ACUTE RETROPHARYNGEAL ABSCESS IN ADULT- A CASE REPORT

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PRESENTATION OF CASE

A 65 years old female patient presented with odynophagia, fever, since 5 days and absolute dysphagia since 2 days. She had bronchial asthma and type 2 diabetes mellitus on oral hypoglycaemic agents since 15 years. On examination, there was a significant bulge in the posterior pharyngeal wall in midline extending to the left side, pushing the tonsil medially; supraglottis was oedematous obscuring the vocal cords. The patient appeared toxic and there was no external neck swelling. Haematological investigations showed raised total counts, HbA1c was 12.2 and there was presence of ketone bodies in urine. CECT scan of neck showed an irregular peripherally enhancing abscess in retropharyngeal space 3.1 cm x 3.1cm x 6.2cm dimension and extending more in the left paramedian from C1 to C4 levels. There was a mass effect and median bulge indenting the oropharyngeal air column. The abscess cavity was extending inferiorly to the supraglottic level, anteriorly to left posterior tonsillar pillar, laterally up to the level of styloid process, posteriorly up to pre-vertebral muscles. There was no evidence of rupture. Cervical spine and vertebral arteries were normal and there was no evidence of osteomyelitis.

As the patient was in diabetic ketoacidosis and early sepsis, she was started on Injection piperacillin tazobactam and insulin infusion. Once the patient was medically stable, the abscess was drained by transoral incision and drainage of the abscess, approximately 40ml of the pus was drained, and the abscess cavity was washed with betadine and hydrogen peroxide. The patient needed ventilator support and she was extubated after 24 hours. Post incision and drainage patient received iv antibiotics injection piperacillin +tazobactam 4.5gm, Inj. Metronidazole 100ml 8th hourly, Inj Gentamycin 80mg 8th hourly and Inj. Dexamethasone 8mg 12th hourly for 7 days. For glucose control on post op day 2, she received IV Insulin and was shifted to Inj.Insugen R 10 units TID subcutaneously.

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Pus for culture and sensitivity showed growth of klebsiella species sensitive to piperacillin plus tazobactam, gentamycin, cotrimoxazole, meropenem.

DIFFERENTIAL DIAGNOSIS

- Acute Retropharyngeal abscess
- Acute Parapharyngeal abscess
- Acute Peritonsillar abscess
- Acute Epiglottitis
- Acute Laryngotracheobronchitis

CLINICAL DIAGNOSIS

A 65year old female patient with uncontrolled diabetes mellitus presented with acute symptoms of fever, odynophagia and absolute dysphagia and clinical examination showed presence of midline bulge in the posterior pharyngeal wall with laryngeal edema. Initial investigations including WBC 15600/dl, Urine for ketone bodies+++ HbA1C12.2 and CE CT Neck showing an irregular peripherally enhancing abscess in retropharyngeal space measuring 3.1*3.1*6.2 cms extending from C1 to C4 and on the basis of history and clinical features a clinical diagnosis of acute retropharyngeal abscess with diabetic ketoacidosis was made.

PATHOLOGICAL DISCUSSION

The retropharyngeal space is a potential space in the fascial plane between the prevertebral fascia posteriorly and the pharyngeal constrictor muscles and buccopharyngeal fascia anteriorly and the carotid sheaths laterally. The space is continuous with posterior mediastinum, hence infections in the neck may spread up to the diaphragm.[1]This space contains a chain of lymph nodes that drains the adenoids, nasopharynx, Eustachian tubes, middle ear and posterior paranasal sinuses.[2]The retropharyngeal lymph nodes lie medial to the internal carotid artery and further divided into medial and lateral groups. The medial group atrophies throughout childhood making children more likely to experience retropharyngeal space infections and the lateral group, the nodes of Rouviere persists throughout adulthood and can become a site of metastasis for head and neck cancers.

Retropharyngeal abscesses are deep neck space infections that can pose an immediate life-threatening emergency, with potential for airway compromise and other catastrophic complications.[3]

Acute Retropharyngeal abscess in adults is an uncommon but potentially lethal infection involving deep neck spaces.[4] Acute retropharyngeal abscess is generally

described as disease of children because of the abundance of retropharyngeal lymph nodes which tend to regress with age. Upper respiratory infections cause retropharyngeal disease in children because these lymph nodes receive drainage from nose sinus and pharynx. Patients at risk of retropharyngeal abscess include immunocompromised patients, HIV infection, chemotherapy, diabetes and malnutrition.

