

Fulminant Anterior Chest Wall Abscess, Secondary To Dental Abscess, Due To Klebsiella Pneumoniae, A Rare Case Presentation.

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Abstract: Chest wall abscess may occur as primary infection or secondary to open trauma or thoracic wall surgery. Early diagnosis and treatment are the two main factors responsible for the prognosis. Odontogenic cause of abscess of the chest wall is a rare phenomenon. It can be easily missed during the initial examination. Mortality still remains high despite the use of modern powerful antibiotics and advances in the care of critically ill patients. The disease manifestation can range from a fulminant presentation to a subtle and insidious development. Here, we describe an unusual case of fulminant chest wall abscess secondary to dental abscess via discharging neck sinus due to *Klebsiella pneumoniae*. The patient presented with septic shock, was properly diagnosed, and recovered completely with treatment.

Keywords:

- 1) Chest wall abscess
 - 2) *Klebsiella Pneumoniae*
 - 3) Dental Abscess
 - 4) Draining Neck Sinus
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I. Introduction

Klebsiella pneumoniae is a Gram-negative, nonmotile, encapsulated, lactose-fermenting, facultative anaerobic, rod-shaped bacterium. It may cause pneumonia which may lead to lung abscess, but rarely causes anterior chest wall abscess, secondary to dental abscess via draining anterior neck sinus. Here we report a case of a 45 year old male who developed dental abscess which was undiagnosed and untreated, leading to spread of infection in anterior aspect of neck wall, subsequently spreading to anterior chest wall and presenting with septic shock.

II. Case Report

A 45 year old male, farmer by occupation presented with the chief complaints of high grade fever, swelling on anterior chest wall since 18 days and discharging sinus over neck since 12 days. The swelling was soft in consistency measuring 15 x 15 cm approximately in size and tender on palpation. There was severe pain sensitivity and swelling at lower left molar region.

The patient started having pain one month ago in lower left molar region for which he had visited a dentist, was conservatively managed with antibiotics and analgesics for one week, pain did not subside, on the contrary he developed swelling over left side of jaw and anterior aspect of neck. In the following week swelling over the anterior aspect of neck progressed and as described by the patient was like a heavy belt tied to his neck. With increase in severity he could not talk or swallow properly, the swelling progressed to left anterior aspect of chest (pectoral region), in the same week the swelling over neck spontaneously ruptured creating a draining sinus, one litre of whitish yellow, sticky non-foul-smelling fluid oozed out of the sinus. Patient visited the dentist and was asked to continue the same treatment and local application for the draining sinus was prescribed. In initial stage, the infection spread in the subcutaneous tissue and appeared as a routine odontogenic deep space neck abscess. To drain the fluid collected in anterior chest wall, patient used to turn upside down for the fluid to be discharged from the draining neck sinus. The patient then visited General Surgeon and was referred to Department of Respiratory Medicine, with provisional diagnosis of tubercular anterior chest wall abscess.

On examination, the patient was average built with body mass index of 20.1 kg/m², febrile (temperature 101.2°F), pulse was 110/min, blood pressure was 90/70 mm Hg right arm supine position, respiratory rate was 19/min abdo-thoracic, oxygen saturation was 94 % on room air. There was no icterus, cyanosis, pallor, lymphadenopathy, pedal oedema, clubbing and JVP was normal.

Upper respiratory tract examination was normal except deviated nasal septum to the right side. The lower respiratory tract examination revealed no deviation of trachea, bilateral normal vesicular breath sounds were present with no added sounds, patient was subjected to further investigations.

Chest X-ray (PA) view was done which was normal and showed no involvement of parenchyma. Laboratory investigations showed Hb-11.8 g%, total WBC count was 24500/mm³, ESR-70 mm at end of 1st hr. platelet count, LFT, KFT, blood sugar level was normal, ELISA test for HIV was nonreactive, Tuberculin skin test (TST) was negative. Induced sputum smear for AFB was negative.

Pus collected from molar region, draining sinus as well as that aspirated from anterior chest wall which was subjected for various examinations revealed growth of *Klebsiella Pneumoniae* (Enterobacteriaceae) on culture, there was no evidence of mycobacteria. Final diagnosis of fulminant anterior chest wall abscess, secondary to dental abscess, due to *Klebsiella pneumoniae* was made. Antibiotics were changed according to the culture and sensitivity report. Injection amikacin and ceftazidime were administered intravenously for next two weeks along with local irrigation of abscess with povidone and injection metronidazole twice daily for four days. A root canal treatment of the mandibular 3rd molar was performed during hospital stay of the patient. Patient started responding to the treatment, and was discharged on antibiotics, was periodically followed up. After one month from date of discharge the abscess and sinus started resolving and completely healed after 6 months with no scar formation.

