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Micaela Moen MD

*HCA Healthcare*, Micaela.Moen@hcahealthcare.com

Aaron Pinnola

*HCA Healthcare*, Aaron.Pinnola@hcahealthcare.com

M Pahlkotter

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# CASE REPORT: AN ISOLATED DERMATOLOGIC REACTION TO ISOSULFAN BLUE DYE AFTER LUMPECTOMY

Micaela Moen, MD; Maranda Pahlkotter, MD; Aaron Pinnola, MD; George Nicholson, MD | HCA

## Introduction

The use of isosulfan blue dye for sentinel lymph node mapping in breast cancer is considered routine (1).

An array of adverse side effects from this dye have been described in the literature (2-3).

Here we describe an atypical isolated dermatologic reaction.

## Case

79 year old female

PMH: hypothyroidism, GERD, hypercholesterolemia, iron deficiency anemia

PSH: previous benign right breast biopsy, hiatal hernia repair, and gastrostomy tube placement

Family History: brother with colon cancer and a sister with breast cancer

She was found to have **infiltrating ductal carcinoma** after a core biopsy of right posterior breast calcifications identified on mammogram.

She presented for a right breast lumpectomy and sentinel lymph node biopsy.

### Radiology:

Nuclear lymphoscintigraphy with injection of 520 microcuries of technetium 99m sulfur colloid along the upper outer aspect of the right areola of the right breast  
Needle localization under stereotactic guidance along the posterior right breast calcifications

- OR:
  - General anesthesia induced without issue
  - Right breast periareolar area was sterilely injected with 5ml of **Isosulfan blue solution (1%)** and the breast massaged for several minutes
  - Blue stained lymphatic channels were identified along with a blue stained radioactive lymph node, which was removed and the right breast lumpectomy was performed without issue
- PACU:
  - Noted to have a **blue-gray skin hue** across her face, arms, chest, and legs without typical allergic dermatitis rash or itching
  - No de-saturations or other signs of anaphylaxis
  - She was discharged home without any further complications



Figure 1:

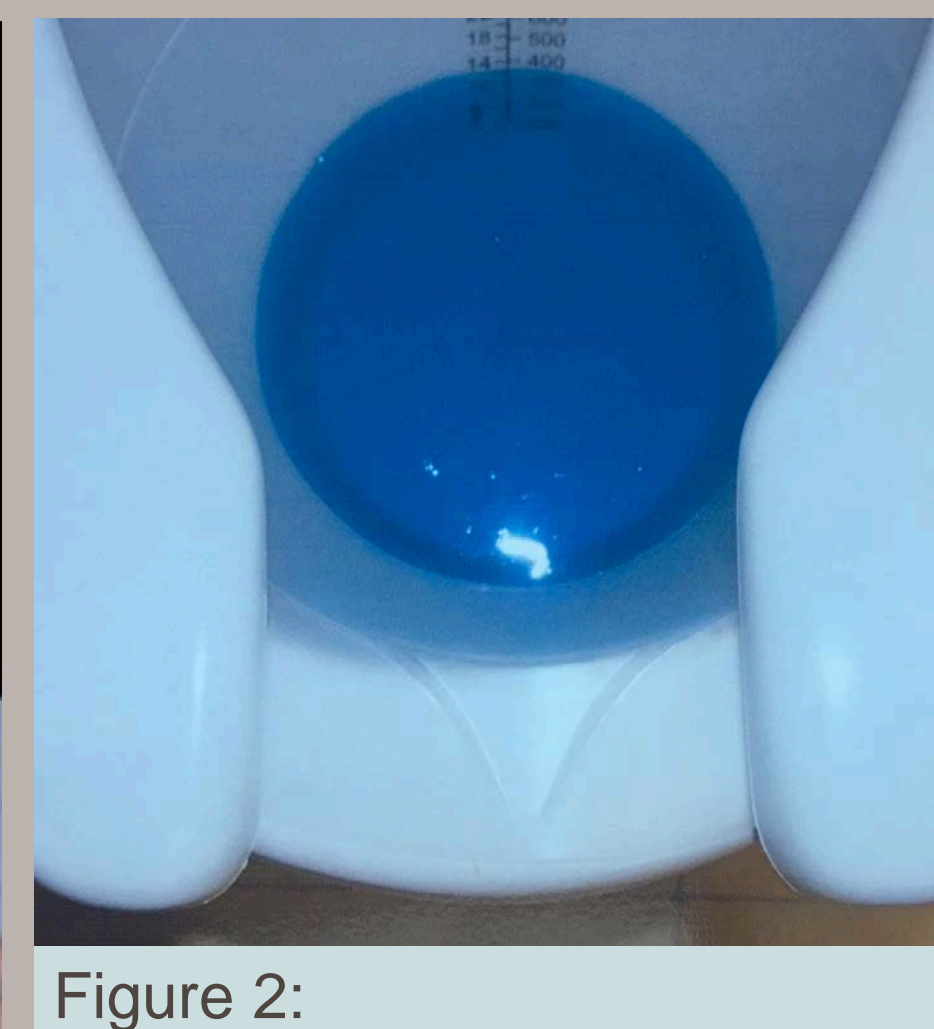


Figure 2:

Note comparison of patient's skin to a non-dyed person's hand in Figure 1.

## Conclusion

- This patient had an atypical reaction with skin changes that resolved in a few days.
- It is important to recognize the potential adverse effects of isosulfan blue dye.
  - Reported incidence of anaphylactic reactions to isosulfan blue ranges **from 0.07-2.7%** (4).
- Patients and care-providers should be aware of this possible reaction as prompt treatment can improve outcome.
- This patient presented in this case experienced a novel reaction with generalized skin discoloration not in line with an allergic dermatitis.
- Methylene blue can be used as an alternative however it has been associated with skin and nipple necrosis (5).

## References

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