



Alternative Patterns of Superficial Lymphatic Drainage in the Breast and Trunk after Breast Cancer Surgery

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BACKGROUND

- ICG-lymphangiography has been instrumental in characterizing lymphatic dysfunction.
- The Trunk Lymphedema Staging System (TLSS) characterizes affected areas.
- We used alternative lymphatic flow to identify risk/protective factors for truncal and upper extremity lymphedema development.

METHODS

- 46 patients between 12/2014 and 1/2022.
- 2 reviewers blindly evaluated ICG lymphangiography videos.
- Linear-weighted Cohen's Kappa statistics used to evaluate reviewer agreement.

RESULTS

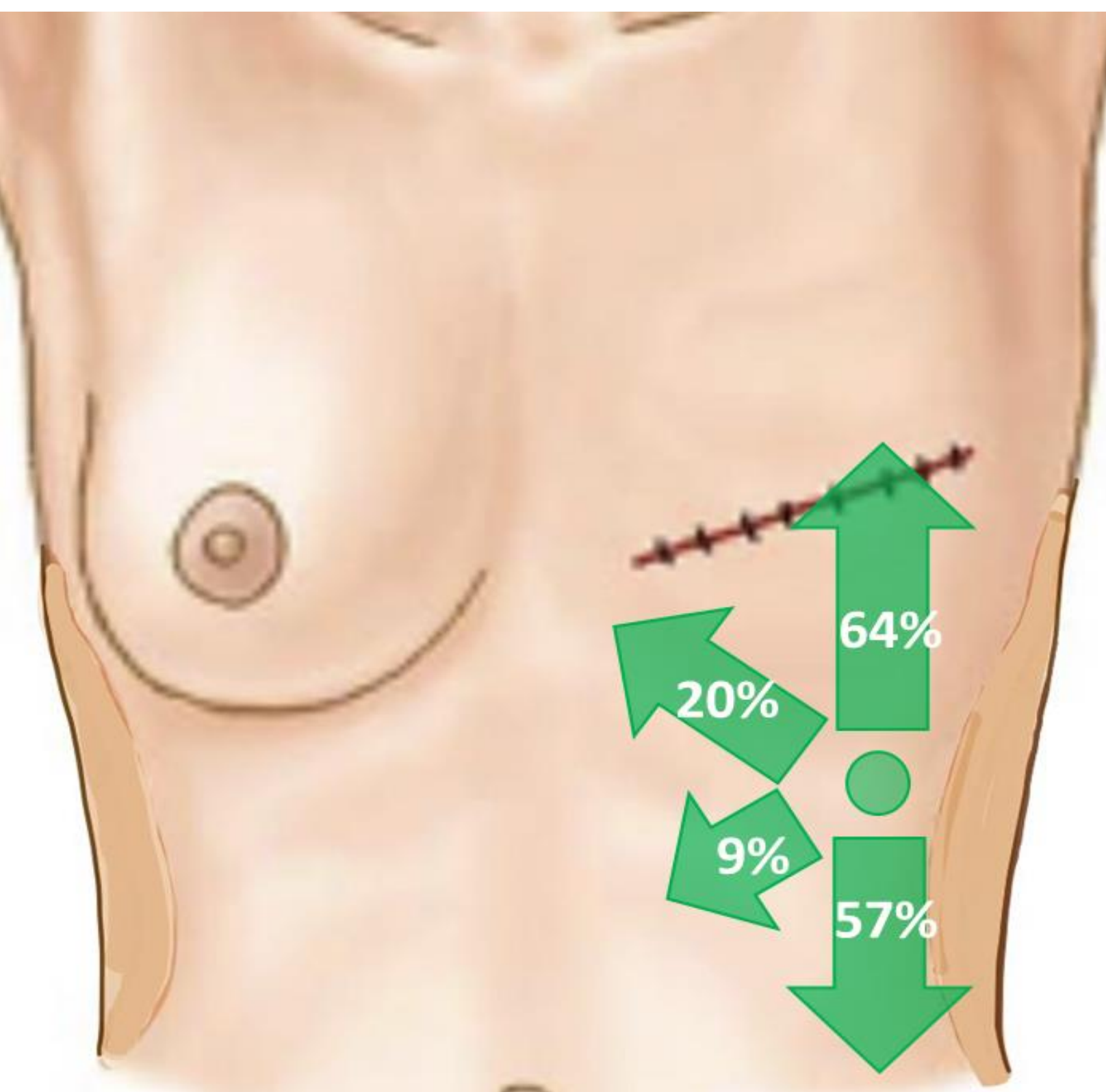


Figure 1. Prevalence of alternative drainage patterns.

