

UNCOMMON PRESENTATIONS OF COMMON DISEASE- TUBERCULOSIS: SERIES OF 5 CASES

Surgery

Dr. Abhijit Budhkar

Assistant professor, General Surgery, Dr D Y Patil Hospital Navi Mumbai.

Dr. Sheikh M. Shadab

Surgery Resident, Dr D Y Patil Hospital Navi Mumbai.

Dr. Romil Kamdar

Surgery Resident, Dr D Y Patil Hospital Navi Mumbai.

Dr. Jayant Pednekar

Professor General Surgery, Dr D Y Patil Hospital Navi Mumbai.

Dr. Aditya Oak

Assistant Professor, General Surgery, Dr D Y Patil Hospital Navi Mumbai.

Dr. Khushboo Jha

Surgery Resident, Dr D Y Patil Hospital Navi Mumbai.

Dr. Nigar Khan

Surgery Resident, Dr D Y Patil Hospital Navi Mumbai.

ABSTRACT

Background: Tuberculosis (TB) is contagious disease primarily affecting lungs but capable of affecting other organs), caused by mycobacterium tuberculosis characterized by slow growth & resistance to many antibiotics due to its waxy cell wall. TB spreads through airborne droplet particles from infected individual. Hereby we present 5 rare presentations of Extra pulmonary Tuberculosis with global incidence rate of Parotid gland abscess being <1% of all TB cases, Gastric outlet obstruction 2% of all GI TB cases, Post auricular lymphadenopathy 3-5% of all TB cases, salivary gland abscess 1-4% of all TB cases and gluteal abscess <1% of all TB cases. **Aims And Objectives:** To enlist and discuss 5 rare presentation of a common disease Tuberculosis. **Summary:** Patients were admitted, a thorough history and examination was done followed by radiological and biochemical investigations.

1- Case of gastric outlet obstruction in a young male diagnosed on CECT and the pathology being diagnosed as tuberculosis based on Greater omentum node biopsy post exploratory laparotomy.

2- Case of Tubercular Gluteal abscess in a diabetic male with diagnosis being made bases on MGIT of the drained pus.

3- Case of submandibular salivary gland tubercular abscess in a middle aged female with diagnosis made based on Gene Xpert and MGIT of the drained pus.

4- Case of Parotid gland swelling diagnosed as an abscess with TB diagnosis based on MGIT and Gene Xpert of drained pus.

Case of Post auricular lymphadenopathy diagnosed as TB based on MGIT and Gene Xpert of fine needle aspirate.

KEYWORDS

Tuberculosis , Gluteal abscess , Gastric outlet obstruction , Intramuscular injection , Parotid Gland

INCIDENCE

Globally TB remains a significant global health issue, with millions of new cases diagnosed annually. According to World Health Organization (WHO), there were approximately 10.6 million new TB cases worldwide in 2021.

High-Burden Countries: are with high levels of poverty & HIV co-infection, including India, China, Indonesia, Philippines, and Nigeria(1)

Presentations: Table 1

Typical	Atypical	Uncommon Sites
Pulmonary	Asymptomatic	Pericardium
Extra Pulmonary, Lymphatic, Skeletal, Meningeal, Genito Urinary	Immunocompromised	Skin
	Atypical Pulmonary, Chronic Pneumonia, Synpneumonic Effusion	Salivary Glands

Atypical Tuberculosis

Atypical TB is a diagnostic challenge. Manifestations such as salivary gland abscess, gastric outlet obstruction, postauricular lymphadenopathy, & gluteal abscess are rare. Internationally, Parotid Gland Abscess reported <1% of all TB cases (World Health Organization, 2020) Salivary Gland Abscess: 1-4% (Indian journal of Tuberculosis, 2019) (2) Gastric Outlet Obstruction: 2% of all Gastro intestinal TB cases (National Institute of Tuberculosis & Respiratory Diseases, 2020)(3), Postauricular Lymphadenopathy: 3-5% of all TB cases (World Health Organization, 2020), Gluteal Abscess: <1% of all TB cases (Centers for Disease Control & Prevention, 2020).

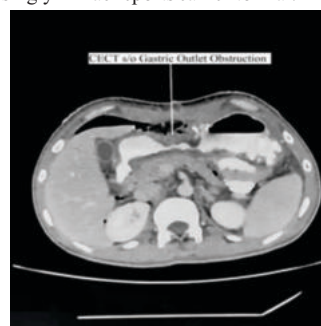
The percentage of patients with EPTB was more in tertiary care centers

of India, ranging from 30% to 53%(4) Exact data of different presentation is not available. Here we present 5 rare cases of mycobacterium tuberculosis masquerading as some other diseases presenting in multispecialty hospital in past 1 year.