In adults an acute non tubercular retropharyngeal abscess can occur as a result of trauma to the pharynx and oesophagus either by foreign body or endoscopy, vertebral fractures, foreign body ingestion or instrumental procedures like laryngoscopy and intubation trauma.[3] However it may rarely develop following dental infections or pyogenic osteomyelitis of cervical spine.[5]

The symptoms in adults are sore throat, fever, dysphagia, odynophagia, neck pain, dyspnoea, drooling, torticollis, hot potato or hypo nasal voice and sepsis. The most common physical presentation is pharyngeal oedema, bulging of posterior pharyngeal wall, cervical lymphadenopathy, drooling, stridor and neck rigidity.[6] However the signs may be lacking in patients with diabetes.[7]The high mortality rate associated with retropharyngeal abscesses is due to its complications such as acute airway obstruction, mediastinitis, aspiration pneumonia, epidural abscess, pericarditis, jugular venous thrombosis, necrotizing fasciitis, sepsis, and erosion into the carotid artery. Therefore, it is important to treat these abscesses early and as effectively as possible.

A lateral radiograph can be helpful to support the diagnosis. Imaging will demonstrate a widening of the prevertebral soft tissue anterior to the cervical spine.[8]

Contrast Enhanced Computerised Tomography of the neck is the radiological investigation of choice to confirm the diagnosis and evaluate for the location and size of the abscess and to look for spread of infection to the adjacent head and neck spaces.[9] It also helps to assess the patency of the airway.

The most worrisome complication of acute retropharyngeal abscess is airway compromise and rupture resulting in aspiration pneumonia. As the retropharyngeal abscess progresses it can lead to airway compromise.Therefore, it is important to evaluate the airway and be prepared to intubate the patient if needed.Intubation should be performed fiberoptically if possible, to prevent potential rupture of the abscess.

DISCUSSION OF MANAGEMENT

For large retropharyngeal abscesses, surgical drainage remains primary modality followed by aggressively targeted antibiotic therapy.[3] Indications for surgery include airway compromise, septicaemia, diabetes mellitus or no clinical improvement even after 48hrs of parenteral antibiotics. Surgical drainage can be performed through intraoral or transcervical approach. Wide exposure of the infected tissue is important, as is debridement of any necrotic tissue that is present.[9]Post-surgical drainage, culture sensitivity driven intravenous antibiotic is started.

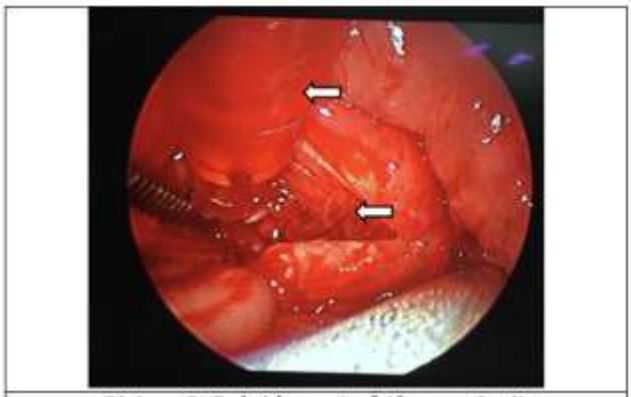
A recent study holds upper respiratory tract infections as the most common aetiological predisposing factor for adult retropharyngeal abscess.[5]Abscess in this space can be caused by aerobic organisms (beta haemolytic streptococci and staphylococcus aureus), anaerobic organisms (Bacteroides and Veillonella) or gram negative organisms (Haemophilus Parainfluenza, Bartonella henselae).[7]According to a study by Simmi Jindal et al the common microbes associated with neck abscess are staphylococcus aureus, pseudomonas aeruginosa, methicillin resistant staphylococcus and klebsiella.The anaerobes were Peptostreptococcus, bacteroid species and among fungi was candida.[10]Sending pus for antimicrobial sensitivity is a must, which will help in more effective treatment.

Most infections are polymicrobial, and patients will often need broad spectrum antibiotics. This may include clindamycin, a third-generation cephalosporin (ceftriaxone), or a beta-lactamase resistant penicillin (ampicillin-sulbactam or piperacillin-tazobactam). Some experts also recommend giving concomitant steroids (methylprednisolone 1 mg/kg intravenous) to reduce the inflammation.

Surgical intervention is the main stay of treatment for complicated or severe deep neck space infections. Indications for surgery include airway compromise, septicaemia, diabetes mellitus or no clinical improvement even after 48hrs of parenteral antibiotics. Surgical drainage can be performed through intraoral or transcervical approach. Wide exposure of the infected tissue is important, as is debridement of any necrotic tissue that is present.[9]Post-surgical drainage, culture sensitivity driven intravenous antibiotic is started.

Picture 1. Abscess Bulging in the Posterior Pharyngeal Wall

Picture 2. Incision and Drainage of The Abscess



Picture 3. Debridement of Abscess Cavity

FINAL DIAGNOSIS

Acute Retropharyngeal Abscess with Diabetic Ketoacidosis.

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