RESULTS

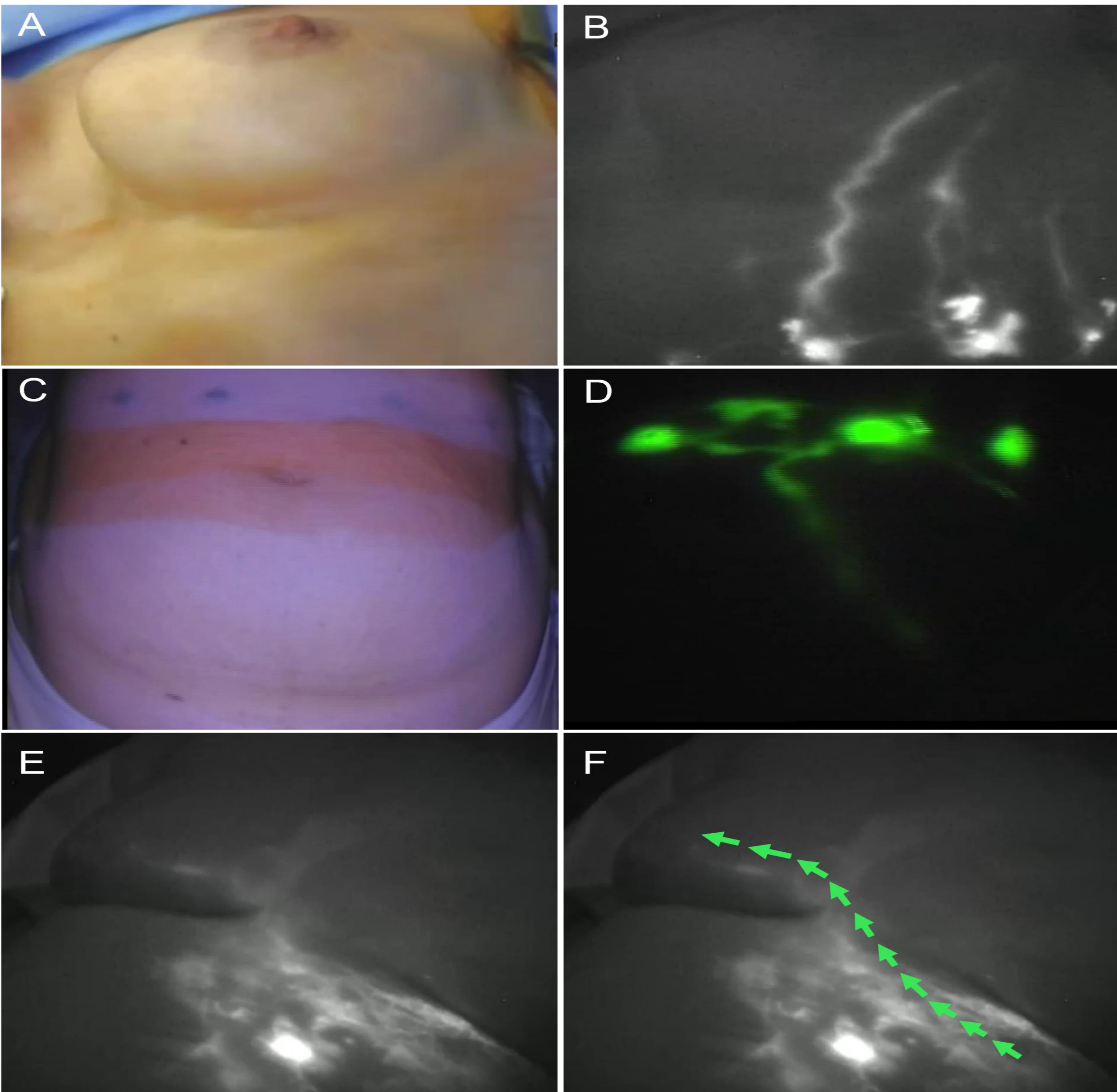


Figure 2. Alternative lymphatic pathways: A,B) ipsilateral axillary drainage; C,D) contralateral inguinal drainage; and E,F) contralateral axillary drainage.