Case-1 Gastric Outlet Obstruction

26 yr gentleman from west coast of India presented with post prandial vomiting - non bilious, non-projectile, non foul smelling, approx. 300 cc watery content since 2 weeks, weight loss 6 kgs in 1-month, with malaise. h/o Similar infrequent episodes for 1 year given but no fever /loss of appetite / significant Kochs exposure.

Vitality HR 100/min, Bp 110/70 mmHg, sunken eyes, s/o dehydration. No pallor, icterus, cyanosis, clubbing, lymphadenopathy, or oedema feet. On abdomen Examination there was epigastric fullness & tenderness, dull note on percussion in epigastric & left hypochondrium region, paralytic Ileus. He was admitted & given IV fluids, antibiotics (CEFTRIAXONE, METRONIDAZOLE). Nasogastric tube was inserted. surprisingly All lab reports came Normal.



(Image-1)



(Image-2)

Overdistended stomach, retained food, fluid & oral contrast within & narrowing in Duodenum 2nd part with circumferential wall thickening noted in 1st & 2nd part of duodenum suggesting gastric outlet obstruction.

Upper GI Scopy: Scope could not be negotiated beyond stricture however biopsy was taken at stricture site.

Based on evaluation he underwent Laparoscopy assisted Gastrojejunostomy.

Peritoneal fluid cytology reported Predominantly lymphocytes with few mesothelial cells against proteinaceous background. (Fluid WBC count - 170 (Normal: 00-10/cumm) Lymphocytes- 95%) ADA : 4.8 (Normal : 0-30).

HPE: Greater omentum node biopsy taken Showed matting, reactive lymphoid follicles, Multiple epithelioid cell granulomas with large areas of central caseous necrosis, focal dystrophic calcification, cholesterol clefts & Few Langhans type giant cells. Favoring necrotizing granulomatous mycobacterial lymphadenitis.

Post Operatively Standard AKT regimen for extra pulmonary TB as per NTEP guidelines started, oral liquids on POD 3 gradually escalated on soft diet by post of day 7, NG tube removed on POD:4. All drains removed on POD:6, he was mobilized fully POD:1 & was discharged in stable condition on POD:10, wound check dressing showed suture line healthy.

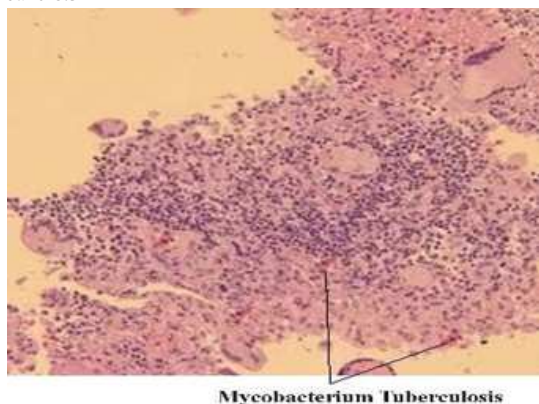
On OPD follow Up, All sutures removed, tolerating ATT & asymptomatic.

Case-2 Non Healing Wound Of Drained GLUTEALABCESS

66year Uncontrolled Diabetic gentleman from North India came with pain & swelling in right buttock since 6 weeks, with h/o IM injection received at nearby Hospital for fever. On presentation vitals stable. Firm, Tense, tender localized Swelling of 20x18 x10 cm in upper outer quadrant of right gluteal region seen along with raised Local temperature. His Hb- 10.6gm/dl; Wbc-7320/mm³, renal function & electrolytes normal.

*Rbs-328

*Hba1c-8.3



(Image-3)



(Image-4)

USG: Revealed right gluteal region upper outer quadrant intramuscular 384cc ill-defined hypoechoic collection with dense internal moving echoes within, Approx. 500 cc pus from Right gluteal abscess drained on same day.

Initial Culture isolated pseudomonas aeruginosa so started on antibiotic according to sensitivity. Wound did not heal despite regular dressing for 3 weeks raised the suspicion. Meanwhile MGIT & line probe assay detected MTB confirming diagnosis.

