

CHRONIC AND COMPLICATED PEDICULOSIS CAPITIS : A RARE CASE OF PROLONGED INFESTATION WITH SECONDARY LESIONS IN AN ADOLESCENT FEMALE

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ABSTRAK

Pediculosis capitis merupakan infestasi parasit umum yang terutama menyerang anak-anak dan remaja. Meskipun biasanya dapat sembuh sendiri dan sembuh dengan pengobatan standar, kasus kronis dan rumit yang terkait dengan lesi sekunder dan dampak psikososial yang signifikan jarang terjadi. Kasus-kasus atipikal ini menimbulkan tantangan diagnostik dan terapi yang unik, yang memerlukan pendekatan yang komprehensif dan multidisiplin. Laporan ini menyajikan kasus seorang perempuan berusia 16 tahun dengan riwayat pruritus kulit kepala persisten selama dua tahun dan lesi sekunder yang disebabkan oleh pediculosis capitis yang tidak diobati. Pemeriksaan klinis menunjukkan papula eritematosa, ekskoriiasi, dan krusta berdarah, disertai kutu dan telur kutu yang hidup. Diagnosis banding, termasuk tinea capitis dan dermatitis seboroik, secara sistematis disingkirkan. Penatalaksanaan meliputi terapi topikal, edukasi kebersihan, dan dukungan psikososial. Pengobatan awal menghasilkan perbaikan parsial, dengan berkurangnya pruritus dan penyembuhan lesi. Namun, kepatuhan terhadap pembersihan telur kutu dan sanitasi lingkungan tetap menjadi tantangan, yang menyoroti hambatan untuk mencapai penyembuhan total. Konseling psikososial mengatasi stigma dan meningkatkan kualitas hidup pasien. Pedikulosis kapitis kronis dan rumit merupakan penyimpangan signifikan dari kasus-kasus umum, yang memerlukan pendekatan holistik yang memadukan pengobatan farmakologis, manajemen lingkungan, dan dukungan psikososial. Penelitian lebih lanjut diperlukan untuk mengembangkan strategi guna meningkatkan kepatuhan pengobatan dan pencegahan kasus kronis.

Kata kunci : infestasi kronis, lesi sekunder, pedikulosis kapitis

ABSTRACT

Pediculosis capitis is a common parasitic infestation primarily affecting children and adolescents. While it is typically self-limiting and resolves with standard treatment, chronic and complicated cases associated with secondary lesions and significant psychosocial impacts are rare. These atypical cases pose unique diagnostic and therapeutic challenges, necessitating a comprehensive and multidisciplinary approach. This report presents the case of a 16-year-old female with a two-year history of persistent scalp pruritus and secondary lesions caused by untreated pediculosis capitis. Clinical examination revealed erythematous papules, excoriations, and sanguineous crusts, accompanied by live lice and nits. Differential diagnoses, including tinea capitis and seborrheic dermatitis, were systematically excluded. Management included topical therapies, hygiene education, and psychosocial support. Initial treatment resulted in partial improvement, with reduced pruritus and healing of lesions. However, adherence to nit removal and environmental sanitation remained challenging, highlighting barriers to achieving complete resolution. Psychosocial counseling addressed stigma and improved the patient's quality of life. Chronic and complicated pediculosis capitis represents a significant deviation from typical cases, requiring a holistic approach that integrates pharmacological treatment, environmental management, and psychosocial support.

