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Figure of Eight Suturing in Endoscopic Septoplasty, A convenient Technique in Wound Closure

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Abstract: **Septoplasty is known to be one of the most common surgeries practiced among otolaryngologist being the third most common surgery. Usually, patients will present with unilateral nasal obstruction or other feature of a deviated nasal septum. In our article, we aim to publish our technique which is a figure-of-eight fashion of suturing the mucosa, by utilizing both sides of the mucosa. Our method is a technically easy procedure, faster to learn and master by the surgeon and there will be no exposed cartilage which will lead to decrease probability of crust formation and by obliterating the dead space created by the resected cartilage will decrease the likelihood of hematoma incidence**.

Keywords: **otolaryngologist, Septoplasty, Eight Suturing in Endoscopic.**

Septoplasty is known to be one of the most common surgeries practiced among otolaryngologist being the third most common surgery; usually, patients will present with unilateral nasal obstruction or other feature of the deviated nasal septum. Upon examination, it will be visualized using an anterior rhinoscopy or rigid nasal endoscope. Septoplasty usually involves an anterior incision through the mucosa. Typically, a Killian's or hemitransfixation incision. Then we gain exposure to the septal cartilage and after that resection or reshaping of the septal cartilage is carried out. [1]

Septoplasty carries low complications rate, such as septal perforation, persistent deviation and recurrence of the deviation postoperatively, and a rare complication to the external nose such as external deviations and tip positional changes. Traditionally, the nose was packed with nasal packs or splints, but coaptation of the mucosa became a preferred method and is supported by a meta-analysis study. [2]

We search in MeSH database with terms:("Nasal Septum/surgery"[Mesh]) AND "Wound Closure Techniques"[Mesh] limited to English literature

We searched through the literature regarding the preferred method of coaptation of the mucosal flaps. No studies were describing the favorite or the best way to close the incision, except several studies. In 2013, Leigh J. Sowerby et al., compared closure using 4-O vicryl and surgical staples in term of timing. [3]

Abdulkhaliq Karim Amin et al. did one study, compared trans-septal continuous suture with 4-O PDS with a bilateral nasal septal sling which they found no statistically significant results, except the postoperative pain which was less in the suture group. [4]

While in another study they describe the approximation of the mucosal flaps early in 1984 by Sessions et al., [5] they used a continuous suture quitling using 4-O plain catgut to approximate the mucosal folds by utilizing a small cutting needle. Lee et al., described the same technique but utilizing a curved needle.

In our article, we aim to publish our technique which is a figure-of-eight fashion of suturing the mucosa, by utilizing both sides of the mucosa.

Suturing is started on the incision side, using the curved needle the posterior upper edge of the flap is pulled anteriorly to close the wound and keep cartilage unexposed the piercing through cartilage and passing the needle to the other side. Then the needle is moved from the opposite side, so it comes on the lower anterior edge of the wound. Then similarly but the lower edge of the flap is pulled now, and needle passed to the other side. The last step is coming along the upper anterior edge where the knot is fixed (figure 1a-f).

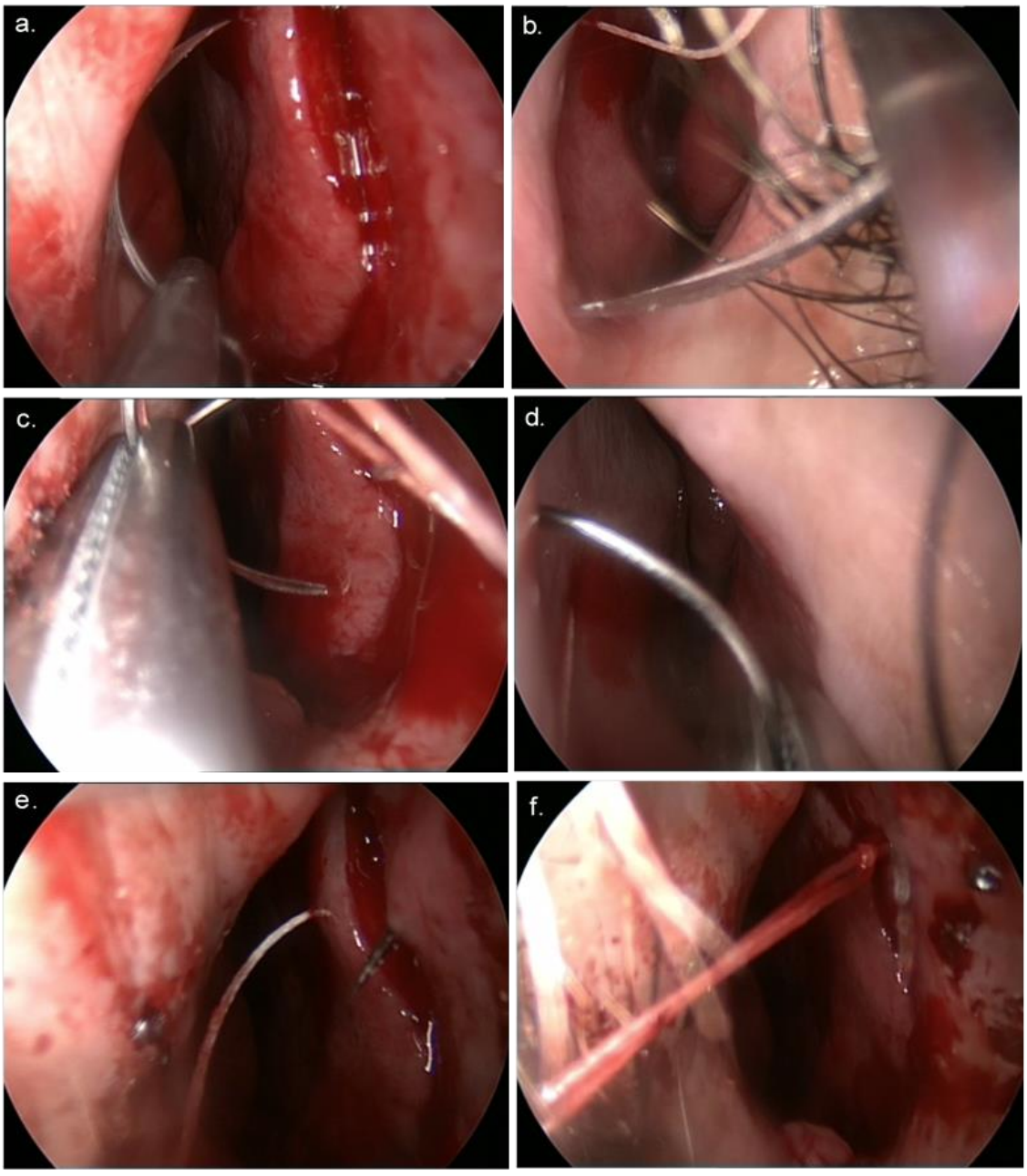

Figure1: figure of eight suture for right incision. (a)1st pass is posterior superior (to the incision). (b) 2nd pass is anterior inferior. (c) 3rd pass is posterior inferior. (d&e) 4th pass is anterior superior. (f) knot is fixed.

Our method is a technically easy procedure, faster to learn and master by the surgeon. By suturing both sides of mucosa this technique believed to provide a more stable L-strut which will support the dorsum and external shape of the nose.

Finally, as in our method, there will be no exposed cartilage which will lead to decrease probability of crust formation and by obliterating the dead space created by the resected cartilage will decrease the likelihood of hematoma incidence.

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