He was thus started on antitubercular therapy as per NTEP

Case-3 SALIVARY GLANDABCESS

37 yr. old female came with left jaw, neck & face swelling for 3 months, gradually increasing with restricted neck movement & trismus. Swelling didn't respond to previous antibiotics course& no constitutional symptoms of tuberculosis or any exposure to Kochs.

On Local Examination 6x5x6 cm Firm, lobulated, fixed, swelling in left submandibular region, with sub centimetric firm mobile non tender cervical lymph node palpable at level IIa, no local rise of temperature, no skin changes, no active discharge noticed.

Lab investigations on admission: WNL

Local swelling sonogram revealed 5.5 × 4.3 x 6.3 cm well-defined, multi lobulated, heterogeneously hypoechoic lesion, with multiple hyperechoic areas& septae. Moderate vascularity within in subcutaneous plane at site of swelling in left submandibular region, lesion shows deeper extension in intra-muscular plane closely abutting left parotid gland not seen separately from left submandibular gland with mild peripheral vascularity, no calcification within , most likely suggestive of Infective etiology Multiple sub centimeter to centimeter sized non necrotic to partially-necrotic lymph nodes, few conglomerated noted adjacent to above lesion, largest conglomerated lymph node measuring 2.2 x 1.5 cm in cervical level IIa inferior to lesion. FNAC smears studied from Left submandibular swelling reveal only hemorrhage. Under ultrasound guidance 20-30cc pus aspirated & sent for MGIT, Gene Xpert, Culture & Sensitivity



(Image-5)

Culture & Sensitivity was suggestive of No Organism grown Gen xpert & TB MGIT: MTB detected. Hence, he was started on AKT, tolerating ATT & asymptomatic.



(Image-6)

Case-4 PAROTID GLAND ABSCESS

A 56-year-old gentleman from west coast of India presented with complains of swelling over right cheek for 2 months, insidious in onset, gradually progressive in nature associated with trismus & pain while chewing food. No history of fever, night sweats, weight loss or significant Kochs contact. He took over counter medications for same but had no relief.

Local Examination: a 5x4 cm swelling in right parotid region which was firm, fixed, no local rise of temperature, redness of skin over swelling, no active discharge.

Lab Investigations on Admission: normal.

USG Local Swelling: 5 x 4 cm sized well defined, heterogeneously hypoechoic lesion with septae, moderate vascularity within in subcutaneous plane at site of swelling in right parotid region, deeper extension in intra muscular plane abutting right parotid gland, mild peripheral vascularity & no calcification within suggestive of infective aetiology.

USG GUIDED BIOPSY done: 10 cc pus aspirated from right parotid gland region C/S Report no organism seen.

GENE Xpert & TBMGIT – MTB detected.

He was started on AKT, tolerating AKT & asymptomatic.



(Image-7)

Case-5 POSTAURICULAR LYMPHADENOPATHY

A 27-year-old lady came with swelling over left postauricular region for 2 years, insidious onset, gradually progressive & now with dull localized pain. No history of fever, weight loss, loss of appetite, night sweats or significant Kochs contact.

Local Examination: A 2x2 cm well-defined, firm fixed tender swelling present in left postauricular mastoid region. No dandruff or lice in scalp. No local rise of temperature, no active discharge from ear, redness of skin over swelling noted.

ON ADMISSION: All lab parameters unremarkable.

USG revealed – A 3x3 cm sized well defined, multilobulated, solid, hyperechoic lesion with no vascularity or underlying bone erosion suggestive of a benign/infective etiology. Few lymph nodes at left occipital region largest measuring 1.58x0.46 cm & left lateral occipital region in subcutaneous plane with fatty hilum within of noninfective etiology noted.

FNAC inconclusive. Swelling excised & HPE reported “REACTIVE LYMPHADENITIS”. However GENEXPERT & TBMGIT – Suggestive of MTB & HRZE started.

DISCUSSION:

Atypical TB manifestations require a high index of suspicion. Diagnostic approaches include imaging studies, FNAC, & molecular tests (GeneXpert & MGIT). Prompt recognition & treatment are crucial to improve outcomes & limit comorbidity. **Afb smear** is rapid, easily performed, cheaper however less sensitive than culture, cannot determine bacilli viability, provides only presumptive diagnosis. Sensitivity 67.5%. Specificity 96.7%. (5)

Afb culture: Gold standard, has long wait (up to 8 weeks). Detect upto 10 viable bacilli/mm. Distinguishes individual members of MTBC by biochemical & phenotypic testing. Permits drug sensitivity test. Sensitivity 53%, Specificity 100%. (6)

Line probe assay (lpa) is probe based detection of amplified DNA in specimen. In recent times this test has been used increasingly & given good results in smear & culture negative samples. Aids Detection of resistance of anti-tubercular drugs-1st & 2nd line, Speciation of Mtb complex & NTM (nontuberculous mycobacteria) but can be performed only on positive cultures or smear positive clinical specimens theoretically.

