Letter to Editor

# Pterygium Surgery with Autologous Graft with Glue versus Sutures

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To,
The Editor-in-Chief
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Pterygium is a frequently encountered ocular surface disorder where a fibrovascular proliferation of subconjunctival tissue starts in the limbal conjunctiva within the palpebral fissure and progresses to the cornea (Rezvan et al., 2018). For its complete removal, surgery is the treatment of choice. There are various techniques of surgery which are frequently evolving. From simple excision leaving the bare sclera to the conjunctival limbal autograft, we have come far away. Considering the surgical time, ease of surgery, cost-effectiveness, patient satisfaction, and mainly limiting the recurrence among the patients undergoing surgery, several modifications in the surgery have been constantly done.

Recently, I came across an original article "Sutureless Glue Free Versus Sutured Limbal Conjunctival Autografts in Primary Pterygium Surgery" (Bista, D, Byanju R, and Gautam MA, 2021) and found this to be an interesting modification in the current pterygium surgery. I would like to commend Bista et al. for their well-written paper that emphasises the value of sutureless and glueless pterygium removal surgery for patients who want to have their pterygium removed.

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The discussion and conclusion of this article have piqued my interest and hence I would like to share a similar experience with pterygium surgery with autologous graft with glue versus (vs) pterygium surgery with autologous graft with sutures.

Fateh Bal Eye Hospital is a tertiary eye centre of western Nepal serving people from all over the western part of Nepal. As an ophthalmologist here, I have observed and operated on numerous cases of pterygium. Five months ago, we used to perform pterygium surgery using the conventional method of autologous graft sutured with surrounding conjunctiva and limbal tissue over the bare sclera. We have begun sutureless conjunctival autograft with glue pterygium excision since January 2023 following strong recommendations from numerous ophthalmologists.

Being a tertiary hospital, we receive 400- 450 patients each day in our outpatient department. Our monthly average of patients is 9819.62. Out of these patients, over the last eight months, we had a total of 3637 patients with pterygium (Table 1).

In this article by Bista et al., they took 100 patients and randomised them into two groups: either sutureless and glue-free (group 1; n = 50 eyes) or sutured with absorbable Vicryl 8-0 autograft (group 2; n = 50). In our hospital, we selected the type of surgery; sutureless with glue vs sutured with absorbable Vicryl suture 8-0; according to the patient's preference (Table 2). All patients were given thorough counselling about the types of surgery. All patients underwent surgery by four trained surgeons using a similar technique.

Peribulbar anaesthesia with 2% lignocaine and 0.5% bupivacaine was given preoperatively. After insertion of the eyelid speculum, the body of the pterygium was excised around 4 - 5 mm from the limbus and was removed by avulsion. A crescent knife was used to remove the underlying attachment in the corneal and limbus region. The subconjunctival pterygium tissue, a thickened segment of the conjunctiva,

**Table 1: Total patients attending the outpatient department and total patients with pterygium.**

| Months | Total patients | Total patients with pterygium |
|---|---|---|
| January | 8958 | 510 |
| February | 10145 | 538 |
| March | 10562 | 498 |
| April | 9862 | 397 |
| May | 9942 | 402 |
| June | 9323 | 519 |
| July | 9744 | 440 |
| August | 9804 | 333 |
| Total | 78,557 | 3637 (4.62%) |

**Table 2: Choices of surgery each month.**

| Months | Pterygium excision with sutured autograft | Pterygium excision with sutureless autograft with glue |
|---|---|---|
| January | 70 | 5 |
| February | 27 | 48 |
| March | 17 | 25 |
| April | 15 | 32 |
| May | 16 | 25 |
| June | 10 | 21 |
| July | 16 | 24 |
| August | 10 | 17 |
| **Total** | **181** | **197** |

and the adjacent tenon's capsule were excised leaving a bare sclera. Conjunctival autograft was taken from the superior part and placed over the cornea. The thick glue component (fibrinogen solution is applied over the bare sclera. The thin component thrombin solution is applied over the scleral side of the graft. The conjunctival graft tissue was slid over the recipient part using forceps and lightly pressed to adhere the graft on the bare sclera. The ends were pinched together with toothed forceps to the surrounding conjunctiva.

Whereas, we used 8-0 vicryl suture to adhere conjunctival graft in other patients. All the patients who had undergone both types of pterygium surgery had their eyes padded until the next day. We examined all the patients on day one, day seven, and day 30. The time taken for surgery, early, and late post-operative complications were recorded similarly to this article. All of these patients received antibiotics and steroid eye drops.

In all the patients undergoing pterygium surgery, it was noticed that surgical time was 10-12 minutes less in autologous graft with glue compared to the sutured limbal conjunctival autograft pterygium removal.

It requires a short training for a surgeon before proceeding with this surgery. The critical stage with glue administration, graft transfer, and correction, however, can be difficult requiring fast manoeuvring, all taking less than 10 seconds. If the duration is longer, there will be a high chance of graft dehiscence. Care needs to be taken about the amount of glue used.

During the first day of follow-up in patients who had undergone sutured limbal conjunctival autograft pterygium surgery, about 25-30% of patients had lid swelling, and about 80-85% of patients had tearing and foreign body sensations.

After one week of follow-up, in many patients, all the symptoms like tearing, foreign body sensation, and lid swelling subsided. Quite

a few of the patients had graft swelling and subconjunctival haemorrhage. A few patients had loose sutures causing the graft dehiscence exposing the bare sclera and those patients underwent resuturing. After one month of follow-up, all the symptoms subsided and graft uptake seemed to be good in all the patients. Due to our short duration of follow-up, the recurrence of the symptoms could not be commented upon in this letter.

On the first day of follow-up in patients undergoing pterygium excision with sutureless autograft with glue, only a few patients about 10-15% displayed lid swelling. Tearing and a sensation of a foreign body were experienced by about 30–35% of patients. A few patients experienced graft dehiscence.

Patients were asymptomatic and made good progress in a one-week post-operative follow-up evaluation. The graft swelling and subconjunctival haemorrhage were seen in a lesser number of patients as compared to the sutured conjunctival graft. The graft uptake was good in all the patients after one month. Due to the brief period of evaluation, long-term follow-up for complications like recurrence could not be included in these individuals.

## CONCLUSION

When comparing the two surgical procedures, the operating time for the pterygium excision and sutureless autologous graft with glue was less along with it being more comfortable for patients during the initial stages of recovery. But the key step of graft transfer after glue administration requires a quick manoeuvre. The increase in overall patient's satisfaction with this surgical procedure has led to the growth in popularity among both the patients and doctors at our hospital.

## REFERENCES

Bista, D, Byanju R, Gautam MA (2021). Sutureless Glue free versus sutured limbal conjunctival autografts in primary pterygium surgery. Nepalese Journal of Ophthalmology; 13(24): 95-104. DOI: 10.3126/nepjoph.v13i2.31347

Rezvan F, Khabazkhoob M, Hooshmand E (2018). Prevalence and risk factors of pterygium: A systematic review and meta-analysis. Survey of Ophthalmology; 63(5): 719-735. DOI: 10.1016/j.survophthal.2018.03.001