**Modified Young’s Procedure: a good old friend**

Young’s procedure is an operation designed for the treatment of atrophic rhinitis, first described by Austen Young in 1967. According to Young, functional closure of the nostrils achieved using this procedure prevents the drying effects of environmental air and thus reduces the crustating allowing the underlying mucosa to heal. Though originally described for the management of chronic atrophic rhinitis, this procedure has been used for managing recurrent problematic epistaxis in patients with Hereditary Hemorrhagic Telangiectasia (HHT) with variable but mostly successful results. Since its first description, various modifications of this procedure have been published in literature.

**Indications**
- Severe atrophic rhinitis-failed medical therapy.
- Recurrent epistaxis associated with HHT-failed LASER therapy.
- Recurrent epistaxis associated with large septal perforation / nose picking.

**Technique**
The original Young’s procedure involves a circumferential incision 1cm cephalic to the alar rim followed by intranasal flap elevation. The flap is then sutured in one layer centrally at the nostril. The reported complications with this technique are breakdown of the suture line resulting in failed closures, technical difficulty in flap elevation, underestimation of necessary flap length resulting in flap failure, stenosis following takedown, and recurrence of the condition after takedown.

In modified Young’s procedure, a two-layer closure is performed. The patient is positioned supine with head slightly elevated. Nasal preparation is carried out using the Otrivine nasal spray, topical installation of 1:1,000 adrenaline neurosurgical patties and by injecting the 2% lignocaine with 1:80,000 adrenaline. The injection is made at the alar rim, mucocutaneous septum, and at the caudal edge of the lateral crus. A circumferential incision is made in the nostril 0.5cm behind the mucocutaneous junction (Figures 1-3). Flaps are meticulously elevated circumferentially; skin flap is elevated by dissecting the skin anteriorly and a mucosal layer posteriorly. Suction diathermy can be used to achieve haemostasis (Figures 4-5). Two layered closure is carried out: 4/0 Vicryl for the inner mucosal layer and 5/0 Ethilon is used to close the outer skin layer (Figures 6-9). The outer skin layer stitches (Ethilon) are removed in one month’s time (Figures 10-11).

Complete closures can be reopened eventually with good result and in some cases partial openings remain as a satisfactory result.

**Our experience**
We have successfully treated four patients with HHT and four patients with severe atrophic rhinitis. Patients with HHT have had diathermy and LASER treatment before. Three patients with atrophic rhinitis were idiopathic and one patient had multiple nasal surgeries in the past. Modified Young’s procedure was performed in all eight cases. Successful complete closure was achieved in seven cases. One patient with HHT had partial dehiscence of the closure but remained asymptomatic. The procedure appeared to be well tolerated by our patients.

**Conclusion**
Modified Young’s procedure remains a useful valid option for treating recurrent epistaxis associated with HHT as well as for severe atrophic rhinitis.

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**References**

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Figure 1: Preop right nose.
Figure 2: Preop incision marking right nose.
Figure 3: Circumferential incision.
Figure 4: Raising the flaps.
Figure 5: Haemostasis using suction diathermy.
Figure 6: Closure of inner mucosal layer-1.
Figure 7: Closure of inner mucosal layer-2.
Figure 8: Closure of outer skin layer-1.
Figure 9: Closure of outer skin layer-2.
Figure 10: Postop at one month (Ethilon stitches in situ).
Figure 11: Postop at one month after suture removal.