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Short Communication

Analysis on the recurrence rate of pterygium after excision with conjunctival autograft and 5-Fluorouracil

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Pterygium, a conjunctival fibrovascular growth, is a common finding in the tropics. The definitive treatment is excision. The conventional bare sclera technique has a high rate of recurrence. Because of this, different adjuvants have been introduced and are in use to reduce the rate. The purpose of this study is to compare the recurrence rate of primary pterygium after excision with conjunctival autograft and 5-Fluorouracil (5-FU). The overall recurrence rate in the 62 cases was 17.7%. In the group that had 5-FU application, 10 (27.8%) had recurrence while only one of the 26 (3.8%) that had autograft recurred. This difference was statistically significant (Fisher's exact = 0.018). Primary pterygium excision with conjunctival autograft was superior to 5-FU application.

Key words: 5-Fluorouracil, conjunctival autograft, pterygium recurrence, comparison.

INTRODUCTION

Pterygium is a hypertrophic conjuctival epithelium which grows from the limbus towards the center of the cornea (Sandford-Smith, 1990). It is common in tropical regions (Mohammed, 2011). It is fairly common in South Western Nigeria (Ashaye, 1991). Surgical excision is mostly indicated for cosmetic reasons or progression towards the visual axis (Kanski, 1987). The tendency to recurrence following the conventional bare sclera technique has a high rate of recurrence (Youngson, 1972). It was found to be 12.5% among motorcycle riders in Benin, Nigeria (Ukpo, 2007). Due to the high recurrence rate, management of pterygium by the bare sclera technique is no longer popular. Excision with adjuvants such as conjunctival autograft (Allan, 1993), beta irradiation, thiotepa, ethanol, 5-Fluorouracil (5-FU), Mitomycin C, etc., are now preferred.

At the center of the present study, 5-Fluorouracil and conjunctival autograft are in use as adjuvants. The aim of this study is to compare the recurrence rate of pterygium after excision by the two methods.

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MATERIALS AND METHODS

A retrospective study of the cases of pterygium excision done in a tertiary institution from 2005 to 2007 was carried out. A total of 106 cases of pterygium excision were recorded. Of these, only 62 case notes could be retrieved and studied. While 26 had pterygium excision with conjunctival autograft, 36 cases were done with intra operative 5-Fluorouracil application. Both methods basically consisted of dissection of the pterygium head and body form the sclera and cornea where applicable under local. The pterygium tissue and overlying conjunctiva were excised leaving a bare sclera. For 5-Fluorouracil application, a cotton bud soaked in 50 mg/ml of the anti metabolite was applied to bare sclera for 3 min and subsequently irrigated copiously. For conjunctival autograft application, a thin conjunctival flap was excised from the superior bulbar conjunctiva and slid down to the bare sclera where it was anchored with 8/virgin silk or nylon suture. The wounds were subsequently dressed with chloramphenicol ointment. After removal of the dressing and inspection of the wound on the first day post

operatively, dexamethasone eye drop or ointment three times daily was commenced, as well as continuation of the chloramphenicol ointment. The patients were followed up for a period of time. The follow up period was from four weeks to forty months.

The difference seen in the recurrence rates was analysed using EPI INFO 2002.The number that recurred in both groups was noted. Recurrence was taken as reappearance of triangular fibrovascular tissue reaching the corneal apex.

RESULTS

There were 62 cases of pterygium excision cases included in the study. The youngest was 29 years of age, and the oldest was 75 years.

There were 27 males and 35 females. While 36 eyes had pterygium excision with 5-Fluorouracil application, 26 had conjunctival autograft. The overall recurrence rate in both groups was 17.7%. Only one case (3.8%) recurred following excision with conjunctival autograft, at 8 weeks of follow-up.

Ten cases (27.8%) recurred with 5-Fluorouracil application. The period of recurrence recorded was from four weeks to a year and half for this group (Fisher's exact=0.018). However, there was no record of intra-operative complications in both groups.

DISCUSSION

There was a marked, statistical difference between the recurrence rate of pterygium by the two methods applied in this study.

This is in confirmation of good results obtained following conjunctival autograft as an adjuvant to prevent recurrence (Allan, 1993; Alpay, 2009; Ozer, 2009; Biswas, 2007; Kilic and Gurler, 2006; Bekibele, 2008). Some authors have also investigated the use of 5-Fluorouracil (Valezi, 2009; Akarsu, 2003; Pikkel, 2001). While Akarsu (2003) and Pikkel (2001) concluded that it is both safe and efficient, Valezi (2009) concluded that the recurrence rate was rather on the high side. The recurrence rate of 27.8% observed in the present study compares on the average with previous findings.

Bekibele (2008) also made a comparative study of conjunctival autograft and 5FU. He reported marginal superiority of conjunctival autograft over 5-Fluorouracil application, and also reported recurrence rates of 12.2% (of 33 eyes) and 11.5% (of 35 eyes) respectively. The difference between the present study and his observations may lie in the mastery of the surgeries by the surgeons who performed both procedures. The number of eyes considered in the present study could also be a factor since there was a limitation to the number of case notes that could be retrieved.

Conclusion

Conjunctival autograft is superior to intra-operative 5-Fluorouracil application for prevention of recurrence of pterygium after excision of primary pterygium. It is therefore preferable.

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