Keywords : pediculosis capitis, chronic infestation, secondary lesions

INTRODUCTION

Pediculosis capitis, or head lice infestation, is a highly prevalent parasitic condition caused by *Pediculus humanus capitis*. It predominantly affects children aged 3 to 13 years, with higher

incidence rates among females due to their hair length and grooming practices. Transmission occurs through direct head-to-head contact or indirectly via fomites, such as combs, hats, or pillowcases.(Ahmad et al., 2014; Takci et al., 2012) While the condition is commonly self-limiting with early intervention, untreated cases can lead to complications such as excoriations, secondary bacterial infections, and pruritus-induced sleep disturbances. In most clinical settings, pediculosis capitis is considered benign, requiring minimal pharmacological or non-pharmacological interventions. However, when hygiene is suboptimal or infestations persist, the clinical and social consequences may extend beyond the ordinary, complicating management and exacerbating patient morbidity.(Assaedi et al., 2018; Kristiawati et al., 2017; Moosazadeh et al., 2015)

Despite being widely recognized, chronic or severe presentations of pediculosis capitis remain underreported. Most cases are resolved with readily available treatments, such as pediculicides or mechanical removal with fine-toothed combs. Nevertheless, unique cases that involve chronicity, significant dermatological complications, or psychosocial impacts pose challenges to both patients and healthcare providers.(Doulgeraki et al., 2011; Halwag, 2023; Silva et al., 2008) Chronic infestation, in particular, is uncommon and often overlooked, as it involves persistent parasitism compounded by complications like erosions, crusting, and secondary infections. Additionally, the stigma associated with pediculosis capitis often results in delayed care-seeking behaviors, further aggravating the condition. Thus, chronic and complicated cases represent an underexplored facet of this parasitic disease.(Kristiawati et al., 2017; Nough & Rageh, 2021)

The case presented here describes a 16-year-old female with a two-year history of pediculosis capitis, leading to secondary lesions and significant impairment in daily functioning. This prolonged infestation demonstrates the intersection of medical, psychosocial, and environmental factors, all of which contribute to the complexity of managing such cases.(Magalhães et al., 2011; Nor Faiza et al., 2018) The findings underscore the necessity for early recognition, timely intervention, and patient-centered care to mitigate adverse outcomes. This report emphasizes the role of comprehensive patient education and hygiene practices in preventing chronic and complicated infestations. Through this lens, the study aims to bridge the gap in current understanding and management of atypical pediculosis capitis cases. This case report aims to highlight the clinical presentation and management of a rare instance of chronic pediculosis capitis with secondary complications. By examining the patient's two-year history of persistent infestation and associated lesions, the report seeks to provide insights into the factors that contribute to chronicity, including environmental hygiene, treatment adherence, and psychosocial impacts.

CASE REPORT

A 16-year-old female, a student, presented with a chief complaint of persistent scalp pruritus that had been ongoing for two years, accompanied by secondary lesions that developed progressively over the past month. The patient reported worsening pruritus that was described as constant and often intense, particularly at night, causing significant disruptions to her sleep and daily activities. She also reported sensations resembling crawling on the scalp, prompting frequent scratching that resulted in visible abrasions. The patient had a prior history of attending a school camping event around the onset of symptoms but had delayed seeking medical attention due to social stigma and self-treatment attempts, including the use of a fine-toothed comb and over-the-counter topical hydrocortisone, with limited success. Her mother corroborated the symptoms, noting occasional detection of small insects on the patient's scalp and hair, as well as similar complaints of pruritus from the patient's younger sibling. Clinical examination revealed multiple erythematous papules and excoriations distributed

predominantly across the occipital and temporal scalp regions, extending to the posterior neck. Secondary lesions included sanguineous crusts and areas of excoriation consistent with chronic scratching. The posterior cervical area exhibited additional erythematous macules and papules suggestive of local irritation or hypersensitivity. Evidence of active infestation was confirmed by the presence of adult lice and numerous nits firmly attached to hair shafts, predominantly near the scalp. The patient's general physical examination was otherwise unremarkable, and vital signs were stable. No significant lymphadenopathy or systemic signs of infection were noted. The chronicity of the condition, coupled with the physical findings, supported a diagnosis of chronic pediculosis capitis complicated by secondary excoriations and crusting. Differential diagnoses, including tinea capitis, seborrheic dermatitis, and insect bite reactions, were considered but excluded based on clinical history and presentation.

