

## Case report

# Bilateral corneal perforation following the use of traditional herbal medicine treated with conjunctival flap

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### Abstract

**Introduction:** The harmful effect of the herbal medicine to the eye has not been well reported in the literature. **Objective:** To report a case of bilateral corneal perforation following the use of traditional herbal medicine treated with conjunctival flap. **Case:** A 46-year-old Fijian man initially presented with bilateral conjunctivitis which was thought to be an allergic response to the use of herbal medicine. Vision at initial presentation was normal and he was treated conservatively. Upon review a week later, his vision had decreased to light perception in both eyes. The examination revealed bilateral corneal perforation with iris prolapse which was then treated with a full thickness conjunctival flap in both eyes in the same sitting. Upon review at 3 weeks of intervention, his vision had improved to hand motions in the right eye and 6/60 in the left. The anterior chamber was formed on both sides. **Conclusion:** This case illustrates that the use of herbal medicine can cause corneal melting and subsequently perforations and this can be treated with a conjunctival flap.

**Keywords:** herbal medicine, corneal perforation, conjunctival flap

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### Introduction

Traditional medicine has been in existence since the beginning of time and over the ages it had continued to be practiced. There are variations amongst cultures but the fact of the matter is that people accept and trust the role of traditional healers and herbal medicines in health care. According to a WHO survey, about 70 - 80% of world populations rely on non-conventional medicine mainly of herbal sources (Chan et al, 2003). The main problem with herbal medicine was that the content of the medicine was not known and in the past decade or so a lot has been done in trying to develop herbal medicines. This is evident today in the amount of non-conventional medicine that is available.

Unfortunately, for most parts of the developing world this is not so and as thus the people still use herbal medicine not knowing the content, side effects and mechanism of action of that particular medicine. In Fiji, herbal medicine is available for all sorts of ailments and there are also various methods of preparations. This case being reported demonstrates the effect of an unknown herbal medicine on the cornea.

### Case description

A 46-year-old Fijian man initially presented with bilateral conjunctivitis most probably allergic reaction to some herbal medicine that he had been putting in his eyes. Visual acuity was normal and on examination he was noted to have bilateral conjunctival hyperemia and mild conjunctival chemosis. Otherwise the remainder of the findings of examination was

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unremarkable. He was treated conservatively with advice to stop using herbal medicine and was called for review a week later.

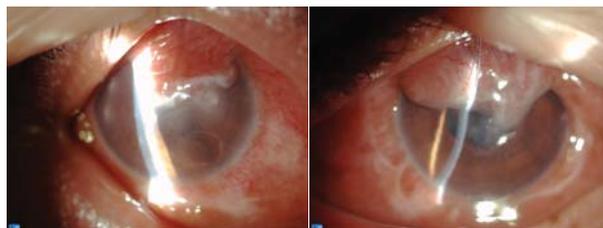
Upon review a week later, he complained of having experienced severe bilateral eye pain for the past 3 days and was relieved only after he had what was described as a “pop” in both eyes which happened 1 day prior to review. He also admitted that he had continued to use some herbal medicine which was prepared by having someone chew it first and the juice was squeezed in the eye. Visual acuity was decreased to light perception in both eyes. Examination revealed bilateral corneal perforation with iris prolapse at 12 o’clock position due to corneal melting (Fig 1 & 2).



**Figure 1:** Right eye and left eye showing superior corneal melting and perforation with iris prolapse.

He was treated with bilateral conjunctival flap in both eyes on the same day under topical and conjunctival infiltrative local anesthesia. Conjunctival peritomy was done and a full thickness superior conjunctival flap was created and pulled down after making a releasing incision. The flap was sutured with 10/0 nylon on the cornea and at the limbus. Interrupted sutures were applied on the conjunctiva with 8/0 vicryl. Inferior conjunctival flap was created and joined together with the upper flap so that the lower flap would constantly pull the upper flap temporarily. The anterior chamber was formed with air bubble. The same procedure was used for both the sides. The anterior chamber was formed on the first post-operative day. He was put on topical antibiotics and atropine eye drops. The lower flap retracted after 10 days post-operatively. The corneal sutures were

removed gradually after 2 weeks in alternate days. At 3 weeks post-operatively (Fig 3 & 4) the visual acuity had improved to hand motion in the right eye and 6/60 in the left. The anterior chamber was deep and quiet. The right pupil did not dilate due to posterior synechia. The intra-ocular pressure was 12 mmHg in both eyes.



Post conjunctival flap: **Figure 2:** Right Eye and Left Eye

### Discussions

Conditions that can lead to corneal perforation include infections (bacterial, fungal or viral), inflammatory conditions (collagen vascular diseases, acne rosacea, Wegener’s granulomatosis and Mooren’s ulcer), xerosis, exposure keratopathy, Sjogren’s syndrome, Steven-Johnson syndrome and trauma (chemical, thermal, surgical or mechanical). Additionally, the non-steroidal anti-inflammatory drugs are also known to induce corneal melting and perforation (Asai et al, 2006). The management depends on the causative factors and extent of the disease. However, the surgical treatment options include corneal gluing, conjunctival flaps, amniotic membrane transplantation and corneal transplant. In this case corneal gluing would not be ideal because of the size of the lesion. The amniotic membrane, perhaps, would not provide enough mechanical support. The corneal transplant was not readily available in our setting. Therefore, the conjunctival flaps were used. According to Jhanji et al (2011) a conjunctival flap is not appropriate for a frank perforation because the leak will continue under the flap. This case, however, showed that a conjunctival flap can be used to successfully seal a large corneal defect. This may be because of

the use of full thickness conjunctival flap which was inflamed and richly vascularized which facilitated the formation of adhesions between the prolapsed iris and the conjunctiva. In the subsequent follow up, optical iridectomy may be required particularly in the right eye.

This case demonstrates the harmful effect of herbal medicines on the eye and highlights the importance of educative programs for the common people for prevention of devastating ocular complications.

### **Conclusion**

This case illustrates that some herbal medicines can cause corneal melting and subsequently corneal perforations. The use of conjunctival graft can be an alternative treatment option for the management of such cases.

### **Acknowledgement**

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### **References**

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