

Methylene blue injection, a practical, safe and low cost method for Marking non palpable breast masses

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Background and objective:

Development of screening methods for breast cancer has made a new challenge in breast surgery because finding nonpalpable breast masses during surgery is not easy and requires a marking method for precise detection. many techniques has been used in marking non palpable breast masses, some of them like wire localization, need expert radiologist and expensive equipments that are not available in all centers. it is very important to use a technique that is effective, low cost and easy to learn for developing countries that may have no enough access to trained radiologists and well equipped centers.

The aim of this study is to report success of this technique in our center in order to introduce it as an effective method for developing countries.

Material and method:

51 patients with 57 masses underwent surgical excision of nonpalpable breast masses after ultrasound guided methylene blue injection in the mass. Success rate of radiologist in injection and surgeon in complete excision of mass were evaluated, success of the surgeon was proved by pathology report and post operative ultrasound if necessary. Severity of pain during injection was evaluated according to patient statement. Any complication was recorded.

Results:

Injection was successful in all cases. In 4 masses (7%) radiologist could not inject the dye in the mass, and injected the dye on the surface of the mass that was enough for the surgeon to find the mass durig operation.

At surgery all masses were excised completely except 1 mass that was not found based on marking with blue dye and the surgeon found the mass with guide of intra operative ultrasound, for 3 masses (5.3%) surgeon had some problems for finding the mass with guide of dye mainly because of dye dispersion in the area around the mass or absorption of dye but finally mass was found in surrounding area and excision was successful.38 (68%) of the patients reported the procedure as painless, tolerable pain in 16 (28%) of patients and severe pain was reported in 3 (5%) of our patients. No sensitivity reaction was seen.

Conclusion:

Marking with methylene blue dye is a simple, effective and low cost method for localization of non palpable breast masses and can be used in areas with limited facilities without serious complications, it seems that dye injection within short time before operation removes possibility of failure to find the mass due to absorption of dye.