Abstract

Objectives: Discuss the management of fungal parotitis and fungal parotid abscesses. Discuss the role of VAC therapy for complex and recurrent head and neck wounds.

Methods: Case report and literature review utilizing the Medline database

Results: We report a case of a 45-year-old female with poorly controlled diabetes who presented with a left sided parotid gland abscess and possible associated Warthin’s tumor. She failed initial treatment with incision and drainage, antibiotics, and antifungals. Repeat incision and drainage was necessary, and a wound VAC was placed. Her wound was successfully closed after 5 days of VAC therapy with completion of an antifungal and antibiotic course.

Conclusions: This case adds to the limited literature on the management of fungal parotitis and fungal parotid abscesses. Common therapy includes incision and drainage with antifungal +/- antibiotic treatment. To our knowledge, this is the first case of recurrent parotid fungal abscess managed with VAC therapy. Data from limited published studies overwhelmingly supports the use of VAC therapy as a useful modality in select complex and poorly healing head and neck wounds. In the only other reported case of multiple recurrent parotid fungal abscesses, a Warthin’s tumor was found in our patient. Hypothesis results failed to confirm Warthin tumor, however the presentation and CT scan are consistent with this associated diagnosis. Fungal parotitis with or without abscess formation represents a rare clinical entity which may be associated with Warthin’s tumors, immunocompromised patients, and poor wound healing. In such cases, we propose VAC therapy as a useful aid to accelerate wound healing and prevent recurrent abscess formation.

Introduction

Acute parotitis predominantly occurs in the elderly and in patients with systemic/chronic conditions.1-3 While Staphylococcus aureus and other oral flora are the most common infectious pathogens, fungal parotitis has been implicated in rare published cases.4-8 Although Candida and other fungi are common organisms in the oral cavity, the natural antifungal activity of saliva normally prevents salivary gland infections.9 As such, patients with fungal parotitis are typically immunocompromised or have an underlying condition and mass and therefore may be at risk for poor wound healing and/or recurrence.10,11

Few studies exist on VAC therapy for head and neck wounds. However, overwhelmingly, the limited published literature supports VAC therapy as a useful adjunct to accelerate healing and head and neck wounds.8-11 To our knowledge, we present the first case of recurrent fungal parotid abscess and poor wound healing treated with medical, surgical, and VAC therapy.

Methods and Materials

We present a case report and literature review for the management of fungal parotitis with or without abscess and wound VAC therapy for complex/poorly healing head and neck wounds.

<table>
<thead>
<tr>
<th>Ref.</th>
<th>Age</th>
<th>Sex</th>
<th>Medical History</th>
<th>Presentation</th>
<th>Treatment</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>75/</td>
<td>74/</td>
<td>Diabetes, Vascular disease</td>
<td>Left sided facial swelling x 6 days with purulent discharge from parotid duct. CT demonstration of left sided parotid, no abscess. Cultures grew C. glabrata</td>
<td>FLWBD 800 mg/day x 1 day; 400 mg/day x 2 weeks</td>
<td>Died due to overwhelming medical conditions</td>
</tr>
<tr>
<td>3</td>
<td>87/</td>
<td>F</td>
<td>Vascular disease, Hypertension, Taking diuretics and ACE inhibitor</td>
<td>9 months of stable left parotid swelling followed by 2 days of increased swelling and pain. Fever to 38.3°C, normal WBC. Ultrasound demonstrated an intraparotid abscess. Cultures from needle aspirate grew C. glabrata</td>
<td>FLWBD 800 mg/day x 1 day; 400 mg/day x 2 weeks</td>
<td>Invasion of abscess and resolution of symptoms</td>
</tr>
<tr>
<td>5</td>
<td>5W</td>
<td>M</td>
<td>Smoker</td>
<td>1 year of poikil, &lt;1 cm mass of the right tail parotid followed by rapid onset of painful erythema and induration. Antibiotic, normal WBC. CT demonstrated large parotid abscess, and needle aspirate of purulent material grew C. glabrata. Patient had multiple recurrences. Tissue taken at second surgery confirmed underlying Warthin’s tumor.</td>
<td>FLWBD 800 mg/day x 1 day; 400 mg/day x 2 weeks</td>
<td>Underlying Warthin’s tumor diagnosed and treated. No further recurrence and resolution of symptoms</td>
</tr>
<tr>
<td>9</td>
<td>81/</td>
<td>F</td>
<td>Diabetes, Hypertension, Vascular disease, Alzheimer’s</td>
<td>5 days of progressive right sided facial swelling. Failed Antibiotics, MRA, fever, WBC elevated. Right facial nerve weakness. CT and MRI showed 2-3 cm abscess in the right parotid. FNA showed amylase crystalloids and cultures grew C. glabrata</td>
<td>FLWBD 800 mg/day x 1 day; 400 mg/day x 2 weeks</td>
<td>Lost to follow up</td>
</tr>
</tbody>
</table>

