Harlequin Syndrome Associated with Erector Spinae Plane Block

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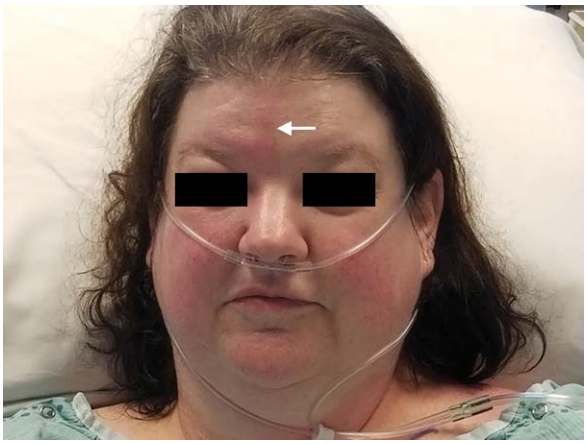

Harlequin syndrome represents a partial autonomic neuropathy.[1] The characteristic appearance is sharply demarcated hemifacial erythema (*arrow*) and diaphoresis. The underlying pathologic process involves ipsilateral interruption of the autonomic pathway between the hypothalamus, intermediolateral column of the spinal cord, cervical sympathetic ganglia, and postganglionic sympathetic fibers, resulting in relative ipsilateral facial pallor and anhidrosis with contralateral overcompensation.[1,2]

The patient pictured was noted to have right-sided facial erythema and right upper limb diaphoresis with concomitant hypotension after receiving a left-sided T3 erector spinae plane block with 20 ml of adrenalized 0.5% ropivacaine for radical mastectomy and axillary dissection. The patient's symptoms were transient. The image, acquired at 6 h, followed partial resolution. Complete resolution of the hemodynamic and sudomotor/vasomotor features occurred within 4 h and 12 h, respectively.

Sympatholysis after erector spinae plane block implies paravertebral local anesthetic spread with activity at the rami communicantes or sympathetic chain. Oculomotor fibers exit the spinal cord at T1, whereas sudomotor and vasomotor fibers supplying the face and upper limb exit the spinal cord at T2–T3 and T4, respectively.[2] Harlequin syndrome with upper limb symptoms in the absence of Horner's syndrome indicates sympathetic blockade from T2–T4, which correlated with the T2–T5 sensory block observed.

To the best of our knowledge, Harlequin syndrome has not previously been reported after erector spinae plane block. We present this image to educate fellow clinicians about this rare, self-limiting condition which, in the absence of additional neurologic findings, warrants gentle reassurance, and to support the hypothesis that erector spinae plane block is a paravertebral block by-proxy[3] that potentially predisposes to similar hemodynamic consequences.

Competing Interests

The authors declare no competing interests.

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 Anesthesiology 2019; 131:665. DOI: 10.1097/ALN.0000000000002733

<zdoi;10.1097/ALN.0000000000002733>