

Suture Granuloma Developed 24 Years After Strabismus Surgery: Case Report

Şaşılık Cerrahisinden 24 Yıl Sonra Gelişen Sütür Granülomu

Nazife SEFİ YURDAKUL,^a
Feryat KOÇ^a

^aClinic of Ophthalmology,
İzmir Atatürk Training and
Research Hospital, İzmir

Geliş Tarihi/Received: 02.10.2014
Kabul Tarihi/Accepted: 14.11.2014

Presented at the 5th World Congress on
Controversies in Ophthalmology (COPHY),
20-23 March 2014, Lisbon, Portugal.

Yazışma Adresi/Correspondence:
Nazife SEFİ YURDAKUL
İzmir Atatürk Training and
Research Hospital,
Department of Ophthalmology, İzmir,
TÜRKİYE/TURKEY
nsefi@yahoo.com

ABSTRACT Thirty-one-year-old male patient was admitted to our clinic due to a painfull and reddish mass developed within one month at the temporal quadrant of his right eye. The case had a history of strabismus surgery for infantile esotropia 24 years ago. Our preliminary diagnosis was sub-Tenon's abscess and granulation tissue. Orbital magnetic resonance imaging was compatible with granulation tissue measuring 4x10 mm. After failed medical treatment with topical antibiotic and corticosteroid, surgical excision was applied. Purulent material was drained during surgical excision and a non-absorbable suture was detected at the lateral rectus insertion and removed. Histopathological examinations were consistent with chronic inflammatory granulation tissue. About one month after this intervention, similar mass occurred on the medial rectus insertion as before. Surgical excision was applied again, secretory material was drained and a non-absorbable suture was removed. Even after many years of strabismus surgery, granulation tissue and inflammation should be considered depending on non-absorbable sutures.

Key Words: Granuloma; strabismus

ÖZET Otuz bir yaşındaki erkek hasta sağ göz temporal kadrantında son bir ay içerisinde gelişen ağrılı ve kırmızı bir kitle nedeniyle polikliniğimize başvurdu. Olgunun infantil ezotropiya nedeniyle 24 yıllık bir cerrahi öyküsü mevcuttu. Ön tanımız sub-Tenon abse ve granülasyon dokusu idi. Orbital manyetik rezonans görüntüleme 4x10 mm büyüklüğünde granülasyon dokusu ile uyumlu idi. Topikal antibiyotik ve kortikosteroid ile yapılan tıbbi tedavinin etkili olmaması nedeniyle cerrahi eksizyon uygulandı. Cerrahi eksizyon sırasında pürülan sekresyon drene edildi ve dış rektus insersiyosu üzerinde emilmeyen sütür materyali tespit edildi ve çıkarıldı. Histopatolojik tetkik kronik iltihabi granülasyon dokusu ile uyumlu idi. Bu müdahaleden yaklaşık bir ay sonra benzer kitle iç rektus insersiyosu üzerinde gelişti. Yine cerrahi eksizyon uygulandı, pürülan sekresyon drene edildi ve emilmeyen sütür çıkarıldı. Şaşılık cerrahisinden yıllar sonra bile emilmeyen sütürlere bağlı granülasyon dokusu ve inflamasyonun gelişebileceği göz önünde bulundurulmalıdır.

Anahtar Kelimeler: Granülom; şaşılık

Türkiye Klinikleri J Ophthalmol 2015;24(3):199-201

Suture granuloma and inflammatory response are non-vision-threatening complications of strabismus surgery, and may develop due to a loose suture material or a foreign body.¹ In this study we aimed to emphasize that the suture granuloma and inflammation may develop depending on non-absorbable sutures after decades of strabismus surgery.

doi: 10.5336/ophthal.2014-41967

Copyright © 2014 by Türkiye Klinikleri

CASE REPORT

A 31-year-old male was referred to the outpatient clinic for evaluation of a mass on his right eye. He had no history of similar complaint before except strabismus surgery for infantile esotropia 24 years ago. The patient underwent a full ophthalmic and orthoptic examination, including cycloplegic refraction with cyclopentolate 1%. Corrected visual acuity was 20/20 in both eyes. Versions were normal. Clinically, a painfull and reddish mass developed within last one month at the temporal quadrant of right eye (Figure 1). The lesions were not movable over the sclera and tender to palpation. Orbital magnetic resonance imaging was compatible with granulation tissue measuring 4x10 mm. Our preliminary diagnosis was sub-Tenon's abscess and granulation tissue. Topical antibiotic (Netilmicin sulfate 0,3%) and corticosteroid (Prednisolone acetate 1%) were started four times a day. Informed consent was obtained from the patient. After failed medical treatment, which lasted about one month, conjunctival dissection and a vertical incision were applied on the most prominent area of granulation tissue under general anesthesia. Purulent material was observed and drained, which was sent for microbial culture and antibiotic sensitivity testing. Furthermore, a loosed non-absorbable suture was detected at the lateral rectus insertion and removed. The muscle insertion was intact. Postoperatively topical antibiotic and corticosteroid were continued. About one



FIGURE 1: Granuloma at the temporal quadrant of the right eye.



