

Peer Review File

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Reviewer Comments

This paper presents a timely review of fungal OE management in Australia. There are some concerns about the manuscript particularly as it relates to the details of the methodology.

Comment 1: For example, in lines 118-125, it appears that this is a retrospective review but in line 126, the authors seem to discuss the different treatment options in a manner that suggests this was done prospectively. How could the authors ensure that all the three treatments were uniformly undertaken?

Reply 1: This was a retrospective review. Line 126 is describing the standard approach to treatment of fungal OE at this centre, which is described in the clinical practice guidelines and ED notes reflect this practice. I agree, the way I have worded it does seem confusing as to the retrospective nature of the study.

Changes in text: Prior to the instillation of topical treatment, hospital standard practice dictates that microbiological swab of the ear is performed, followed by thorough ear clean. (page 4, line 129-133)

Comment 2: The conclusion also needs to be better supported – how should clotrimazole be used to be as effective? There is little coherent detail to support this conclusion.

Reply 2: I have re-worded the conclusion to be more specific.

Changes in text: Once off application of topical clotrimazole 1% cream is as efficacious in the management of fungal otitis externa as other topical antifungal agents, with no statistically significant difference in treatment success rates found in this study. (Page 6, lines 223-225)

Comments

- The authors need to be clear about the study design – was this a retrospective study

Please see response to comment 1.

- Line 92 – need to clarify in what setting is clotrimazole is not ototoxic

Reply 3: Only animal studies have been carried out to test ototoxicity of topical ear treatment

Changes in text: Clotrimazole 1% cream, however, is not associated with this risk of ototoxicity in animal studies. (Page 4, line 93-94)

- Line 126 – how was the ear cleaned?

Reply: Aural toilet was typically undertaken by a combination of microsuction, curettage and topical 3% hydrogen peroxide. Microscopes are available in ED at this institution.

In text changes: An ear clean was noted to involve visualization of the ear canal with microscope and a combination of: suction, curettage and instillation of 3% hydrogen peroxide solution. (page 4, lines 130-132)

- Line 134 – what treatment did ED do

Reply 5: ED registrars or consultants performed aural toilet, swab, instillation of topical treatment as did ENT registrars and Consultants at the initial consultation stage.

This is noted in text “Patients were managed initially by a Registrar or Consultant specializing in the field of Otolaryngology or Emergency Medicine.” (page 4, line 111-112)

- Line 142 – it needs to be clear that successful treatment is determined at the two week follow up. This is not clearly stated throughout the manuscript

Comment 6: it needs to be clear that successful treatment is determined at the two -week follow up. This is not clearly stated throughout the manuscript

Reply 6: I agree this should have been reiterated in the results section.

In text changes: “ Overall, 64% of patients were successfully treated from the ED, meaning that they did not require further management at two-week ENT clinic review.” (Page 5, line 141-142)

- Line 145-148 – can the authors clarify this?

Reply 7: This relates to which clinician specialty was responsible for initially managing the patient in the ED, when they presented. This initial management involves, as previously described, history and exam, swab then ear clean and application of the topical therapy.

In text changes: “When an ED clinician initially managed the patient (ear clean and application of topical treatment), 50% of patients were successfully treated. Comparatively, when an ENT clinician initially managed the patient, 79% of patients were successfully treated. Chi-square testing confirmed this to be a significant difference (Chi-square = 5.1186, p value= 0.024, at $p < 0.05$).” (Page 5 line 149-152)

- Line 150 – suggest give the % of aspergillus cultured and what % was aspergillus Niger

Reply 8: I have added this information to text

In text changes: *Aspergillus* species alone was cultured in 43 out of 58 patients (74%). *Aspergillus niger* was most prevalent and was cultured in 40 patients (69%). (page 5 line 159-160)

- Line 163 – please clarify what is meant by “prevalent” – how prevalent?

Reply: meaning common. It is a common presentation, in this ED alone we had 60 patients in 6 months, this doesn’t include those that were excluded with exam findings consistent with fungal OE.

In text changes: “Fungal otitis externa is common in Australian society.” (Page 5 line 173)

- Line 164 – how common is treatment failure

Reply 10: It is hard to quantify treatment failure rates in the literature, as there is no universal definition of success, timeframe wise. As mentioned previously in the introduction (background section, page 3, line 82), recurrence rates are as high as 15% despite adequate treatment.

In text changes: “Recurrent infection rates are high” (page 5, line 174)

- Line 165 – what makes it an easy application? How was it applied

Reply 11: Application was via syringe, whereby a small size syringe (1ml, 2ml) was filled with cream or ointment and then the ear canal was filled. Some also utilized attachment of a micro ear suction tube attached to the syringe. The topical once off application is also easy for the patient as they do not have to regularly use ear-drops.

In text changes: “Single application treatments were delivered via small syringe (1-2ml) with or without the attachment of a micro ear suction tube.”(page 4, line 122-133)

- Line 197 – how is it possible that topical therapy has no cost?

Reply 12: Kenacomb and Clotrimazole are readily available within the ED. The use of these treatments do not require a script if applied once only within the department. The cost of a visit to ED is free. ED visits are covered by medicare, if the hospital is a public hospital. Application of the treatment, if solely within the department, is included in the service provided by the ED.