

## Endoscopic Transaxillary Subglandular Breast Augmentation Using Silicone Gel Textured Implants

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**Abstract.** We present our experience with endoscopic transaxillary subglandular breast augmentation using textured silicone gel implants. Fourteen implants were placed in seven patients through a 4 cm axillary incision, in a subglandular pocket, with the help of a 10 mm, 30° endoscope with a subcutaneous retractor and endoscopic diathermy. The implant was inserted with the help of a plastic bag. No drains were left in place. The duration of the procedure was 1 h 30 min in the most recent cases. Bleeding during surgery was kept to a minimum, and there were no complications such as capsular contracture, hematoma, or hypertrophic scar. Infection occurred in one implant and it was necessary to extract it. This technique is an excellent tool for patients requiring subglandular implants who prefer a distant incision. It provides good control over dissection and allows the use of silicone gel implants, thus avoiding the risk of deflation. In addition, recovery is faster and there is less bruising and pain.

**Key words:** Breast augmentation—Endoscopic transaxillary subglandular approach—Silicone gel textured implants

Of the three common approaches to breast augmentation—axillary, inframammary, and periareolar—the only one that leaves the breast mound without a visible scar is the axillary one. Some patients prefer it for that reason. Through the axilla you can reach the subpectoral plane, dissect an implant pocket, and release the inferior and part of the medial insertions of the pectoralis muscle. The main disadvantage of this surgical procedure is that most of the dissection is made in a blind fashion, making

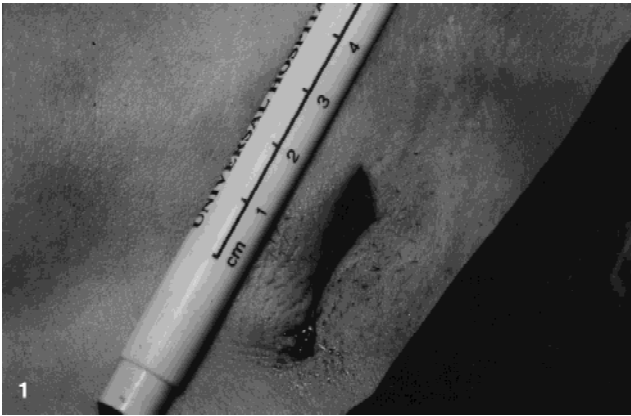
control of bleeding in the far part of the dissection difficult and bruising, edema, and hematoma more likely. Breast surgery has benefited from the introduction of minimally invasive techniques in the plastic surgery theater, particularly in the form of transaxillary breast augmentation [1,2]. Using this technique it is possible to make the pocket dissection with full view of the area and greater control over the bleeding and surgical plane. The result is less edema and pain, no hematomas, and reduced equimosis.

Some patients requiring breast augmentation, usually young, active women or body builders, do not want surgery involving their muscles that could distort either their function or their appearance. In these patients, and also in those with full ptotic breasts suitable for breast augmentation, subglandular placement of the implant is indicated. The most commonly used approach to inserting a subglandular implant is by a periareolar or inframammary incision, but there are other less well-established procedures to do so, such as periumbilical [3] and trough tunnels when an abdominoplasty is performed [4]. When these patients prefer not to have a scar in the breast itself it is necessary to perform a transaxillary subglandular breast augmentation. This is not a standard procedure because it is difficult to dissect an implant pocket safely and achieve symmetry through a distant incision, but with the use of the endoscopic technique it is possible to achieve good results with no complications.

