Successful Completion of a Supraclavicular Nerve Block in a Patient with an Undiagnosed Cervical Rib without Thoracic Outlet Syndrome

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Introduction

Cervical ribs occur in less than 1% of the general population. Nearly 70% of these ribs occur in women and the vast majority are asymptomatic. Although rare these ribs may contribute to one of three varieties of thoracic outlet syndrome. Arterial thoracic outlet syndrome occurs when the rib compresses the subclavian artery while venous thoracic outlet syndrome is characterized by compression of the subclavian vein. Neurogenic thoracic outlet syndrome is the most common type and is characterized by pain, paresthesias and weakness of the affected extremity. We encountered a patient with an undiagnosed cervical rib who was to receive a supraclavicular block for a redo upper extremity AV fistula. The patient had no signs of thoracic outlet syndrome however, we questioned the safety of this procedure given her obstructing cervical rib. Furthermore, we questioned what impact this abnormality might have on the working life of our patients AV fistula.

Materials and methods

Informed consent was obtained from this patient for the surgical anesthesia with nerve block as well as for obtaining images of her cervical rib to write up as a medically challenging case.

Results/Case report

Our pt was a 74 y/o F with a PMH significant for HTN, HLD, DM2, hypothyroidism, MGUS and ESRD who was scheduled to undergo creation of an upper extremity AV fistula on the same side as a previously created AFV that clotted off after less than a year of service. A cervical rib was discovered partially obstructing the needle path to the divisions of the brachial plexus when the supraclavicular space was imaged. After confirming our diagnosis with a radiologist and ruling out thoracic outlet syndrome a modified supraclavicular nerve block was completed using ultrasound. The block onset and duration were as expected and the patient fully recovered without any sequela.

Discussion

Review of the literature revealed one case of a successful supraclavicular block that was able to be safely and effectively completed despite the presence of a cervical rib. Our case seems to support the notion that, in a patient without thoracic outlet syndrome, a supraclavicular nerve block can be successfully completed. Furthermore, it highlights the diagnostic potential of ultrasound and the
need to inform the patient and surgeon of these findings to facilitate optimum patient care and surgical planning.

References