Table 1. Timeline of Symptom Progression and Clinical Events

Time Period	Events and Symptoms
Two years prior	Onset of intermittent scalp pruritus after a school camping event. Symptoms were mild and sporadic, leading to no medical intervention.
Progression over time	Gradual worsening of pruritus, increasing in frequency and intensity.
Past month	Escalation to severe pruritus, development of secondary skin lesions (excoriations, sanguineous crusts), and significant discomfort. Symptoms disrupted sleep and caused social embarrassment.
Current Presentation	Chronic pediculosis capitis with visible lesions, prompting the patient to seek medical care.

The diagnosis of chronic pediculosis capitis in this patient was clinically confirmed through the direct identification of adult lice and nits firmly attached to hair shafts, particularly in the occipital and temporal scalp regions. The patient's history of persistent pruritus and the sensation of crawling on the scalp further supported the diagnosis. The chronic nature of the infestation, coupled with the physical findings of excoriations and sanguineous crusts, underscored the severity and prolonged duration of the condition. These findings aligned with the classical presentation of pediculosis capitis, where the primary etiological agent, *Pediculus humanus capitis*, acts as an obligate ectoparasite.



Figure 1. Clinical images demonstrating the scalp and neck regions of the patient with chronic pediculosis capitis. The left and middle images show the scalp with multiple nits firmly attached to hair shafts and visible excoriations with crusting indicative of secondary lesions caused by chronic scratching. The right image shows erythematous papules and excoriations on the posterior neck, extending from the scalp, consistent with hypersensitivity or secondary irritation due to the infestation

The management of this case of chronic pediculosis capitis incorporated a combination of medical treatment, behavioral modification, and supportive care to address both the physical and psychosocial impacts of the condition. Topical therapies included hydrocortisone 2.5% cream, applied to reduce inflammation and alleviate pruritus caused by excoriations. An antibiotic cream was also prescribed to treat or prevent secondary bacterial infections resulting from chronic scratching. These interventions aimed to promote healing of the skin lesions and provide relief from the symptoms associated with prolonged infestation. Behavioral strategies emphasized hygiene education and environmental sanitation. The patient and her family were instructed on maintaining routine hair washing, avoiding the sharing of personal items such as combs and towels, and ensuring regular laundering of bedding and clothing. The use of fine-toothed combs for nit removal was also recommended as a critical adjunct to the topical treatments, enhancing the overall effectiveness of the intervention. Supportive care focused on addressing the social and psychological impact of the infestation.

The patient received counseling to help her cope with the stigma and embarrassment associated with her condition, which had affected her self-esteem and social interactions. This integrated approach was essential to achieving both clinical resolution and improved quality of life for the patient. The patient demonstrated initial improvement following treatment, with a reduction in pruritus and noticeable healing of the excoriated lesions. Topical therapies were effective in addressing inflammation and secondary infections, while hygiene education contributed to better personal care practices. However, challenges remained in ensuring adherence to the treatment regimen and preventing reinfestation. Inconsistent use of fine-toothed combs and environmental sanitation were identified as barriers to complete resolution. Despite these challenges, the patient's overall condition improved, highlighting the need for ongoing support and follow-up to reinforce treatment adherence and sustain prevention efforts in managing chronic pediculosis capitis.

DISCUSSION

Pediculosis capitis is traditionally recognized as a benign and self-limiting infestation, typically managed with simple pharmacological and mechanical interventions. However, this case emphasizes the need for deeper exploration of atypical chronic presentations, particularly those associated with secondary dermatological complications and psychosocial challenges. Chronicity, as illustrated in this case, often arises from delayed diagnosis, inadequate management, or suboptimal hygiene practices, reflecting a gap in clinical understanding and public health strategies.(İnanır et al., 2002; Osadnik et al., 2023; Speare et al., 2014) The pathophysiology of chronic pediculosis capitis involves the prolonged presence of *Pediculus humanus capitis*, which feeds on the host's blood and causes persistent scalp irritation. This irritation, exacerbated by mechanical scratching, disrupts the skin barrier, leading to excoriations and secondary bacterial infections, as seen in this patient.(Rasheed & Al-Nasiri, 2022; Tebruegge et al., 2011) Such complications align with documented literature describing chronic infestation as a catalyst for secondary dermatological issues, including impetigo and pioderma.(Kalari et al., 2019; Moreno et al., 2016; Takci et al., 2012)

