



---

## **NAVIGATING THE CHALLENGES OF CONGENITAL ANOMALIES OF RECURRENT PREAURICULAR ABSCESSSES IN PEDIATRICS: CASE REPORT**

**Sitanni O. Pasaribu<sup>1</sup>, Tenty<sup>2</sup>✉**

<sup>1</sup>Faculty of Medicine, Tarumanagara University, Jakarta

<sup>2</sup>Otorhinolaryngologists, Ciawi Regional Hospital, West Java

sitannipasaribu1@gmail.com, ent.tenty@gmail.com

---

### **Abstract**

*Preauricular abscesses, particularly in pediatric patients, are a clinical challenge often associated with congenital anomalies like preauricular pits. These conditions necessitate a comprehensive approach to diagnosis and management, emphasizing the importance of understanding their etiology, clinical presentation, and treatment strategies. A 15-month-old male presented with recurrent preauricular abscesses. Notably, he had congenital preauricular pits present since birth. The clinical presentation included localized swelling, erythema, and tenderness in the preauricular area. The history of recurrent infections and physical examination findings led to the diagnosis of preauricular abscess secondary to infected preauricular pits. The management of preauricular abscesses in pediatric patients involves a dual approach. Initially, appropriate antibiotic therapy is administered to address the acute infection. In cases of recurrence, as in our patient, surgical intervention for the removal of the pit or fistula is considered to prevent future infections. This case highlights the importance of recognizing congenital anomalies and tailoring treatment plans to address both immediate and long-term concerns. This case underscores the need for meticulous clinical assessment and a comprehensive treatment plan in managing pediatric preauricular abscesses. Recognizing the role of congenital preauricular pits in recurrent infections is crucial for effective management. The dual approach of medical and surgical intervention can significantly improve outcomes in pediatric patients with this condition.*

**Keywords:** *Preauricular Abscess, Pediatric, Congenital Preauricular Pits, Antibiotic Therapy, Surgical Intervention.*

---

@Jurnal Ners Prodi Sarjana Keperawatan & Profesi Ners FIK UP 2024

---

✉ Corresponding author :

Email : ent.tenty@gmail.com

## INTRODUCTION

Preauricular abscesses, though relatively uncommon in the pediatric population, present a unique clinical challenge due to their potential association with underlying congenital anomalies and recurrent infections. This case report delineates the presentation, diagnosis, and management of a preauricular abscess in a 15-month-old male patient, highlighting the importance of considering congenital predispositions in recurrent preauricular swellings. (Isaacson, 2019)

The preauricular region, anterior to the external ear, is a relatively rare site for abscess formation in infants and young children. The etiology of preauricular abscesses often involves infected preauricular pits or fistulas, congenital anomalies present from birth. These pits are benign, asymptomatic, and typically located at the junction of the helix and the face. However, they can occasionally become infected, leading to abscess formation. The clinical significance of preauricular abscesses lies in their propensity to recur, primarily if the underlying congenital pit or fistula is not addressed. (Das & Khaowas, 2019)

In pediatric patients, the differential diagnosis for preauricular swellings is broad and includes infectious and non-infectious causes. This makes a thorough clinical evaluation imperative for accurate diagnosis and appropriate management. The complexity of these cases is further accentuated in pediatric patients due to the variability in clinical presentations and the challenges associated with pediatric patient management. (Gandhi et al., 2022; Tian & Zhang, 2018)

The following case report aims to contribute to the literature on preauricular abscesses in pediatric patients. It underscores the significance of a meticulous clinical approach and the necessity of considering a congenital basis in recurrent preauricular swellings. Through this report, we aim to enhance the understanding of preauricular abscesses and provide insights into their effective management, thereby aiding clinicians in optimizing patient outcomes in similar clinical scenarios. (Adegbiji et al., 2013)

## CASE REPORT

Fifteen-month-old male neonate presented to the otolaryngology department of a tertiary care facility with persistent preauricular swelling on the right side, lasting over one week. This patient, the

progeny of a primigravida, was delivered via spontaneous vaginal delivery at a gestational age of thirty-eight weeks. The neonate's anthropometric measurements at birth were a weight of 3.5 kilograms and a length of 50 centimeters. His immunization status was congruent with the recommended pediatric schedule, ensuring comprehensive immunoprophylaxis.

