Hypertrophic granulation tissue formation has been described in the literature as a deterrent to complete wound healing in wounds, especially following burns. ‘Kenacomb’ ointment, a combination of triamcinolone acetonide, neomycin sulfate, gramicidin and nystatin, is widely accepted in the burns community as a means of combaiting hypertrophic granulation tissue. Despite this, evidence regarding its efficacy and adverse effects are lacking, especially considering the dire adverse effects associated with neomycin.

AIM
To review the literature and assess efficacy of ‘kenacomb’/components of ‘kenacomb’ in management of hypertrophic granulation tissue in burns as a primary outcome and adverse effects of ‘kenacomb’/components of ‘kenacomb’.

METHODS
A comprehensive search of MEDLINE, EMBASE and Google Scholar databases was conducted to identify clinical articles from inception until August 2018. Clinical studies describing ‘kenacomb’ or a component of ‘kenacomb’ applied topically in the treatment of hypertrophic granulation tissue, or analysed the potential side effects of use of ‘kenacomb’ or a component of ‘kenacomb’ in the treatment of hypertrophic granulation tissue/burns wounds. Studies not available in English or full text, non-human studies, studies describing auricular use of ‘kenacomb’ or a component of ‘kenacomb’ were excluded.

RESULTS
No articles explicitly described the use of ‘kenacomb’ or its antimicrobial components as management options for hypertrophic granulation tissue. Clinical articles described a role for topical corticosteroids in the management of hypertrophic granulation tissue (Table 1 + 2), only 3 of which were in a post-burn setting (Table 1).

Nephrotoxicity and ototoxicity complicating topical application of neomycin to burns and other open wounds is well-described in a large number of case reports and case series’ in the literature.

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Design</th>
<th>Patient</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jaeger</td>
<td>2016</td>
<td>Case Series</td>
<td>5</td>
<td>All showed regression of hypertrophic granulation tissue with no local or systemic side effects</td>
</tr>
<tr>
<td>Shalom</td>
<td>2003</td>
<td>Case Series</td>
<td>13</td>
<td>Resolution of unresponsive hyper granulation tissue and subsequent epithelialization in all patients</td>
</tr>
<tr>
<td>Brown</td>
<td>2018</td>
<td>Retrospective Review</td>
<td>7</td>
<td>All patients demonstrated rapid improvement in wound healing, no systemic side effects</td>
</tr>
</tbody>
</table>

CONCLUSION
Our review demonstrates a paucity of clinical evidence in the literature that advocates for the use of topical 'Kenacomb' for hypertrophic granulation tissue in burn wounds with primary research directed at topical steroids alone as being efficacious in management of this condition.

Given its potential side effect profile, further research is required to assess its safety for ongoing clinical use.

REFERENCES

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Given its potential side effect profile, further research is required to assess its safety for ongoing clinical use.

REFERENCES

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Table 1: Hypertrophic Granulation tissue in burns

Table 2: Hypertrophic Granulation Tissue following other

Table 1: Hypergranulation in setting of burns

Table 2: Hypertrophic Granulation Tissue following other

Table 2: Hypertrophic Granulation Tissue following other

Table 1: Hypergranulation in setting of burns

Table 2: Hypertrophic Granulation Tissue following other