

Traumatic Subclavian Arterial Thrombosis Presenting with Cerebral Infarct – A Case Report



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Subclavian artery thrombosis is a rare complication of sternoclavicular fractures. Also, cerebral infarcts caused by subclavian artery thrombosis, post trauma, is very unusual. We report the case of a 49 year-old female patient presenting with traumatic subclavian arterial thrombosis and cerebral infarction secondary to a fractured manubrium with posteriorly displaced right clavicle and retrograde thromboembolisation.

Keywords

Subclavian artery • Trauma • Manubrial fracture • Stroke • Complications

Background

Arterial thromboembolic events due to compression of subclavian artery caused by a manubrial fracture are rare. Most cases reported are related to presence of a cervical rib. Symonds reported in 1927 two cases with an initial history of symptoms of right upper extremity claudication due to a right cervical rib, followed later by acute left hemiplegia [1]. He concluded that pressure of cervical rib upon the right subclavian artery led to subclavian thrombosis with right upper extremity embolisation and finally to embolic occlusion into the right middle cerebral artery [1].

In more recent literature, the term thoracic outlet syndrome (TOS) was introduced by Peet in 1956 to put together upper limb symptoms arising from neurovascular compression in the interscalene triangle [2]. It was later classified into three categories according to neurovascular anatomy: arterial (subclavian artery, <1%), venous (subclavian vein, 4%–6%), and neurogenic (brachial plexus, 94%–97%).

Cerebral infarction or TIA caused by clavicle-associated arterial compression and thrombosis is unusual and very few cases have been described. In a study of 30 surgically decompressed instances of vascular TOS in 25 patients, only one patient suffered a transient ischaemic attack (TIA) [3].

Among these, 22 cases had subclavian artery involvement. Cervical ribs (73%) were found to be the commonest predisposing factor for subclavian artery thrombotic disease in this study [4].

We present the history of a 49 year-old female patient presenting with traumatic subclavian arterial thrombosis and cerebral infarction secondary to a posteriorly displaced right clavicle due to manubrial fracture and retrograde thromboembolisation.

Case Presentation

A 49 year-old female was transferred to our hospital from a primary centre with penetrating injuries to the right side of the chest, sustained in an industrial accident eight hours previously. Her sari had got caught in the fan blade while in motion and she was pulled towards the fan with the blade causing a deep gash over the left shoulder and right anterior chest wall. Her wound was sutured in the referring hospital. She had a right sided hemothorax for which an intercostal catheter was inserted at the primary centre. Upon arrival at our hospital, a complete trauma screening was done, CT imaging of the thorax and abdomen showed multiple rib

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Figure 1 Plain CT brain showing rt. parietal region infarct.

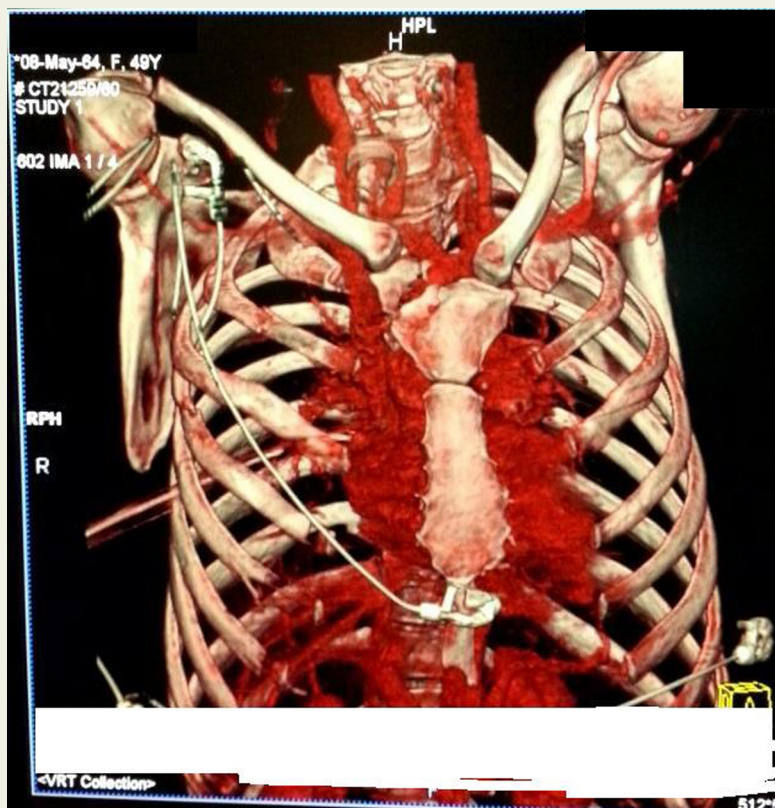


Figure 2 Volume rendered 3D CT image showing fracture of the rt. manubrium, multiple rib fractures and ICD in situ.

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