Clinically, the initial manifestation of the swelling was akin to an ecchymosis, exhibiting a cyanotic hue, which subsequently transitioned to an erythematous and edematous state. Systemic manifestations included episodic pyrexia and recurrent episodes of rhinitis, indicative of an underlying inflammatory etiology. The patient's medical history was significant for recurrent, self-resolving episodes of similar swelling at four, twelve, and fifteen months of age. A notable congenital feature was the bilateral presence of small, oval preauricular pits from birth. The family history was non-contributory, with no noted hypersensitivity or previous medical interventions for the current condition. The maternal history delineated an uneventful perinatal period and a nutritional regimen commencing with exclusive breastfeeding, followed by the gradual introduction of solid foods in the past six months. Physical examination at presentation revealed a pediatric patient in moderate distress, with vital parameters within normative ranges for his age group. Comprehensive systemic examination, including detailed craniofacial and ophthalmic assessments, revealed no aberrations except in the preauricular region. A significant finding on locoregional examination was the presence of bilateral preauricular fistulas, with a pronounced abscess on the right preauricular area.

The provisional diagnosis was a right preauricular abscess, with a differential furuncle diagnosis based on the swelling's anatomical localization and morphological presentation. The management strategy encompassed both pharmacological and educational components. Pharmacotherapy involves the administration of Metronidazole syrup, Ibuprofen syrup, Clonidine syrup, and Methylprednisolone tablets, each prescribed in dosages appropriate for the patient's age and weight. The educational component involved detailed discussions with the caregivers regarding the pathogenesis and management of preauricular abscesses, including meticulous instructions on the proper administration of

medications and emphasis on maintaining optimal hygiene in the affected area, particularly avoiding moisture accumulation.

## DISCUSSION

The presented case of a 15-month-old male with a recurrent preauricular abscess, we are provided an opportunity to delve into the intricacies of this relatively rare condition in pediatric practice. The case underscores the importance of understanding the etiology, clinical presentation, differential diagnosis, and management strategies in such scenarios, particularly considering the implications of congenital anomalies. The etiology of preauricular abscesses typically involves infected preauricular pits or fistulas, congenital malformations that may become symptomatic when infected. This case is characterized by recurrent abscesses and congenital preauricular pits from birth, drawing attention to the chronic potential of these infections if not appropriately addressed. Clinically, these abscesses manifest as localized swelling, erythema, and tenderness, as observed in our patient. The recurrent episodes of infection observed in this case indicate a potential chronic course in the absence of definitive treatment. (Li et al., 2023; Matev et al., 2020)

The epidemiological understanding of preauricular abscesses, particularly when associated with preauricular pits or fistulas, requires an in-depth analysis of available data from various global regions. Globally, the prevalence of preauricular pits, which are relatively common congenital malformations, is estimated to range between 0.1% and 0.9%. This broad range reflects the variability in reporting and diagnostic criteria across different countries and ethnic groups. Although preauricular pits are pretty standard, the incidence of abscess formation, which occurs when these pits become infected, is significantly lower. In the Americas, specifically in the United States, the prevalence of preauricular pits hovers around 0.9%, aligning with the higher end of the global average. However, specific data on the prevalence of preauricular abscesses in this region are less frequently documented, indicating a potential gap in epidemiological understanding. In Europe, the prevalence of preauricular pits is slightly lower, ranging from 0.1% to 0.5%. This variation might be influenced by genetic factors and differences in healthcare systems and practices for recording congenital anomalies. Like in the

Americas, the incidence of preauricular abscesses in Europe is not extensively documented, suggesting a need for more focused research. (Li et al., 2023; Xu et al., 2020)

The Asian context shows a higher incidence of preauricular pits in specific populations, especially in East Asia, likely due to genetic predispositions. However, the specific data on preauricular abscesses remains unclear, possibly due to underreporting or varying healthcare practices across Asian countries. Focusing on Southeast Asia, and particularly on Indonesia, the prevalence of preauricular pits is consistent with the global average, although comprehensive national data is limited. The diverse ethnic composition of the Indonesian archipelago may contribute to regional variations in these prevalence rates. However, the incidence of abscess formation from these pits in Indonesia, as in other regions, still needs to be more qualified in the available literature. This highlights an area for future epidemiological research. (Jiang et al., 2021; Zhao et al., 2020)

The prevalence of preauricular pits is relatively well-documented globally, but there is a notable gap in data concerning the progression from these congenital pits to abscess formation. This lack of specific data underscores the need for more comprehensive, region-specific epidemiological studies. Such research is crucial in understanding the clinical progression of this condition. It would be invaluable in guiding clinical practices, providing anticipatory guidance, and allocating resources in pediatric otolaryngology, especially in regions where the data is currently sparse. (Cho et al., 2022; Vita, 2021)

Considering the differential diagnosis for preauricular swellings in children, the spectrum ranges from infectious etiologies like furuncles to non-infectious causes such as cysts or benign tumors. In this instance, the recurrent swelling coupled with congenital pits was instrumental in diagnosing the preauricular abscess, secondary to an infected preauricular pit or fistula. Managing preauricular abscesses typically encompasses antibiotic therapy and, in recurrent cases, surgical intervention—the antibiotics selected for our patient aimed to address the acute infection and mitigate inflammation. However, in recurrent abscesses, as noted in this case, surgical excision of the fistula or pit may be warranted to prevent recurrence. (Huang et al., 2023; Liu & Niu, 2022)

