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CASE REPORT

Bilateral internal jugular vein thrombosis

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Introduction

The incidence of head and neck thrombosis is rare and accounts for less than 5% of deep vein thrombosis [1]. Before the introduction of antibiotics, the most common cause of internal jugular vein thrombosis was oropharyngeal infection [2, 3]. At present, intravenous drug abuse and central venous catheterization are the most common contributors [2, 3]. The authors report a case of bilateral internal jugular vein thrombosis associated with metastatic colon cancer and history of multiple percutaneous cannulation of the internal jugular veins.

Case report

A 52-year-old gentleman presented to the emergency department with known hypokalemia. There was no history of recent upper airway infection. The patient had a past medical history significant for colon cancer with metastasis to the lungs, deep venous thrombosis of the lower extremity, and superior vena cava syndrome with thrombosis of the superior vena cava and right brachiocephalic vein.

On physical examination, there was no swelling of the neck and no evidence of concomitant local or systemic infection.

The emergency department team experienced difficulty in placing the peripheral intravenous catheter and the decision was made to insert an ultrasound-guided central venous catheter in the right internal jugular vein. The ultrasound revealed thrombosis of the right internal jugular vein (Fig. 1). The left side of the neck was then evaluated and similarly thrombosis of the left internal jugular vein was visualized (Fig. 2). Both vessels were non-compressible with internal hyperechoic clot seen on standard B-mode scanning. Due to large body habitus, the intensive care unit team was unable to access the patient's femoral vein on the patient's prior visit. The common femoral vein was, however, identified with ultrasound guidance and easily cannulated allowing for prompt patient treatment.

Discussion

Patients who develop clots represent the end product of an imbalance of the coagulation pathway. The mechanisms

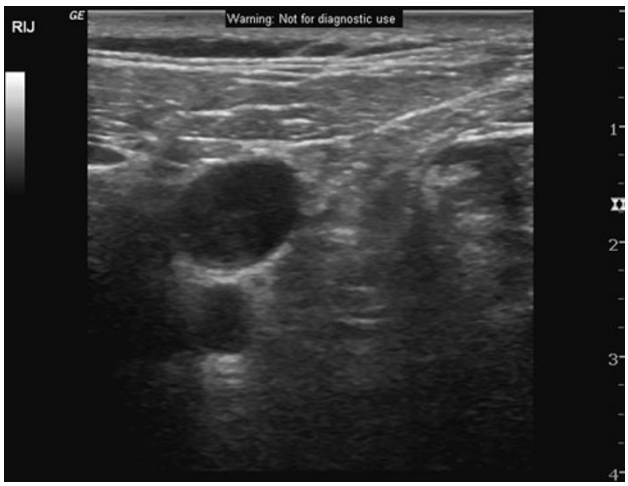

Fig. 1 Right internal jugular thrombus

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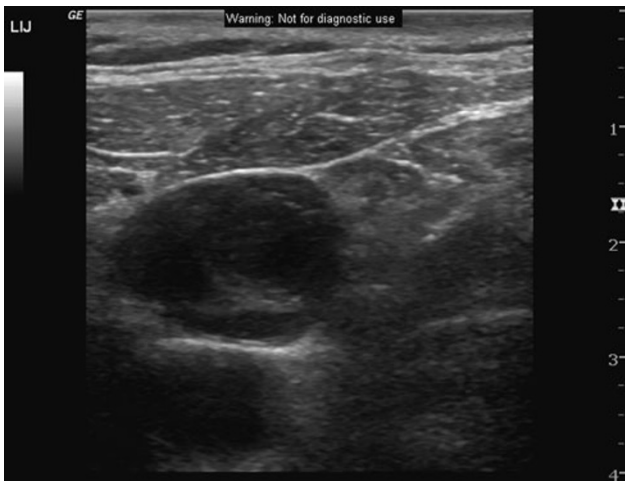

Fig. 2 Left internal jugular thrombus

that favor clot formation are identified in Virchow's triad as venous injury, slow blood flow, and hypercoagulability [2, 3].

Cases of bilateral internal jugular thrombosis are rare. The reported cases occurred in patients with a history of multiple percutaneous catheterization, intravenous drug abuse, trauma, infection or ovarian hyperstimulation syndrome [3–5]. It is hypothesized that the vessels in the head and neck are less susceptible to thrombosis because the veins are valveless and gravity aids the flow in these vessels. In this case, the reason for bilateral internal jugular vein thrombosis was probably due to a combination of the patients history of multiple central venous lines and cancer leading to SVC syndrome.

Conclusion

This case highlights the utility of bedside ultrasound in central venous cannulation. The use of anatomic landmarks of the sternocleidomastoid muscle and clavicle have been the traditional approach of locating the internal jugular vein. However, many patients may have atypical anatomical landmarks (normal variants), prior to percutaneous venous cannulation or pre-existing hypercoagulopathy. Ultrasound-guided vascular access has consistently proven to aid in obtaining vascular access. It provides direct visualization of the patients anatomy, decreases complication rates, and facilitates first attempt success of central venous catheterization [6, 7].

Conflict of interest None.

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