jugular vein aneurysm;
Venous aneurysm

Abstract Venous aneurysms are rare entities usually found at physical examination or imaging exams. Their rarity justifies the need for investigation and publication of case reports, the objective of the present report. We report the case of a 30-year old female with history of an asymptomatic enlarging mass in the neck for 10 years. She underwent resection of the mass and left external jugular vein ligation under general anaesthesia. A literature review shows that venous aneurysms can cause thrombophlebitis and pulmonary embolism or undergo spontaneous rupture which can further complicate the situation for both anaesthetist and surgeon. Prophylactic surgical treatment is recommended for low-risk patients with venous aneurysms of the abdomen and strongly recommended for most patients with lower extremity deep venous aneurysms. Other venous aneurysms should be excised only if they are symptomatic, enlarging or disfiguring.

1. Introduction

Venous aneurysm is a rare morphologic entity, most frequently described in children [1]. In adults, it is described after causing pulmonary embolism when located in the lower extremity, particularly the popliteal vein. In upper extremity and neck veins, aneurysm is seldom reported since it remains asymptomatic and without clinical relevance. Pain and tenderness have been described as symptoms associated with jugular vein aneurysm [2]. We report a case of a 30-year-old female with aneurysm of the external jugular vein (EJV) which was diagnosed using Doppler ultrasound and confirmed with the help of CT Scan.

2. Case report

A 30-year-old female weighing 50 kg was admitted to the vascular surgery clinic for a painless mass in the base of the left side of the neck for past 10 years. Patient reported to the vascular clinic when swelling started gradually increasing in size. The present size of swelling was 4 × 9 cm which was painless

☆ It is certified none of the authors have received or will receive any financial gain from any company or organization.

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Peer review under responsibility of Egyptian Society of Anesthesiologists.

http://dx.doi.org/10.1016/j.egja.2015.11.001

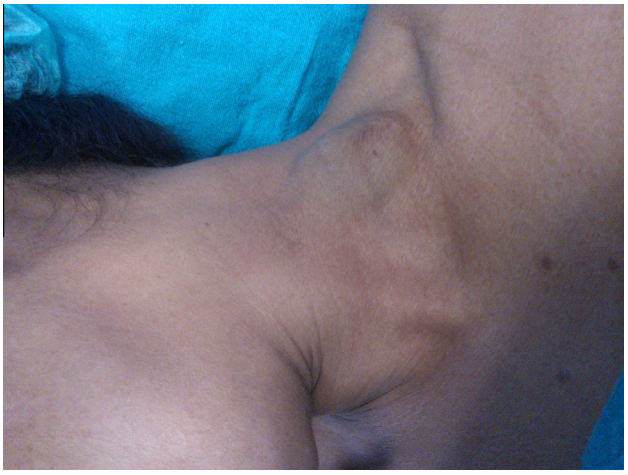

Figure 1 Picture showing external jugular vein aneurysm.

in nature and did not move with respiration. She denied trauma of the neck or a family history. Diagnosis was further established using Doppler ultrasound and CT scan. USG sowed cystic lesion on left lateral side of neck communicating with underlying vessel. CECT neck showed well-defined $3.2 \times 2.1 \times 3.4$ cm saccular lesion with enhancement similar to vessel lateral to left EJV, possibly aneurysm arising from left EJV (Fig. 1). Patient was posted for excision of venous aneurysm.

On preoperative assessment patient's cardiorespiratory status was normal. Preoperative investigations revealed haemoglobin to be 12.8 gm%, platelet 180,000, bleeding time 1 min 55 s, clotting time 5 min 55 s, Prothrombin time 12 s, INR 1.0, blood urea 31 mg/dl, blood sugar 100 mg/dl and serum electrolyte Na^+ and K^+ 144/5.0 meq/l. No evidence suggestive of pulmonary embolism was present. Patient was premedicated with Tab. ranitidine 150 mg and Tab. Anxit 0.25 mg night prior to surgery and on morning of the surgery.

On the patient's arrival in the operating room, all the monitoring devices were placed, including continuous electrocardiography, O_2 saturation of arterial blood, invasive blood pressure using radial artery cannulation. Baseline arterial pressure, heart rate, respiratory rate and room air O_2 saturation were 110/60 mmHg, 86 beats/min, 18/min and 98%, respectively. After pre-oxygenation, general anaesthesia was induced using injection Glycopyrrolate 0.2 mg, inj. Fentanyl 100 μg, inj propofol 100 mg and intubation was facilitated using injection vecuronium. Airway was secured with cuffed ETT of size 7 mm ID. Further patient was maintained on mixture of O_2 and N_2O with sevoflurane.

Surgeon's found 4×5 cm saccular swelling from lateral wall of left EJV with multiple feeding vessels. Aneurysm was resected with external jugular vein ligation along with all feeders. Aneurysm was excised in mass with minimal blood loss. Surgery lasted for 2 h 45 min. Patient was extubated after reversing neuromuscular blockade with inj. Glycopyrrolate 0.4 mg and neostigmine 2.5 mg. Intraoperative as well as postoperative period course was uneventful.

3. Discussion

Jugular venous aneurysm is the most commonly encountered venous malformation involving the neck veins. Venous dilatation in the neck most commonly involves the internal jugular vein, followed by external and anterior jugular vein. In adults, the venous aneurysms are mostly acquired and are more common on the left side. Increased occurrence of the left-sided lesions in elderly hypertensive patients has been attributed to compression of the left innominate vein by a high atherosclerotic aorta [1]. Acquired venous aneurysms can be the result of several processes including tumors, inflammation, trauma or can appear spontaneously [2]. The attempt for catheterization of the internal jugular vein had likely led to trauma at the adjacent external jugular vein, resulting in weakening of the venous wall and aneurysmal dilatation of the vein [2]. Aneurysm of the jugular vein mostly presents as a painless swelling. The presence of a unilateral, non-tender, soft, and non-pulsatile swelling that enlarges with straining, crying, sneezing, or Valsalva manoeuver is the characteristic of venous aneurysm. A symptomatic saccular jugular venous aneurysm can be safely managed by excision and ligation, while exclusion and bypass are indicated in fusiform dilatation [1].

Jugular venous aneurysm may lead to thrombus formation due to stagnant and low pressure flow within the neck veins. It carries the risk of aneurysmal rupture and pulmonary embolism. Rupture of aneurysm can be spontaneous or because of trauma to the neck, though arterial aneurysms are more prone to rupture [3,5]. Thrombosis within the aneurysm can produce pain in the swelling and symptoms secondary to pressure effect on surrounding structures [1].

Venous aneurysms are rare but should not be ignored. Anaesthetist should be cautious regarding bleeding and rupture of aneurysm. Presence of embolus should be ruled out prior to taking up the patient for surgery. The patients have high risk of morbidity and mortality due to rupture and haemorrhage, venous thrombosis and pulmonary embolism [4,5]. Our patient did not encounter any of the above problem; hence, the perioperative period was uneventful.

Conflict of interest

No conflict of interest.

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