This case emphasizes the necessity for astute decision-making in treating pediatric patients, particularly when addressing conditions associated with congenital anomalies like preauricular pits. These pits can act as focal points for ongoing infections, resulting in the recurrent development of periauricular abscesses. Such instances necessitate an exhaustive clinical evaluation and detailed historical analysis to identify these congenital features, significantly affecting the management approach and the prognosis. When considering the etiology, periauricular abscesses in pediatric patients typically result from infections in congenital preauricular pits. These embryological remnants can harbor pathogenic bacteria, leading to repeated infection and subsequent abscess formation. Understanding this cause is crucial for devising an effective treatment plan. (Fernandez et al., 2020; Kumar et al., 2006)

Managing periauricular abscesses in pediatric patients, the treatment plan must be twofold: First, it involves the administration of suitable antibiotics to tackle the acute infection. The choice of antibiotics should be guided by the most likely pathogens and the patient's age and weight. Secondly, given the recurrent nature of these abscesses due to the underlying congenital pits, surgical intervention may be considered for definitive management. This could involve the excision of the preauricular pit or fistula to prevent future infections. The management strategy should also encompass pain management, typically with appropriate analgesics, and regular follow-up to monitor the resolution of the infection and to check for any signs of recurrence. Patient and family education about the condition, the importance of adherence to the treatment regimen, and signs to watch for indicating recurrence or complications are essential components of comprehensive care. (Gu et al., 2021; Nguyen et al., 2023)

This comprehensive approach, integrating both immediate medical management and consideration for surgical intervention, is imperative to address the current infection and mitigate the risk of future episodes, thereby improving long-term outcomes for pediatric patients with periauricular abscesses. This case report offers critical clinical implications and suggests directions for future research. It highlights the necessity for clinicians to be cognizant of the potential for recurrent infections

in patients with congenital preauricular pits or fistulas and underscores the importance of considering surgical intervention in recurrent cases to avert further episodes. The case also advocates for ongoing investigations into optimal management strategies for preauricular abscesses in the pediatric demographic, where conservative management is often preferred due to surgical risks in young children. (Hwan et al., 2018; Zhang et al., 2023)

## CONCLUSION

This case report of a 15-month-old male with recurrent preauricular abscesses offers a critical insight into the challenges and intricacies of managing pediatric patients with congenital preauricular pits. The recurrent nature of the abscesses in this patient underscores the importance of a thorough evaluation and a high index of suspicion for congenital anomalies in similar cases. The clinical journey of this patient highlights the pivotal role of comprehensive history-taking and meticulous physical examination in pediatric cases. The presence of congenital preauricular pits played a significant role in the recurrent infections observed, emphasizing the necessity for clinicians to be vigilant about such congenital markers. This case also illustrates the importance of a balanced approach to management, involving both pharmacological therapy and consideration of surgical options, especially in cases of recurrent abscess formation. Furthermore, this report sheds light on the need for ongoing research into the management of preauricular abscesses in the context of congenital preauricular pits, particularly in pediatric patients.

The decision-making process in such cases is nuanced, requiring a careful consideration of the risks and benefits of surgical intervention versus conservative management. This case advocates for a personalized approach to treatment, taking into account the individual patient's clinical history and the potential for recurrent infections. This case report contributes to the knowledge on preauricular abscesses associated with congenital preauricular pits in pediatric patients. It serves as a reminder of the importance of considering congenital anomalies in the differential diagnosis of recurrent infections in the preauricular area and underscores the need for a comprehensive, individualized approach to management. The lessons learned from this case can aid clinicians in

optimizing care for similar pediatric patients, ensuring a balance between effective treatment and the minimization of invasive procedures.

