

The Impact of Temporal Variation in ICG Administration on Axillary Node Identification During Reverse Mapping Procedures

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Abstract

ICG with other tracers can be injected pre and/or per operatively to identify the axillary Lymph Nodes (LN) draining the breast cancer (the SLN nodes) and/or the ipsilateral arm (the ARM nodes).

Objective: to evaluate the impact on this temporal variable-variation on the identification of these ARM LN.

Material and methods: One hundred and nine women, who were scheduled to undergo, either lumpectomy with selective lymphadenectomy (SLN), or mammary surgery (either lumpectomy, or mastectomy) with complete axillary node dissection (CALND) for a histologically proven mammary tumor, had administered the day before the surgery one subcutaneous injection of ICG in the first interdigital space of the ipsilateral hand (pre-op subgroup (SLN=28 and CALND=15), or the same day as the surgery (per op subgroup (SLN=26 and CALND= 20). The fluorescent characteristics of the SLN and/or axillary LN were then analyzed and compared between the two subgroups.

Results: Basic characteristics were not significantly different between the pre and per op subgroups. The percentage of patients found with fluorescent SLN (28%), the percentage of patients with fluorescent LN in CALND (74.5%), or the percentage of LN fluorescent in CALND (38.5%) did not differ significantly too.

Conclusion: Injection of ICG in the first interdigital space of the hand of operated side performed one day before the surgery or the same day as the surgery has no significant influence in our study on detection of the arm nodes. The timing of ICG injection is an independent variable with no effect on the results; this allows the injection to be performed either the day before the surgery or the day of the surgery.

Key words: ICG, time, lymph node, cancer, breast