### Material and Methods

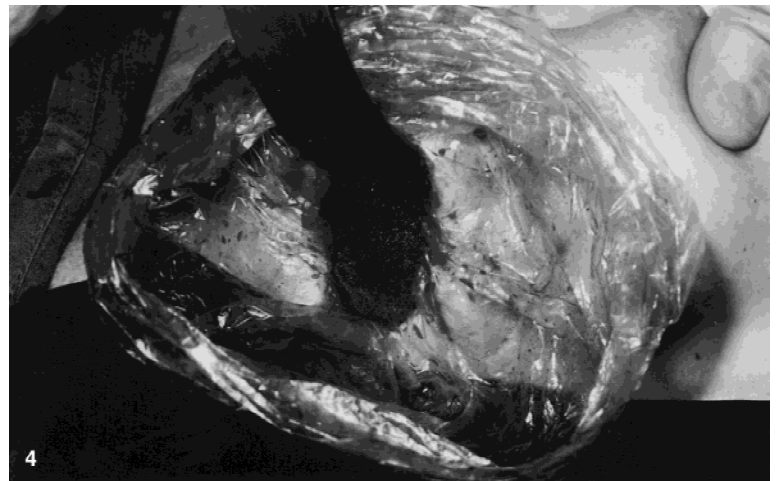
#### *Surgical Technique*

Preoperative markings outline the limits of the implant pocket. Once the patient is under general anesthesia she is given a local infiltration of 500 cc of normal



**Fig. 1.** Axillary incision, following the natural axillary creases, behind the anterior axillary line.

**Fig. 2.** Introducing the Endopath® (disposable subcutaneous tissue retractor) and the endoscopic diathermy scissors.



**Fig. 3.** Endoscopic trolley and surgeon's positioning when dissecting the subglanular pocket.

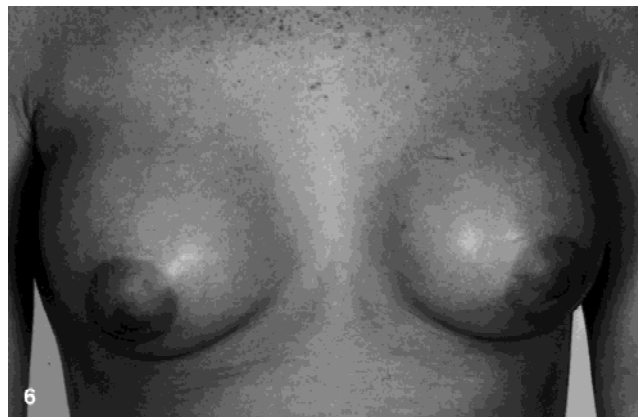
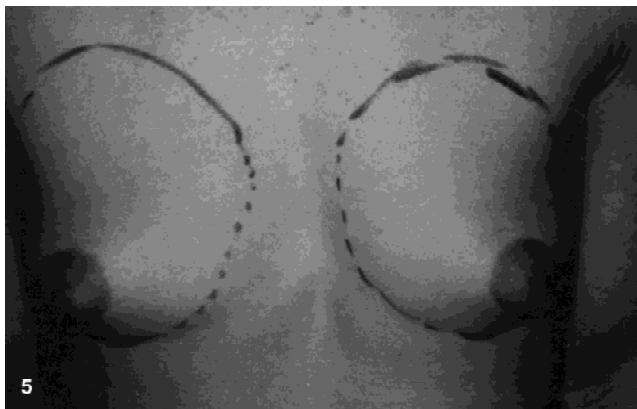
**Fig. 4.** Insertion of the textured silicone gel implant with the aid of a plastic bag.

saline with one ampule of 1/1000 ephinefrin. A 4-cm transverse incision in the axilla is made following the natural creases and behind the anterior axillary line (Fig. 1). Through this incision it is possible to reach the subglanular plane just over the lateral border of the pectoralis major muscle. Then a 10 mm, 30° endoscope is inserted with a subcutaneous retractor Endopath®, a disposable device that helps to maintain an optical cavity and holds the endoscope at the same time (Fig. 2). A 30° endoscope is used because it allows rotation and provides more visual control. Using endoscopic diathermy

scissors, the implant pocket is dissected within the outlined limits (Fig. 3). Once the pocket is completed, it is fully irrigated with normal saline and later with iodine povidone. The textured silicone gel implant is placed with the aid of a plastic bag (Fig. 4), and the incision is sutured. No drains are left in place.