III. Discussion

Klebsiella pneumoniae is a common cause of lung abscess but rarely causes chest wall abscess. Delay in diagnosis leads to increase in area of necrosis with a resulting increase in cosmetic deformity and life-threatening complication. Fulminant abscess can develop from dental (abscess, pulpitis, gingivitis, infected cyst etc.), sinus, peri tonsillar and salivary gland infection or infection secondary to the surgery, insect bite or trauma. Dental infections are common etiological factor.

IV. Conclusion

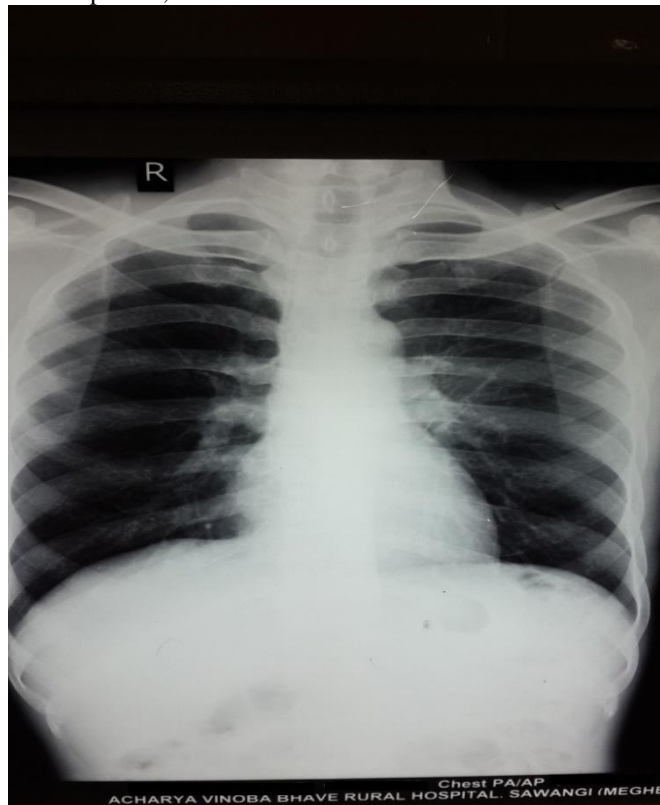
Chest wall abscess of tubercular origin is common, but *Klebsiella pneumoniae* secondary to untreated dental abscess should be considered as a potential cause of the same.

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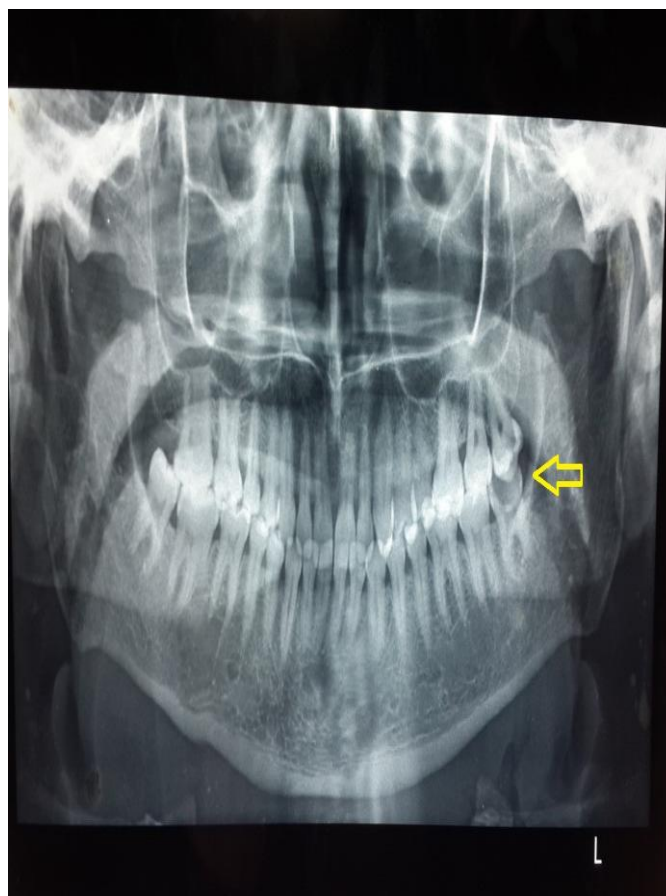
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On admission presentation of the patient, visible sinus in the neck with anterior chest wall swelling (abscess).



Chest Xray PA view of the Patient (on admission).



Ortho-Pantomo-Graph showing deep carious lesion of lower left third molar tooth.

After 8. Follow-up after 6 months.



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