Discussion

C. glabrata parotitis with/without abscess formation is rare. Excluding our presented case, only 4 reports have been published.12,13 Clinical characteristics, treatment regimen and overall outcome of these cases are summarized in Figure 1. More generally, fungal parotitis with/without abscesses has been reported in 12 cases. Seven due to Candida species 14-17, 3 Cryptococcus 18-20, 1 Coccidioides 21, and 1 Histoplasmosis. Fungal species are part of the normal oral flora in healthy adults, and the oropharynx is the common portal of entry for most fungal species. However, salivary gland infections may be seen in immunocompromised patients, diabetes, and alcoholics.12

In formal treatment recommendations exist for fungal parotitis. Frequently, a combination of antifungal +/- antibiotic therapy with/without abscess drainage is required. Causative fungal species, antifungal susceptibility, drug dosing schedules, and renal function are used to determine treatment duration and specific antifungal agent. Additionally, the final treatment regimen may benefit from infection disease consultation. In our presented case, diabetes control was improved with the help of medicine consultation and wound poor wound healing aided by repeat /I and VAC therapy. Following these measures, cure was achieved: with oral amoxicillin/clavulanate 875 mg twice daily (BID) x 7 days and oral voriconazole 400 BID x 1 day followed by 200 mg BID x 6 days.

To our knowledge this is the first case of fungal parotid abscess treated with VAC therapy. There is limited literature regarding VAC therapy for head and neck wounds, however, smaller studies over time show efficacy for improved wound healing. Reiter et al. investigated 23 patients treated with VAC therapy after free/pedicled flap failures or necrotizing fasciitis, with 18 patients (78%) achieving wound closure without further surgery.12 Dhir et al. followed 19 patients treated with VAC therapy for complications after cancer resection, including wound dehiscence, osteoradionecrosis, and pedicled flap failure. After VAC therapy, 16 patients (84%) required no additional operative treatment.7 In the only other published case of recurrent parotid abscess due to C. glabrata underlying Warthin’s tumor was found.7 In our case, imaging and surgical specimens did not confirm an underlying tumor, however, the overall presentation and imaging was consistent with this possible diagnosis. Currently, the patient remains recurrence free and has elected to pursue continued observation rather than definitive surgery.

Conclusions

Fungal parotitis with or without abscess represents a rare clinical entity which may be associated with immunocompromised patients and poor wound healing. Mainstay of treatment involves medical and surgical intervention with antifungal +/- antibiotic therapy and abscess drainage. In cases of recurrent abscess, consideration of an underlying cystic tumor, such as Warthin’s, should be given. Additionally, in cases of poor wound healing after abscess drainage and for other complex head and neck wounds, VAC therapy can be a useful adjunct to accelerate healing and prevent recurrence. Future, high quality, studies investigating VAC therapy for complex and high failure risk head and neck wounds are warranted.