Sensitivity 81.5%. specificity 87.5%.

Time required 24-48 hours. (7)

In above case series, Case 1 Gastric outlet obstruction tuberculosis was detected. Even though such discrete rare instances have been frequently reported since past few years but indicate increasing number of gastro duodenal tuberculosis. Primary spread usually is hematogenous, lymphatic specially from surrounding nodes or by direct seeding through adjacent serosa or duodenal fistulous communication as a result of duodenal TB have also been reported. Endoscopic biopsy is reported positive in only 1/3rd cases due to limitation of depth of biopsy. Some papers have mentioned about management of duodenal TB as surgical bypass to relieve the obstruction along with primary medical anti tuberculosis regimen as in the case mentioned above. (8)

Case 2 non-healing tubercular wound of gluteal abscess: The hallmark is granuloma formed by cutaneous immunogenic cascade within cell lining giving rise to tuberculous chancre, tuberculous verruca cutis, scrofulo derma, tuberculous gumma, miliary tuberculosis, & tuberculids (papillo necrotic). Endogenous Cutaneous TB spreads through hematogenous or via lymphatic dissemination & exogenously via direct bacterial inoculation as in our case. Tubercular dermatological presentations encountered in 1-2% of extrapulmonary manifestations more prevalent immunocompromised patients either due to HIV or uncontrolled diabetes (as seen in our case). Occult cases of tubercular abscess secondary to intra muscular injections leading to non-healing wound are mentioned in literature but any such similar case report is yet to come across.

Case 3 & 4 salivary glands (parotid & submandibular) TB: only 16 cases reports available. 1st reported in 1990, Youngest at 15 yr & oldest 45 yr. Salivary glands are relatively resistant due to

1- continuous salivary flow preventing lodgment of bacteria in salivary apparatus

2- salivary enzymes along with thiocyanate ions have large antibacterial property known to combat tubercular bacilli resulting in complete lysis acting as a filter for clearance from the duct. Fat content in high percentage in the tubercle bacilli locally also is lysed by salivary enzyme making it vulnerable for lysis. As mentioned earlier immunocompromised status majorly predisposes to abscess formation. Also salivary duct obstruction, poor oral hygiene, dental infection, gland trauma & nutritional deficiencies predispose to infection. Clinically salivary gland involvement can present as acute suppurative lesion as in our case/subacute/ chronic asymptomatic commonly confused with neoplasms.

Parotid gland more commonly involved than submandibular gland. Submandibular gland involvement is associated with systemic disease especially in Asian countries and males presenting with a painless/painful gradually growing mass.

Acute presentations specially involving angle of mandible or dental infections have Severe pain. Triad of TB viz evening rise of temp, wt. loss, anorexia rarely encountered in these atypical cases. (9)

Grossly submandibular & parotid tuberculosis can be nodular, commonly, or less commonly diffused. In nodular form intra glandular or peri glandular lymph nodes involved, in diffuse form there is area of caseation or abscess involving entire gland parenchyma.

Isolated submandibular gland or parotid gland tuberculosis is extremely rare & diagnosis is challenging. Sonography & CT scans aid in visualizing size, localization & assessing contents also assess feasibility of obtaining the tissue sample in a minimal invasive manner rather than gland resection thereby limiting morbidity. Literature mentions lab test abnormalities such as anemia, leukocytosis, raised ESR or a positive Mantoux test however, these tests are not full proof & not confirmatory to diagnose this pathology specifically. Role of MRI is limited only for assessment of Ductal system & costly. Sensitivity of FNAC is 72.17% only as per Virmani et al (10) the Yield increased by sonography so also combination with PCR assay however PCR assay has a high-cost low availability & gives false positive results irrespective of organism viability. Excisional biopsy recommended when noninvasive modalities fail.

Nondependent drainage of Tuberculous abscess is reserved only for non-responders/those causing complications. **Case 5 post auricular tubercular lymphadenitis:** female preponderance doubly common than males. Tubercular otitis media & laryngeal tb encountered by Kishore C prasad et al in retrospective study of 165 cases of cervical Tb however level 2 nodes are known to be most affected whereas level 3 4 & 5 are involved in a decreasing order, level 6 & 7 involvement is yet to be reported.

