

Anatomical Considerations for the Breast Surgeon when Participating in Axillary Reverse Mapping: Incorporating a New Variant Pathway



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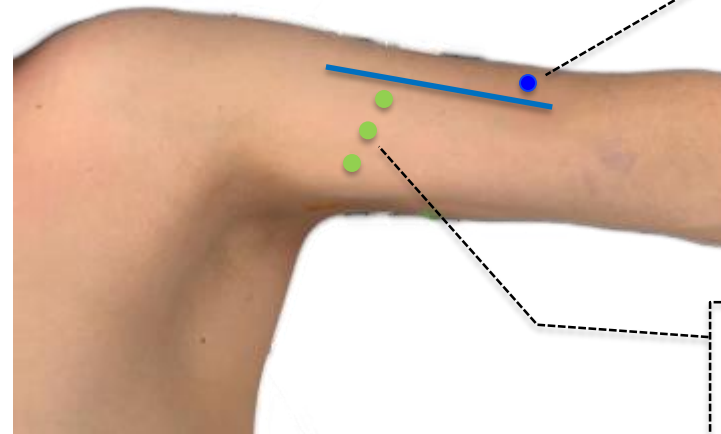
Background

- Axillary lymph node dissection (ALND) remains a necessary surgical procedure in certain breast cancer treatment plans
- Axillary Reverse Mapping (ARM) is a technique that can be used to reduce the risk of lymphedema
- We sought to determine if a previously identified variant lymphatic pathway, the **Mascagni-Sappey (M-S) pathway**, should be considered in ARM

Methods

- Retrospective single-institution lymphatic database
- Previously published data regarding the identification of a variant lymphatic pathway (MS) in this database was reviewed*
- Technique for injection of dye prior to ALND and immediate lymphatic reconstruction:
 - Fluorescein isothiocyanate was injected at the medial upper inner arm
 - Isosulfan blue was injected at the cephalic vein, or lateral upper arm to capture the M-S pathway

Results



Injection site superficial to the cephalic vein in the upper lateral arm to capture the M-S pathway (isosulfan blue)

Injection of fluorescein dye along the upper inner arm as described previously in the ARM procedure

- 29 patients underwent mapping in preparation for ALND and immediate lymphatic reconstruction*
- Mean age 54.6 years*
- Mean BMI 26.6 kg/m²*
- 10% (3/29) patients had blue lymphatics identified in the axilla, suggestive of a variant M-S pathway*

Conclusion

- Recent literature suggests that 10% of patients may have a variant Mascagni-Sappey pathway with drainage to the axilla*
- Breast surgeons who perform Axillary Reverse Mapping should consider injecting mapping dye in the lateral upper arm near the cephalic vein in addition to the traditional upper inner arm to capture these variant lymphatic pathways