Student's Journal of Health Research Africa
Vol. 4 No. 12 (2023): December 2023 Issue
https://doi.org/10.51168/sjhrafrica.v4i12.878
Case Study

A CASE REPORT ON ZYGOMATIC ABSCESS: OUR EXPERIENCE.

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Abstract

Aim

To study the various etiologies of zygomatic abscess, its clinical presentations and management in different situations.
Zygomatic abscess commonly occurs as a complication of chronic suppurative otitis media, but it may even present as primary infection of zygomatic bone. We have studied six cases of zygomatic abscess, who presented with varied presentation to our OPD in the last 18 months. Two patients presented with primary tuberculosis of zygomatic bone with normal aerated mastoid. Two presented with zygomatic abscess secondary to TB mastoiditis. Rest 33% had zygomatic abscess secondary to chronic suppurative otitis media with active squamosal disease. Appropriate investigations for diagnosing the primary cause of zygomatic abscess is essential for complete cure of the condition. In developing countries, where most of the population belonging to middle and low socioeconomic status, tuberculosis must be kept in mind as a DD.

Keywords: Zygomatic, Abscess
Submitted: 2023-12-01 *Accepted: 2023-12-02*

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Materials and Method

6 patients who presented with a preauricular/ zygomatic swelling in our OPD are taken as study subjects. Detailed history with a thorough clinical examination and complete blood count are done in all patients. In suspected tuberculosis ESR and chest x-ray are done. Those who presented with associated ear complaints are subjected to ear microscopy and otoendoscopy. HRCT temporal bone is done in patients with suspected squamosal chronic otitis media. In case of intracranial complications MRI is suggested. In all cases pus from zygomatic abscess is aspirated and sent for swab culture, antibiotic sensitivity and AFB culture. Treatment decided according to the provisional diagnosis. Results and treatment methods are then evaluated. The ethical aspects of the study were carefully thought out to preserve the patients' privacy and confidentiality.

Case report

Our study group consists of subjects from 6-70 years of age with male to female ratio of 2:4. All patients presented with a swelling in the preauricular/ zygomatic region. None of the subjects had history of trauma.
Two of the patients had a tender swelling in the zygomatic region with febrile episodes and associated ear symptoms suggestive of a complication due to an unsafe ear. Out of these two, one of them presented with left grade IV LMN facial palsy along with zygomatic abscess. Imaging was done in both these patients which showed extensive disease involving the mastoid and middle ear with erosion of root of zygoma. They underwent incision and drainage abscess followed by definitive management of canal wall down mastoidectomy with antibiotic cover. Thus, concluding those cases as zygomatic abscess secondary to unsafe chronic otitis media.

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Fig 1: Right zygomatic abscess

Fig 2: Left zygomatic abscess with LMN facial palsy

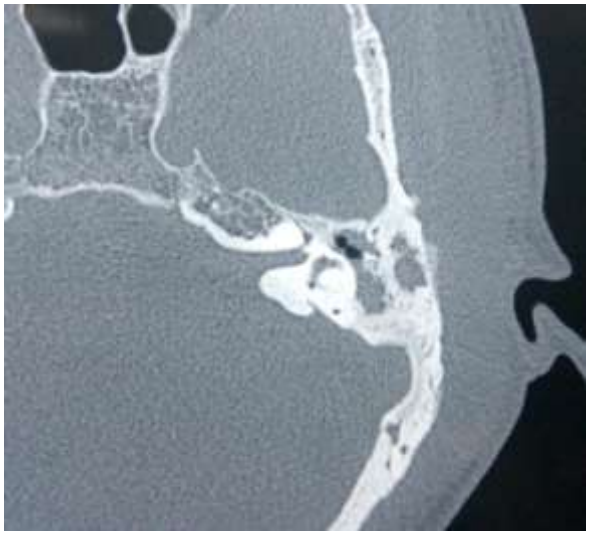

Fig 3: HRCT temporal bone showing soft tissue density in left mastoid and middle ear with left zygomatic collection

Rest 4 patients had an isolated non-tender, fluctuant swelling with no history of fever, trauma or ear complaints. Chest x-ray was found to be normal with raised ESR level in all these subjects. Non-dependent aspiration of pus was done. Out of them three of the samples were positive for acid fast bacilli and category I AKT was given. But one of the patients worsened even after AKT and presented with convulsion and undergone MRI, which showed erosion of mastoid air cells, zygomatic air cells with tegmen plate was seen along with temporal lobe abscess. Patient undergone cortical mastoidectomy, where zygomatic fistula was identified, and pus was drained with continuation of AKT. Granulation tissue intraoperatively was sent for histopathological examination which revealed tubercular etiology. Thus, two of them had primary tuberculosis of zygoma with last patient with tubercular mastoiditis.

Fig 4: Right zygomatic abscess with outward displacement of pinna;
Fig 5: left preauricular swelling with malformed pinna

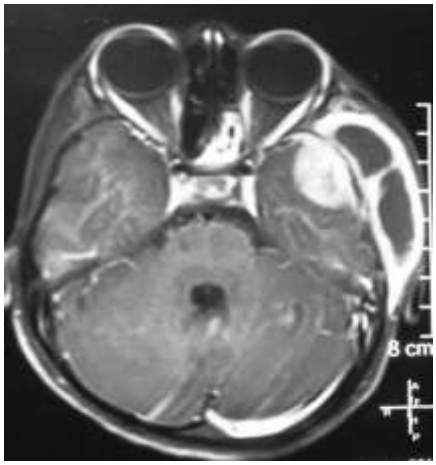

Fig 6: MRI showing left temporal lobe abscess withzygomatic abscess.