## Results

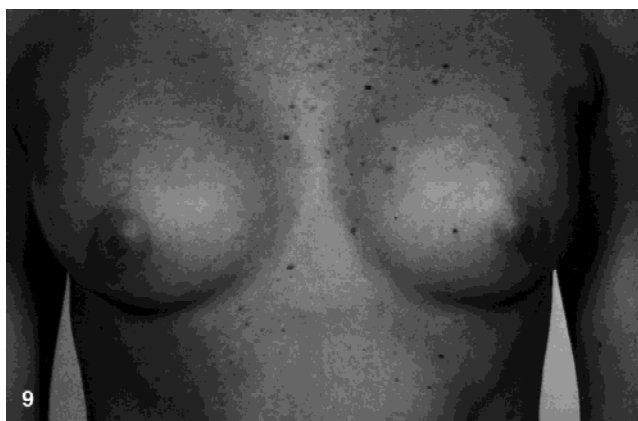
Fourteen textured silicone gel implants were inserted in seven patients (Figs. 5–10). The range of volume was



**Fig. 5.** Case 1: Preop picture outlining the implant pocket.

**Fig. 6.** Case 1: 1 month postop.

**Fig. 7.** Case 1: 1 month postop hidden axillary scar.



**Fig. 8.** Case 2: Preop picture.

**Fig. 9.** Case 2: 1 month postop picture.

**Fig. 10.** Case 2: 1 month postop hidden axillary scar.

from 220 to 280. All cases were hospitalized, under general anesthesia, with local infiltration of 500 cc of normal saline plus one ampule of 1/1000 ephinefrin. Due to the learning curve, the duration of the procedure was 2 h in the first cases, but decreased to 1 h 30 min in the last ones. All patients were hospitalized overnight. Prophylactic antibiotics (cefuroxime) were administered perioperatively for a total of two doses. Bleeding during surgery was kept to a minimum, and after a follow-up of 6 months there were no complications such as capsular contracture, hematoma, or hypertrophic scar. Infection occurred in one implant and it was necessary to extract it.

## Discussion

The axillary approach for subpectoral breast augmentation is a well-known procedure and accepted worldwide. It places the scar out of the breast itself, which is preferable for some patients. There are some patients, especially body builders, who do not want distortion in the breast implant from muscle contraction, and keen sports-women who refuse any surgery that can alter their muscle function. These are indications for subglandular axillary breast augmentation. It is also indicated in patients with full ptotic breasts who require surgery. Subglandular breast augmentation through an axillary incision is not a popular technique because of the difficulty in achieving symmetry when dissecting the implant pocket and also in controlling the hemostasis. Ho [2] first reported an endoscopic transaxillary breast augmentation in 1993, but he used a second incision and also a glycine solution to maintain the optical cavity. He placed inflatable implants in the retropectoral space.

Chajchir et al. [5] used saline-filled breast implants instead of silicone gel, as we do, in subglandular transaxillary breast augmentation. We think that it is not necessary to use inflatable implants because it is possible to insert the prosthesis in the subglandular pocket through the axillary incision with the aid of a plastic bag. Ho changed his technique to a subglandular plane, again using inflatable implants, resulting in 2 cases (out of 75) of deflation [7]. In his previous series, the incidence of deflation was 1 case in 20 [2]. Price et al. [1], discuss their experience in transaxillary endoscopic breast augmentation with saline-filled breast implants, but with a

subpectoral approach. In another report [8] the deflation rate was 3.8% using the same approach. Textured silicone gel implants feel more natural, decrease the incidence of breast contracture when placed subglandularly compared with smooth implants [6], and avoid the risk of deflation [2,7,8]. On the other hand, incisions have to be 4 cm in length, which is not a problem because they are fully hidden in the axilla (Figs. 7 and 10).

Axillary subglandular endoscopic breast augmentation is not a technique for every patient, but it is an excellent tool for those patients suitable for subglandular implants who prefer a distant incision. It provides good control of dissection and allows the use of silicone gel implants. In addition, faster recovery is achieved with less bruising and pain.

## Conclusion

Axillary subglandular endoscopic breast augmentation is another technique for increasing breast size. When applied to patients with the appropriate indications, silicone gel implants are used through a distant incision, achieving good results and minimizing complications.

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