

An Unusual Side Effect of Intravenous Morphine

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ABSTRACT

Morphine, a potent prototypical opioid analgesic, is a commonly used medication in cardiology department. Like other drugs, morphine is also associated with number of side effects. Here we are reporting an unusual, benign, acute self-limiting side effect after intravenous morphine administration.

KEYWORDS: Morphine, Histamine, Allergy.

CASE REPORT

A 50 years old man was admitted in emergency department with acute pulmonary edema. He had history of eczema and bronchial asthma. There was no other significant past medical history. His echocardiographic evaluation showed regional wall motion abnormality in LAD territory with moderate left ventricular systolic dysfunction.

He was treated with standard medications for cardiogenic pulmonary edema including intravenous morphine, frusemide, nitrates and antiplatelets. Within 3

minutes of intravenous morphine administration, patient developed a severe redness in the distribution of vein into which it was injected (Figure 1: A, B & C). It was not associated with itching. There were no systemic manifestations or any evidences of anaphylaxis. The redness was subsided completely in 20 minutes of its onset without any active management (Figure 1: D). We are reporting this unusual benign self-limiting acute side effect of fulminant onset after intravenous morphine administration.

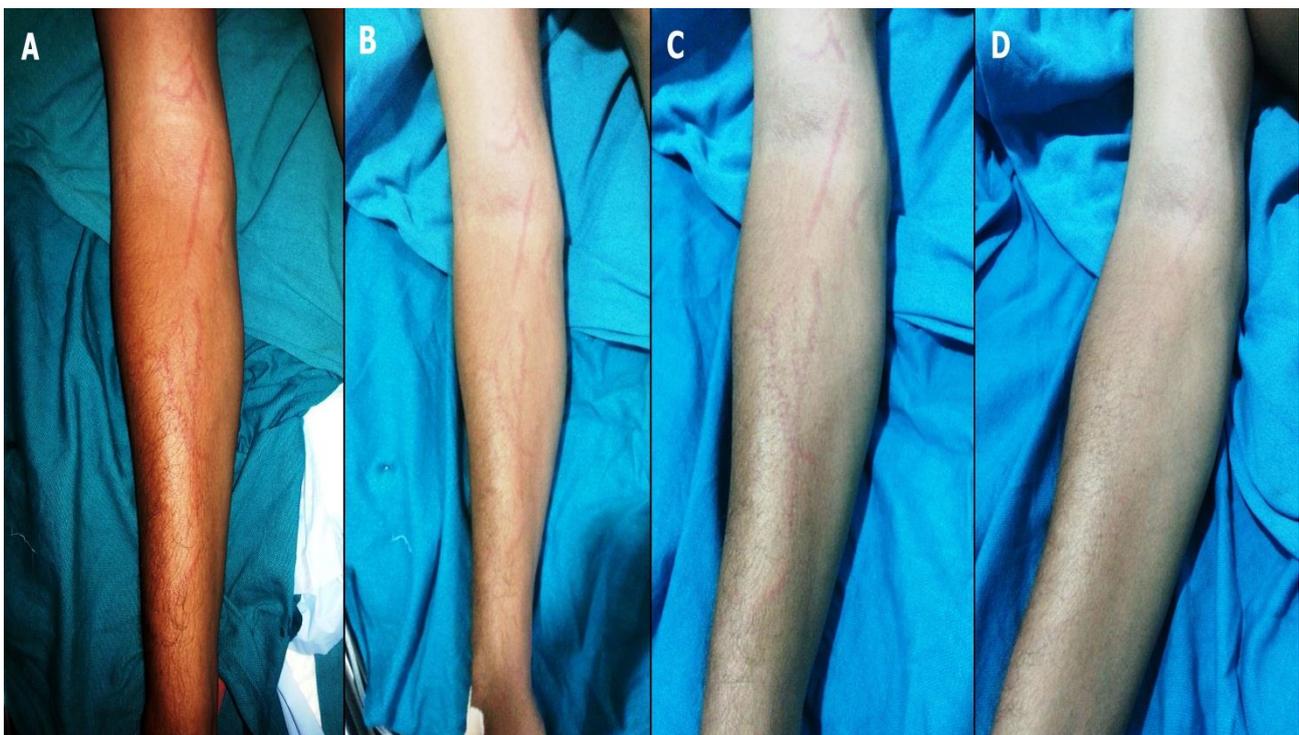


Figure 1: A) Showing severe redness in the distribution of vein into which intravenous morphine was administered, at 3 minutes B) at 10 minutes C) at 15 minutes, and D) spontaneous complete resolution at 20 minutes after its onset.

DISCUSSION

Morphine, a potent prototypical opioid analgesic, is a commonly used medication in cardiology department. It acts on the central nervous system (CNS) to decrease the pain. It can be administered orally, intramuscularly, subcutaneously, intravenously, into the space around the spinal cord, or rectally. Peak effect occurs at 15-20 minutes after iv administration, action lasts 4-5 hours. It is hepatically metabolised to morphine 3- and 6-glucuronide, the latter of which is active. A morphine allergic reaction is particularly shown by histamine release, which can manifest as wheals, urticaria, pruritus, and facial flushing.¹ It also cause adverse effects like nausea and vomiting, sweating, dizziness, tremor and hypotension.^{2,3} However, morphine-related anaphylaxis is rare.^{4,5,6} The Among other members of its class including pethidine and codeine, intravenous morphine is equipotent in term of histamine release.⁷ Factors known to cause profound histamine release includes old age, thin body habitus, atopic tendency, poor peripheral circulation, repeated injection into the same superficial vein and high concentration of solution of injection.^{8,9} Patient with these coexisting conditions which aggravates profound systemic histamine release may be responsible for this unusual benign acute side effect of fulminant onset after intravenous morphine.

We are reporting this unusual, benign acute self-limiting side effect of fulminant origin after intravenous morphine administration. The knowledge of this benign self-limiting side effect of intravenous morphine may decrease undue mental anguish and may obviate unnecessary use of medications.

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