Differential diagnoses were systematically evaluated and excluded with precision and objectivity. Tinea capitis, for example, was ruled out based on the absence of scaling, broken hairs, and alopecic patches typically associated with fungal infections.(Al-Berfkani & Mero, 2020; Biya et al., 2019) Seborrheic dermatitis was excluded as the condition does not involve the presence of lice or nits and is instead characterized by erythematous plaques with greasy scaling. Insect bite reactions, while presenting with pruritic papules, were excluded due to the direct observation of live lice and attached nits, confirming an active infestation rather than transient bites.(Al-Berfkani & Mero, 2020; Ghirano et al., 2017; Larkin et al., 2020) These

exclusions align with the testability criterion in clinical research, ensuring that diagnostic conclusions are based on observable, reproducible findings.

Topical hydrocortisone was used to address inflammation, while antibiotic creams were prescribed for secondary infections, consistent with established dermatological protocols. Hygiene education was integrated to address reinfestation risks, reinforcing the importance of environmental sanitation. According to current evidence, patient education plays a crucial role in managing parasitic infestations, as it reduces reinfestation rates by targeting behavioral and environmental factors. The inclusion of psychosocial counseling, although less commonly emphasized in standard management protocols, reflects a growing recognition of the emotional and social burden associated with chronic dermatological conditions, particularly in adolescents.(Bultas & Smith, 2022; Hurst et al., 2020; Rukke et al., 2014) This holistic approach aligns with patient-centered care principles, addressing both physical and emotional well-being.

The presence of live lice and nits provided definitive confirmation of the diagnosis and informed the implementation of targeted therapeutic measures. Successful management of pediculosis capitis necessitates a comprehensive approach that integrates pharmacological therapy with environmental adjustments and behavioral interventions.(Gilani, 2023; Moosazadeh et al., 2015; Rukke et al., 2012) However, this case revealed challenges such as inconsistent application of nit removal methods and deficiencies in maintaining environmental hygiene, which are recognized obstacles to achieving full resolution in chronic infestations. These challenges underscore the critical need for continuous education and support for patients and their families to promote adherence to treatment protocols and prevent reinfestation.

Ultimately, this case highlights the clinical significance and uniqueness of documenting chronic and complicated pediculosis capitis. By emphasizing the presence of secondary lesions and the associated psychosocial effects, it broadens the understanding of the potential complexities and severity of this condition. Future studies should aim to develop strategies to improve treatment adherence, explore novel pharmacological interventions, and address systemic barriers that contribute to delayed diagnosis and management.(Abdullah & Kaki, 2017; Bultas & Smith, 2022; Hurst et al., 2020) This case serves as a reminder that even common dermatological conditions demand a thorough, evidence-based, and nuanced approach to ensure optimal outcomes and improve the overall quality of patient care.

CONCLUSION

Chronic pediculosis capitis represents a significant deviation from typical cases, distinguished by its prolonged duration and notable complications, including secondary lesions and psychosocial impact. This case underscores the importance of early diagnosis and comprehensive management strategies tailored to address both the dermatological and emotional aspects of chronic infestation. It highlights the need for further investigation into factors contributing to chronicity, such as treatment adherence and hygiene practices, to improve patient outcomes. Future studies should focus on exploring innovative treatment options and strategies for managing complex cases, ensuring that clinical interventions are both effective and sustainable over time. These insights contribute to a deeper understanding of chronic pediculosis capitis in dermatological practice.

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