

Images in Anesthesiology: Harlequin Phenomenon in a Newborn after Induction of General Anesthesia

Alexander Pekurovsky, M.D., Matthew P. Monteleone, M.D.



THE image (fig.) shown was taken within minutes of induction of general anesthesia in a full-term neonate. It demonstrates the “Harlequin phenomenon,” a unilateral, confluent macular rash that is quite striking as it appears to bisect the patient. Here, it involves the patient’s head, thorax, abdomen, back, and the upper and lower extremities on the affected side. It is blanching, without any raised lesions or skin wheals, with one side appearing pale in comparison to the plethoric half.

The Harlequin phenomenon does not represent an allergic reaction. Rather, it is hypothesized to be the result of vasomotor instability secondary to a sympathetic dysautonomic process mediated by immature hypothalamic control although the etiology remains unclear at this time.¹

This phenomenon has most frequently been observed within the first weeks of life and can occur without provocation. It is characteristically benign and transient, with no associated hemodynamic perturbations.² Episodes typically last several minutes but can go on for hours as well. The rash is not always contiguous as in the image, and considerable variability is possible. The intensity of discoloration may be gravity dependent, which can help distinguish it from other reactions with cutaneous manifestations.

The Harlequin rash is believed to be an underreported phenomenon in the perioperative setting.³ Anesthesiologists providing care for patients with prematurity, congenital heart defects, hypoxia, or prostaglandin E1 infusions should be aware of an association between these conditions and the Harlequin rash.³ Recognition may help prevent unnecessary treatment that can potentially harm these patients.

Competing Interests

The authors declare no competing interests.

Correspondence

Address correspondence to Dr. Pekurovsky: apekurov@gmail.com

References

1. Januario G, Salgado M: The Harlequin phenomenon. *J Eur Acad Dermatol Venereol* 2011; 25:1381–4
2. Neligan GA, Strang LB: A “Harlequin” colour change in the newborn. *Lancet* 1952; 263:1005–7
3. Rao J, Campbell ME, Krol A: The Harlequin color change and association with prostaglandin E1. *Pediatr Dermatol* 2004; 21:573–6

Parental consent has been granted to the author for use of the image and the information related to the patient contained in this article. From the Department of Anesthesiology, New York–Presbyterian Hospital/Columbia University Medical Center, New York, New York.

Copyright © 2015, the American Society of Anesthesiologists, Inc. Wolters Kluwer Health, Inc. All Rights Reserved. *Anesthesiology* 2016; 124:1166