	Linear- Weighted Cohen's Kappa	Interpretation (Agreement)
Alternative drainage assessment	0.631	Substantial

Table 1. Evaluation of rater agreement for alternative drainage.

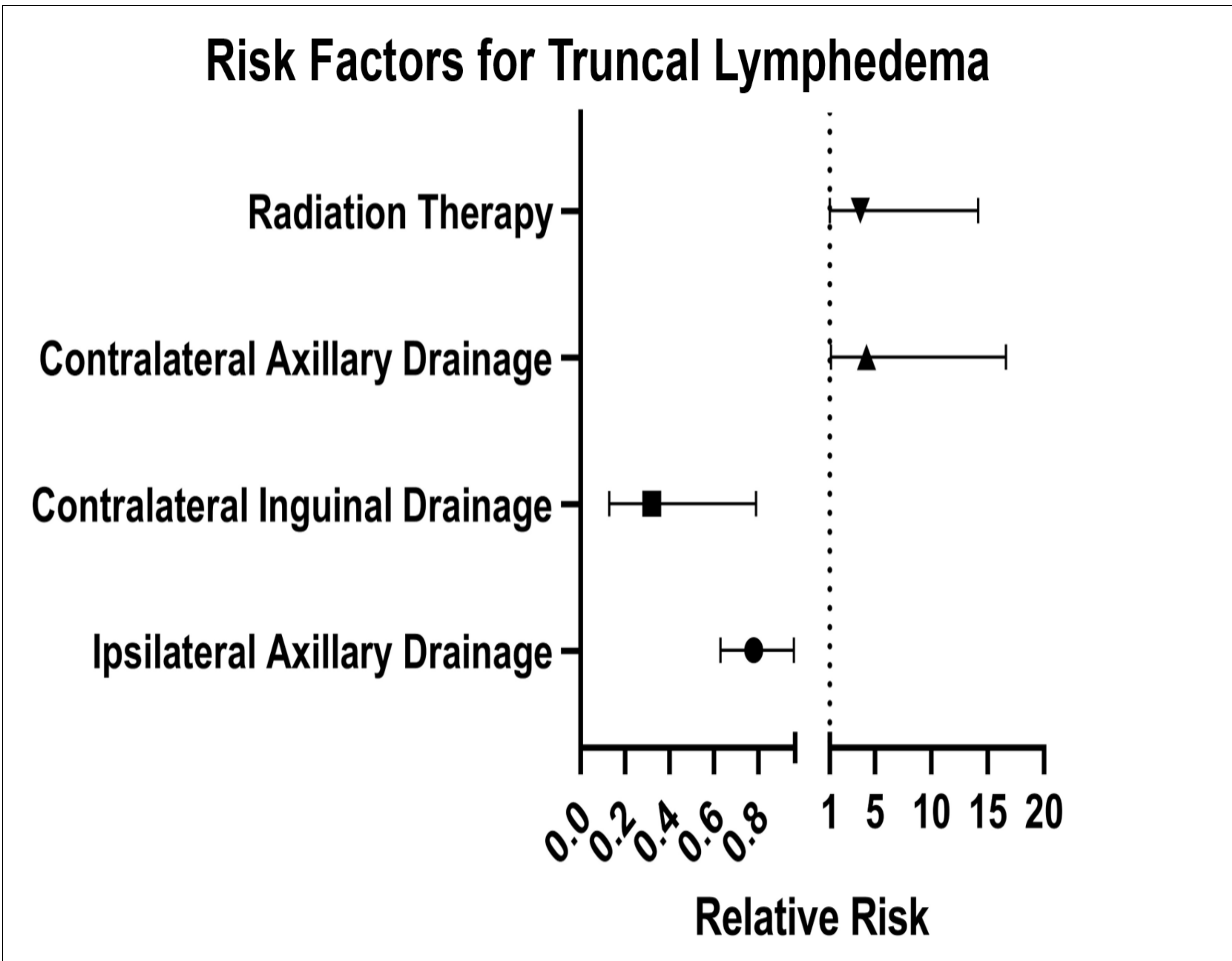


Figure 3. Risk and protective factors for development of truncal lymphedema.

CONCLUSIONS

- Ipsilateral axillary and contralateral inguinal drainage are protective against truncal lymphedema.
- Contralateral axillary drainage and radiation therapy are risk factors for truncal lymphedema development.
- TLSS has clinical implications for post-operative development of infection and determining lymphovenous bypass eligibility.