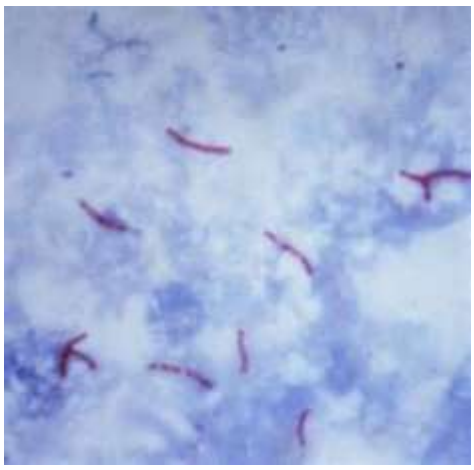

Fig 7: Positive acid fast bacilli

Fig 8: intraoperative cortical mastoidectomy with zygomatic fistula seen

Finally in one subject all the test and clinical examination were inconclusive other than raised ESR level. But HRCT temporal bone revealed cortical as well as tegmen erosion. Simple mastoidectomy was performed which showed pale granulations. Granulation tissue and bone chips are taken and sent for tissue diagnosis. Histopathological

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examination revealed abundant lymphocytes, plasma cells, epitheloid cells with langerhan's giant cells and characteristic caseous necrosis suggestive of tuberculosis and patients was started on AKT. Patient showed improvement of zygomatic abscess in three months.

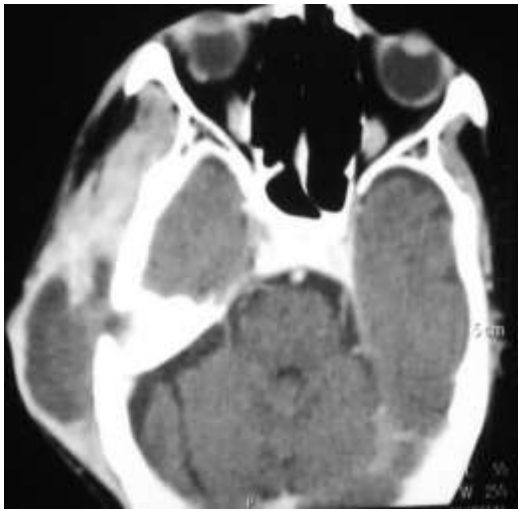

Fig 9& 10: Right zygomatic abscess with CT brain showing zygomatigic hyperdense collection

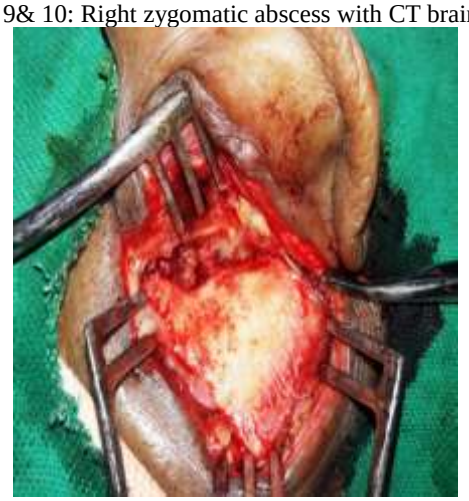

Fig 11 &12: intraoperative finding of cartical granulations and granulation tissue taken out

All these patients are the followed over a period of one year. The one with facial palsy was only partially recovered, but all other patients showed complete cure.

Discussion

Zygomatic abscess is the infection of zygomatic air cells. Patient presents with swelling in front pf pinna. Pus can collect superficial or deep to temporalis muscle. The main causes of zygomatic abscess are primary tuberculosis of zygoma, secondary to squamosal chronic otitis media or trauma.

Primary tuberculosis of zygoma [3]

Tuberculosis association with immunodeficiency states and the emergence of multi-drug resistant strains made TB prevalent in developing countries. Tuberculosis of malar and zygomatic bone are one of the rarest sites of head and neck TB. In head and neck region atypical Mycobacterium are more common. [4]

Treatment of the zygomatic root abscess associated with otitis media includes modified radical mastoidectomy with drainage of zygomatic abscess. Sometimes, patients may respond to conservative therapy alone. [1,2]

Conclusion

Zygomatic abscess is a known complication of chronic suppurative otitis media but is rare. But inin developing countries where tuberculosis is very rampant, tuberculosis as an etiology of zygomatic abscess must be ruled out before any other definitive diagnosis. When suspected pus must be sent for AFB smear & culture. Intraoperatively granulations & bone chip must be sent for histopathology to look for TB osteitis.

Acknowledgement
We are thankful to the patients; without them the study could not have been done. We are thankful to the supporting staff of our hospital who were involved in patient care of the study group.

List of Abbreviations
OPD- Outpatient Department
TB- Tuberculosis
MRI- Magnetic Resonance Imaging
HRCT- High-resolution computed tomography
AFB- Acid- Fast Bacilli
LMN- Lower motor neuronal
CT- Computed Tomography

Source of Funding
No source of funding

Conflict of interest
The authors report no conflicts of interest in this work.

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Publisher details:

Publishing Journal: Student's Journal of Health Research Africa.
Email: studentsjournal2020@gmail.com or admin@sjhresearchafrica.org

(ISSN: 2709-9997)

Publisher: SJC Publishers Company Limited
Category: Non-Government & Non-profit Organisation
Contact: +256775434261(WhatsApp)
Email: admin@sjpublisher.org
Website: https://sjpublisher.org
Location: Wisdom Centre Annex, P.O. BOX. 701432 Entebbe, Uganda, East Africa.