

Henna tattoo: an unusual peripheral venous access difficulty

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To the editor:

Multiple attempts and failure to cannulate a peripheral vein are not uncommon [1] and lead to significant patient discomfort owing to pain, inflammation, extravasation, related complications (such as thrombosis, arterial puncture, and infection), and sometimes, the need for central venous cannulation. We present an unusual situation of difficult peripheral venous cannulation wherein extravagant floral henna tattoo patterns on both forearms and hands caused problems.

According to Indian custom, young females get henna applied on their hands and forearms, especially when getting married. The application of henna imparts a deep reddish-brown, temporary (7–14 days) tattoo with complex, repeating, intercalating, symmetrical patterns alternating with normal skin (Fig. 1a, b). The complex tattoo-normal skin intermix results in parallax error and it becomes virtually impossible to consistently match the visual perception of the vein at the time of assessment with that during the cannulation attempt. This might result in multiple attempts at venous cannulation. Because the practice of tattooing (with natural henna or dyes) is a widespread fashion phenomenon across cultures, religions, and state boundaries, one can expect to encounter this difficulty more often. We used a new method (outlined below) in 28 patients (12 in 2007, 16 in 2008) with henna tattoos over the arms, forearms, and feet, with improved success compared with the conventional approach

(Table 1). The new method consists of the following two components:

1. Palpate, feel, visualize, and *mark* the vein.
2. Cannulation attempts are made with low intensity, side-on visible illumination.

In conclusion, to avoid peripheral venous cannulation in noncustomary sites (antecubital, lower limbs, and external jugular), we need to ensure that difficulty with floral patterns does not add to the already existing relative complacency in cannulating a peripheral vein.



Fig. 1 Typical henna tattoo on hands and forearms of an Indian bride: **a** dorsal view; **b** ventral view

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Table 1 Intravenous cannulation success rate

Approach to cannulation	Audit year	1st attempt	2nd attempt	3rd attempt	>3 attempts
New method	Year 2007 (<i>n</i> = 12)	11	1	–	–
New method	Year 2008 (<i>n</i> = 16)	14	2	–	–
Conventional approach ^a	Year 2006 (<i>n</i> = 9)	2	2	3	2

^a Retrospective data

Reference

1. Mbarmalu D, Banerjee A. Methods of obtaining peripheral venous access in difficult situations. *Postgrad Med J.* 1999;75:459–62.