FIGURE 2: Granuloma at the nasal quadrant of the right eye about one month after first surgery.

month after our intervention, similar mass occurred on the medial rectus insertion as before (Figure 2), and surgical excision was applied with drainage of secretory material and a loosed non-absorbable suture removal. After surgery, topical medications were used.

No microorganism was isolated from the culture medium. Histopathological examinations were consistent with chronic inflammatory granulation tissue (Figure 3). The ocular discomfort resolved, and no recurrence was noted during one-year follow-up period (Figure 4).

DISCUSSION

Chronic suture granuloma and inflammatory reaction is a rare occurrence in strabismus surgery.¹⁻⁴ They usually occur within the first week postoperatively over the site of the muscle reattachment with nonabsorbable sutures, and rarely with synthetic absorbable sutures. Treatment consists of topically applied corticosteroid drops, drainage of the inflammatory material, excision of the granuloma, and removal of the suture.^{1,5,6} Chronic suture granulomas may be mistaken for vascular tumors, cysts or pyogenic granulomas.^{7,8}

Gal and France reported two patients with granuloma formation as a complication of the posterior fixation suture operation related to non-absorbable sutures.⁵ Suture granulomas had developed one and two months after the surgery. The

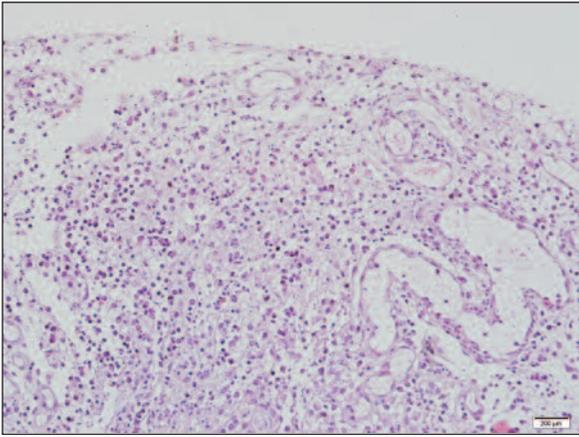


FIGURE 3: Histopathology of granuloma consistent with chronic inflammation.

patients were treated with antibiotic and steroid drops, however they displayed little improvement. Finally the tissue masses, the sutures, and the remaining scar tissues were removed from the surface of the muscles. Microscopic evaluation revealed chronic inflammation with granulation tissue. Their clinical impression was foreign-body reaction to the nonabsorbable sutures used for posterior fixation.

Similar to the patients reported by Gal and France,⁵ in this study, we observed a case of suture granuloma and also sub-Tenon's inflammation 24 years following infantile esotropia surgery. We thought that the loosed non-absorbable suture was the cause of foreign body reaction and inflammation. There were no other predisposing factors related to development of granulation tissue and inflammation. The histopathological study estab-

lished the diagnosis of granulation tissue. No microorganisms were isolated from the samples inoculated in the culture media. We attributed the lack of growth in the culture medium to the presence of a non-infectious inflammation or to the use of antibiotics for a long time.

To our knowledge, there is no report in the literature on suture granulomas and inflammation following placement of nonabsorbable sutures which appear after decades of strabismus surgery, as in our case. Interestingly, similar clinical features were developed on both medial and lateral rectus muscles of the same eye with an interval of two months.

In conclusion, while using the non-absorbable sutures, physicians should be aware of suture granuloma and inflammation although they are rare in strabismus surgery.



FIGURE 4: Appearance of the patient after drainage of inflammatory secretion and a loosed non-absorbable sutures removal, with significant improvement noted.

REFERENCES

1. Von Noorden GK, Campos EC. Principles of surgical treatment. *Binocular Vision and Ocular Motility: Theory and Management of Strabismus*. 6th ed. St Louis: Mosby; 2002. p.566-631.
2. Brenner C, Ashwin M, Smith D, Blaser S. Sub-Tenon's space abscess after strabismus surgery. *J AAPOS* 2009;13(2):198-9.
3. Kothari M, Sukri N. Bilateral Staphylococcus aureus sub-Tenon's abscess following strabismus surgery in a child. *J AAPOS* 2010; 14(2):193-5.
4. Elkington A. Granulomas following squint surgery. *Trans Ophthalmol Soc UK* 1971;91:543-52.
5. Gal A, France TD. Granuloma formation as a complication of the posterior fixation suture operation. *Arch Ophthalmol* 1986;104(12): 1755.
6. Gaskin ER, Childers MD Jr. Increased granuloma formation from absorbable sutures. *JAMA* 1963;185:212-4.
7. Espinoza GM, Lueder GT. Conjunctival pyogenic granulomas after strabismus surgery. *Ophthalmology* 2005;112(7):1283-6.
8. Ferry AP. Pyogenic granulomas of the eye and ocular adnexa: a study of 100 cases. *Trans Am Ophthalmol Soc* 1989;87:327-43.