In such patients Constitutional symptoms & sputum positivity are absent, one should be aware to rule out scalp & middle ear pathologies before empirically treating or labelling an individual as Koch's positive. Since tb of head & neck present in a varied manner masquerade as a lymphoma the diagnosis should be prompt & doubly confirmed before starting ATT, patient should be followed up closely at frequent intervals to assess response to treatment by resolution of swelling size /liquefaction of abscess thereby needing nondependent aspiration/drainage. (11)

CONCLUSION:

Atypical tuberculosis (TB) manifestations, including gluteal abscess, parotid gland abscess, salivary gland abscess, & postauricular lymphadenopathy etc. are rare & challenging to diagnose. se presentations highlight importance of considering TB in differential diagnosis of unusual abscesses & lymphadenopathy, especially in regions with high TB prevalence. Prompt recognition & treatment of these atypical TB manifestations are crucial to prevent complications & improve the outcomes. Increased awareness & vigilance among healthcare providers are necessary to diagnose & manage these unusual presentations of TB effectively.

REFERENCES

- Monedero-Recuero I, Gegia M, Wares DF, Chadha SS, Mirzayev F. Situational analysis of 10 countries with a high burden of drug-resistant tuberculosis 2 years post-UNHLM declaration: progress and setbacks in a changing landscape. *Int J Infect Dis*. 2021 Jul;108:557–67.
- Chaudhary P, Gupta AK, Padala SB, Nagpal A, Lal R. A Retrospective Cohort Study of Major Salivary Gland Tuberculosis: Our 13 Year Experience. *Indian J Otolaryngol Head Neck Surg*. 2022 Oct;74(S2):2319–23.
- Molla YD, Kassa SA, Tadesse AK. Rare case of duodenal tuberculosis causing gastric outlet obstruction, a case report. *Int J Surg Case Rep*. 2023 Apr;105:108080.
- Assistant Professor, Respiratory Medicine, LN Medical College, Bhopal, MP, India, Shrivastava DrAK, Brahmachari DrS, Associate Professor Department of General Surgery, LN Medical College, Bhopal, MP, India, Pathak DrP, Medical Officer- RNTCP, Department of Respiratory Medicine, LN Medical College, Bhopal, MP, India, et al. Clinico-Epidemiological Profile of Extra-pulmonary Tuberculosis in Central India. *Int J Med Res Rev*. 2015 Mar 31;3(2):223–30.
- Lucas VS, Lytra V, Hassan T, Tatham H, Wilson M, Roberts GJ. Comparison of Lysis Filtration and an Automated Blood Culture System (BACTEC) for Detection, Quantification, and Identification of Odontogenic Bacteremia in Children. *J Clin Microbiol*. 2002 Sep;40(9):3416–20.
- Kidder GW, Montgomery CW. Oxygenation of frog gastric mucosa in vitro. *Am J Physiol*. 1975 Dec;229(6):1510–3.
- Ninan MM, Gowri M, Christopher DJ, Rupali P, Michael JS. The diagnostic utility of line probe assays for multidrug-resistant tuberculosis. *Pathog Glob Health*. 2016 Jul 3;110(4–5):194–9.
- Kalpande S, Pandya JS, Tiwari A, Adhikari D. Gastric outlet obstruction: an unusual case of primary duodenal tuberculosis. *BMJ Case Rep*. 2017 Mar 24; bcr2016217966.
- Virmani N, Dabholkar J. Primary tubercular sialadenitis – A diagnostic dilemma. *Iran J Otorhinolaryngol* [Internet]. 2019 Jan [cited 2024 Sep 20];31(1). Available from: <https://doi.org/10.22038/ijorl.2018.32584.2073>

- Gouda K, Das U, Dhangadamajhi G. Utility of Fine Needle Aspiration Cytology (FNAC) in the diagnosis of tuberculous lymphadenitis compared to GeneXpert in a tertiary health care center in Northern Odisha, India. *Indian J Tuberc*. 2021 Oct;68(4):437–44.
- Das S. Head and Neck Tuberculosis: Scenario in a Tertiary Care Hospital of North Eastern India. *J Clin Diagn Res* [Internet]. 2016 [cited 2024 Sep 20]; Available from: http://www.jcdr.net/article_fulltext.asp?issn=0973-709x&year=2016&volume=10&issue=1&page=MC04&issn=0973-709x&id=7076