## REFERENCE

- Adegbiji, W. A., Alabi, B. S., Olajuyin, O. A., & Nwawolo, C. C. (2013). Presentation of preauricular sinus and preauricular sinus abscess in Southwest Nigeria. *International Journal of Biomedical Science*, 9(4), 260–263. <https://doi.org/10.59566/ijbs.2013.9260>
- Cho, Y. J., Min, H. J., & Kim, K. S. (2022). The Differences Between 2 Cases of Preauricular Fistula. *Ear, Nose and Throat Journal*, 101(7), NP276–NP278. <https://doi.org/10.1177/0145561320966071>
- Das, C., & Khaowas, A. (2019). Pre-auricular Sinus with Post-auricular Extension: An Uncommon Variant. *Indian Journal of Otolaryngology and Head and Neck Surgery*, 71, 1511–1514. <https://doi.org/10.1007/s12070-019-01605-1>
- Fernandez, I. J., Crocetta, F. M., Pelligra, I., Burgio, L., & Demattè, M. (2020). Clinical features and management of Luc's abscess: Case report and systematic review of the literature. *Auris Nasus Larynx*, 47(2), 173–180. <https://doi.org/10.1016/j.anl.2019.11.003>
- Gandhi, K., van der Woerd, B. D., Graham, M. E., Barton, M., & Strychowsky, J. E. (2022). Cervicofacial Actinomycosis in the Pediatric Population: Presentation and Management. *Annals of Otolaryngology, Rhinology and Laryngology*, 131(3), 312–321. <https://doi.org/10.1177/00034894211021273>
- Gu, M.-Z., Xu, H. M., Chen, F., Xia, W. W., & Li, X. Y. (2021). *Pediatric temporal fistula: Report of three cases*. <https://doi.org/10.12998/wjcc.v9.i26.7811>
- Huang, L., Yang, X., Peng, S., & Li, R. (2023). Case report: Bilateral parotid abscess in a 54-day-old infant. *Frontiers in Pediatrics*, 11(June), 1–4. <https://doi.org/10.3389/fped.2023.1179560>
- Hwan, S., Kyo, S. I., & Ho, K. J. (2018). *Clinical Features of Preauricular Sinus and Recurrence Rate of Supra-auricular Approach*. [https://doi.org/10.4103/indianjotol.INDIANJ\\_OTOL\\_149\\_17](https://doi.org/10.4103/indianjotol.INDIANJ_OTOL_149_17)
- Isaacson, G. (2019). Comprehensive management of infected preauricular sinuses/cysts. *International Journal of Pediatric Otorhinolaryngology*, 127(August), 109682. <https://doi.org/10.1016/j.ijporl.2019.109682>
- Jiang, Y., He, T., & Liu, W. (2021). *Resecting the Lesion Combined with Local Flap Repairing for the Treatment of Infected Congenital Preauricular Fistula*. <https://doi.org/10.2147/IJGM.S331698>
- Kumar, K., Narayanamurthy, V., Sumathi, V., & Vijay, R. (2006). Preauricular sinus: Operating microscope improves outcome. *Indian Journal of Otolaryngology and Head and Neck Surgery*, 58(1), 6–8. <https://doi.org/10.1007/bf02907728>
- Li, E. W. Y., Sahab, S. H., Yahya, N., Abdullah, M. K., & Hashim, N. D. (2023). *Mycobacterial Preauricular Sinus Abscess: A Case Series*. <https://doi.org/10.7759/cureus.44287>
- Liu, C., & Niu, C. (2022). Concealed incision for resection of classical preauricular fistula. *Ear, Nose and Throat Journal*, 0(0), 1–5. <https://doi.org/10.1177/01455613221118891>
- Matev, B., Lyutfi, E., Stoyanov, G. S., & Sapundzhiev, N. R. (2020). *Preauricular Sinus: A Tale of Forgetful Rediscovery*. <https://doi.org/10.7759/cureus.8885>
- Nguyen, H. H., Martin, S., & Jabine, L. (2023). *Ectopic Unilateral Ear Pit an Otherwise Well-Appearing Child: A Case Report and Literature Review*. <https://doi.org/10.7759/cureus.39720>
- Tian, H., & Zhang, C. (2018). Postoperation of preauricular fistula cellulitis caused by methicillin-resistant staphylococcus aureus infection. *Journal of Otolaryngology*, 13(3), 111–113. <https://doi.org/10.1016/j.joto.2018.07.002>
- Vita, E. De. (2021). Clinical cases. *Psicoterapia e Scienze Umane*, 8960(3), 516–518. <https://doi.org/10.3280/PU2021-003009>
- Xu, Y., Seng, D., Jiang, L., Wang, S., Ni, X., Zhang, J., & Han, F. (2020). *Summary of the Experience in the Diagnosis and Treatment of Complex Preauricular Fistulas in 78 Children*. <https://doi.org/10.3389/fsurg.2020.609852>
- Zhang, M., Lin, J., Zhang, J., Han, Z., Liu, C., & Zou, Y. (2023). A clinical epidemiological study on congenital ear malformation (CEM). *Acta Oto-Laryngologica*, 0(0), 1–8. <https://doi.org/10.1080/00016489.2023.2276>

348

Zhao, Y., Fang, R. Y., Feng, G. D., Cui, T. T., &  
Gao, Z. Q. (2020). *Pyoderma gangrenosum  
confused with congenital preauricular fistula  
infection: A case report.*  
<https://doi.org/10.12998/wjcc.v8.i9.1679>