A Complicated Case of Acute Parotitis

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Case Report:

An 83 year old female with a Pft of Alzheimer’s dementia, schoaffective disorder, NIDDM and HTN presented to the ED from a nursing home with a two day history of right sided facial swelling. Due to her dementia and confused mental status, a History was unable to be obtained from the patient. Per nursing home records, the patient had swelling that had gotten progressively worse over the past two days, with a noted fever of 105F. Her other vitals signs were stable and she was able to follow commands. Clinical presentation was significant for erythema and edema to the right side of the face from the pre-auricular region to the right side of the mouth, with diffuse tenderness to palpation and trismus. The facial nerve was determined to be intact. Purulent discharge was expressed from her right Stensen’s duct. The remained of the physical and otolaryngological exam was unre markable. Diagnostic interpretation of a CT of the head showed an abnormally enlarged right parotid gland and thickened Stensen’s duct. The patient received IV Vancomycin, Clindamycin and IV Fluids. Her treatment also included warm compresses and frequent parotid massage. She was transferred to the ICU to monitor for respiratory compromise. 48 hours into antibiotic treatment, her swelling was not markedly improved. An abscess had formed and subsequently was incised and drained. Wound culture results showed MRSA and Candida albicans infection. Fluid aspirate was added to the patient’s treatment regimen. The patient was successfully treated and discharged after 14 days of treatment with instructions to take oral Flucloxacillin for a total of four weeks of treatment. At follow-up examination, the parotitis had resolved.

Images:

CT Findings:

Marked, and diffuse cutaneous and subcutaneous edema diffusely, including the temporals muscle, the overlying scalp. The edematous soft tissues extend laterally and caudally, through the peri-auricular soft tissues and tapering towards the supravacular region. There is thickening of the platysma muscle and right submandibular gland. Anterior triangle lymph nodes, are borderline enlarged. The epicenter is the right parotid gland, which is diffusely swollen, including the superficial and deep portion. The gland is abnormally dense. There is diffuse thickening of Stensen’s duct, but without calculi. Asymmetric thickening of the parapharyngeal fat planes, deep portion of the parotid gland, the right lateral parapharyngeal wall, from the soft palate to the base of the tongue, without airway obstruction.

Lab Values:

CBC: WBC-17.1 Hgb-11.9 Hct-33.4 Pfr- 190

Cmp: Na-134 K-4.3 Cl-95 HCO3-30 BUN-10 Creat-0.77 Gluc-204

Amylase - 40

Wound Culture/Grain Stain: Methicillin resistant Staphylococcus Aureus , Candida Albicans

Blood Culture: No growth

Introduction:

Acute bacterial suppurative parotitis is most commonly caused by Staphylococcus aureus and is often polymicrobial. Many times parotitis occurs in chronically ill elderly patients. The diagnosis is made when the characteristic clinical findings are present including pre and post-auricular swelling, pain, and trismus. Purulent drainage may be present at the opening of the duct of Stensen. Acute suppurative parotitis requires prompt aggressive treatment to prevent respiratory compromise and other complications. Treatment is generally a 10-14 day course of broad spectrum intravenous antibiotics. In recurrent cases of parotitis, a parotectomy may be considered

Epidemiology:

Acute suppurative parotitis predominantly affects the elderly patients, the majority of whom are debilitated by systemic disease and dehydrated. Diabetes, alcoholism, autoimmune disorders such as Sjogren’s disease, poor oral hygiene, malnutrition, decrease in salivary flow secondary to medications (such as diuretics, antiicholingerics, antibiotics), postsurgical dehiscence, and ductal obstruction are some of these pre-disposing risk factors.

Many of the risk factors for acute suppurative parotitis and MRSA overlap, and include old age, multiple co-morbidities, hospital admission and residence in a nursing home.

Clinical Manifestations:

The most common clinical manifestation of acute suppurative parotitis is the onset of an indurated, warm, erythematous swelling of the pre and postauricular areas that extends to the angle of the mandible. This is usually a unilateral swelling, although there have been a few cases of bilateral parotitis. The area above the swelling is extremely tender, and patient may have complaint of extreme pain, trismus, and dysphagia. Symptoms may be exacerbated by meals. Intranasally, Stensen’s duct may appear erythematous or inflamed and purulent material may be expressed from its orifice. Due to the dense fibrous nature of the parotid fascia, a fluctuant quality is usually not observed. Additionally compression of the facial nerve as it passes through the gland may occur.

Microbiology:

- Staphylococcus aureus is the most common pathogen
- Microbiology is quite variable and often polymicrobial
- Other pathogens include streptococci, gram-negative bacilli and anaerobes
- Diabetic patients have increased susceptibility to oral yeast carriage. This may be due to decreased salivary flow or increased levels of salivary glucose. A review of the literature revealed only a handful of cases where Candida was isolated in a parotid abscess.

Diagnostic Evaluation and Imaging:

- Patient with the above clinical presentation
- An elevated amylase (in the absence of pancreatitis)
- Purulent discharge should be collected for a Gram stain and culture. If there is no purulent discharge from Stensen’s duct, extra-oral needle aspiration of the swollen gland should be performed
- Ultrasonography, CT scan, and MRI are the common radiology imaging used
- CT scan with or without contrast is often the first radiologic evaluation of choice due to its ability to enhance the different soft tissue densities within the gland

Treatment:

- Hydration and Antibiotics
- Initial antibiotic therapy should be based on the expected microbiology and host factors. Therapy should be directed against Staphylococcus aureus (including MRSA in nosocomial and nursing home patients), oral anaerobes and aerobes. Therapy should be administered for 10-14 days in uncomplicated cases
- Any cause of salivary stasis such as certain medications should be stopped
- Attempts should be made to increase salivary flow.
- Applying warm compress to the area
- Massaging the gland
- Maximizing oral hygiene
- Irrigating the mouth and giving the patient lemon drops to increase salivation
- Surgical incision and drainage - if the patient does not improve in 48 hours
- Pilocarpine can be used to stimulate salivary flow

Complications:

- Progression of the swelling can lead to many complications. The infections can spread to the deep fascia of the head and neck, resulting in uncomplicated cases. The infections can spread to the deep fascia of the head and neck, resulting in deep sepsis. The infection can then spread to the base of the tongue, without airway obstruction.

Conclusion:

Acute suppurative parotitis can be seen in various clinical settings. MRSA parotitis is largely a disease of the elderly with a high mortality. It is important to diagnose these patients early and initiate appropriate therapy. A culture of parotid drainage fluid (via pus expression or needle aspiration) and blood cultures is necessary. Empirical antibiotics should cover S. aureus (including MRSA if risk factors exist) and anaerobes, pending susceptibility results. Drainage is usually only required if an abscess forms. This case illustrates the importance of considering Candida Albicans in the differential diagnosis of diabetic patients. Adequate hydration, proper oral hygiene, and blood glucose control are effective measures at preventing reoccurrence.

References: