

MANAGEMENT OF NEGLECTED VICIOUS CAT BITE IN A CHILD: A CASE REPORT

Shangeetha Tarmalingam,^{1,2,3} Sree Raja Lakshmy,¹
Muhammad Azrin Mohd Asihin,¹ Kamarul Al Haqq Abdul Ghani²

¹Hospital Shah Alam, Department of Orthopaedics Surgery, Selangor-Malaysia

²Hospital Tengku Ampuan Rahimah, Klang, Department of Orthopaedics Surgery, Selangor-Malaysia

³University Putra Malaysia, Faculty of Medicine and Health Science,
Department of Orthopaedics Surgery, Selangor-Malaysia

Primljen/Received 14. 06. 2022. god.

Prihvaćen/Accepted 07. 07. 2022. god.

Abstract: Introduction: Cat bites make up 10% of all animal bites and have a high incidence of infection. Cat bites can cause severe deep bacterial infection in closed spaces such as tendon sheath, joints, and bones due to their sharp teeth. Generally, cat bite wound infections are reported at 30%-60%, which is double compared to rat or dog bites. However, cat bites are easily misjudged due to their minimal appearance of tissue injury. **Case Report:** We hereby present a case of a neglected cat bite wound complicated with infection in a healthy child. The wound was debrided in the operation theatre, and a ten-day course of antibiotics was completed. No further infection was noted and the child was discharged home well. **Conclusion:** There is no exact algorithm of treatment for cat bites. However, cat bites are nasty wounds that should be treated early and aggressively. Empirical oral or intravenous antibiotics should be started immediately, and adequate surgical debridement is indicated to provide a better outcome as there are no standardized protocols for initial management.

Keywords: Cat bites, Infection, Wound, Antibiotic Treatment.

INTRODUCTION

Cat bites make up 10% of all animal bites and have a high incidence of infection (1). Cat bites are commonly seen in adult women and high incidences are seen in extremities (1, 3). Cat bites can cause severe deep bacterial infection in closed spaces such as tendon sheath, joints, and bones due to their sharp teeth (1, 2, 3). *Pasteurella multocida* is the most common Gram-negative, non-spore-forming coccobacillus

found in cat bite infections, and it occurs hastily within the first 24 hours after the bite (1). Generally, cat bite wound infections are reported at 30-60%, double compared to rat or dog bites (3). However, cat bites are easily misjudged due to their minimal appearance of tissue injury (3). Hereby, we present a case of a neglected cat bite wound complicated with infection in a healthy child.

CASE REPORT

A previously healthy 7-year-old child was brought to the emergency department, Hospital Shah Alam, Malaysia, by her mother with a history of being bitten by a stray cat a week prior, and no medical consultation was made. Subsequently, the mother noticed the wound was worsening, and the patient developed a fever. Upon admission, vital signs were stable, and no documented temperature in the ward. Clinical examination revealed diffuse swelling over the medial aspect of the left ankle with multiple puncture wounds, serous discharge, and an area of fluctuance in the middle. The surrounding skin was warm, erythematous, and tender upon palpation. Noted pus discharge upon milking from the wound edges. Laboratory examination showed leukocytosis with the number of WBCs in the blood at $18 \times 10^9/L$, and an increased level of C-Reactive Protein was 20 mg/L. The plain radiograph of the left ankle was normal and no bony involvement was noted. The patient started on intravenous Amoxicillin-clavulanate. Meticulous wound debridement was performed until healthy skin margins were obtained. Postoperatively the wound was healthy and subsequently healed by secondary intention. Tis-



Figure 1. Pre operative wound over the left ankle

sue culture and sensitivity were reported as no growth. The child completed 5 days of intravenous antibiotics in the ward. The child was discharged after a week in the hospital with a five-day course of oral Amoxicillin-clavulanate (Figure 1 and 2).

Parents have signed consent for the case presentation and publication.

DISCUSSION

Clinical evaluation and culture of the bite remain the mainstay of the diagnosis and management. Naturally, polymicrobial infections are seen in animal bites. Nevertheless, infections caused by cat and dog bites are usually due to aerobic and anaerobic microorganisms (1). The commonest microorganisms that have been discovered in infected cat bite wounds are *Pasteurella sp.* (3). These bacteria are normal oral flora in this type of mammal and are present in 70% to 90% of healthy cats (3). Post Exposure to antibiotic prophylaxis in most cases remains controversial (1). However, a wise approach is crucial in managing higher-risk bites such as cat bites and bites on the hand (1). Management of cat bites depends on the site and severity of the wound and infection, close observation, outpatient oral antibiotics, intravenous antibiotics and finally, surgical debridement or irrigation is needed accordingly (1, 2). There is no exact algorithm of treatment for cat bites. However, according to Infectious Disease Society of America, guidelines state that soft tissue and skin infection are suggested to prescribe preemptive antibiotics 3-5 days in the immunocompromised patient, especially in injuries that involve the bone, joint, tendon and capsule, and genitalia, face, hand and foot (2).



Figure 2. Post operative wound over the left ankle

7-10 days of antibiotic course is sufficient in soft tissue infection (2). However, the final decision for antibiotic therapy depends on the severity of the wound and the clinical progress of the patient (2). First-line prophylactic antibiotic therapy in animal bites is known to be Amoxicillin-clavulanate (1, 3). Patients who are allergic to penicillin can replace it with doxycycline or a combination of clindamycin and fluoroquinolone (1). The majority of the wounds can be managed with oral antibiotics and without hospitalization or surgical debridement (3). Yet, it's highly recommended to debride a cat bite wound and close it with secondary intention because of its high risk for infection (1, 3).

CONCLUSION

Cat bites are nasty wounds that should be treated early and aggressively. A proper clinical assessment and management are critical to prevent further complications. Empirical oral or intravenous antibiotics should be started immediately and adequate surgical debridement is indicated to provide a better outcome as there are no standardized protocols for initial management, antibiotic of choice, or algorithm of management for hospitalized patients for cat bite injury.

Acknowledgments: No

Conflict of Interests: The authors declare no conflicts of interest related to this article.

Funding: None

Licensing

This work is licensed under a Creative Commons Attribution 4.0 International (CC BY 4.0) License.

Sažetak

LEČENJE ZANEMARENE RANE OD UJEDA MAČKE KOD DETETA: PRIKAZ SLUČAJA

Shangeetha Tarmalinggam,^{1,2,3} Sree Raja Lakshmy,¹
Muhammad Azrin Mohd Asihin,¹ Kamarul Al Haqq Abdul Ghani²

¹ Hospital Shah Alam, Department of Orthopaedics Surgery, Selangor-Malaysia

² Hospital Tengku Ampuan Rahimah, Klang, Department of Orthopaedics Surgery, Selangor-Malaysia

³ University Putra Malaysia, Faculty of Medicine and Health Science,
Department of Orthopaedics Surgery, Selangor-Malaysia

Uvod: Ujedi mačaka čine 10% svih ujeda životinja i imaju visoku učestalost infekcije. Ujedi mačaka mogu izazvati ozbiljnu, duboku bakterijsku infekciju u zatvorenim prostorima kao što su omotač tetiva, zglobovi i kosti zbog njihovih oštih zuba. Generalno, infekcije rane od ugriza mačaka se beleže u 30-60%, što je dvostruko više u poređenju sa ujedom pacova ili pasa. Međutim, mačji ugriz se lako pogrešno proceni zbog minimalnog izgleda povrede tkiva. **Prikaz slučaja:** Predstavljamo slučaj zanemarene rane od ujeda mačke komplikovane infekcijom kod zdravog deteta.

Rana je obrađena u operacionoj Sali, a pacijent tertian deset dana antibioticima. Dalja infekcija nije zabeležena i dete je otpušteno kući. **Zaključak:** Ne postoji tačan algoritam za lečenje ujeda mačaka. Međutim, ujedi mačaka su gadne rane koje treba lečiti rano i agresivno. Sa empirijski oralnim ili intravenskim antibioticima treba započeti odmah, a adekvatan hirurški debridman je indikovano da bi se obezbedio bolji ishod pošto ne postoje standardizovani protokoli za inicijalnu terapiju.

Ključne reči: ujedi mačaka, infekcija, rana, lečenje antibioticima.

REFERENCES

1. Hurt JB, Maday KR. Management and treatment of animal bites. JAAPA. 2018; 31(4): 27–31. doi: 10.1097/01.JAA.0000531049.59137.cd.

2. Bula-Rudas FJ, Olcott JL. Human and animal bites. Pediatr Rev. 2018; 39(10): 490–500. doi: 10.1542/pir.2017-0212.

3. Kheiran A, Palial V, Rollett R, Wildin CJ, Chatterji U, Singh HP. Cat bite: an injury not to underestimate. J Plast Surg Hand Surg [Internet]. 2019; 53(6): 341–6. doi: 10.1080/2000656X.2019.1637750.

Correspondence to/Autor za korespondenciju

Dr. Shangeetha Tarmalinggam

Department of Orthopedics Surgery

Hospital Pengajar University Putra Malaysia (HPUPM)

Persiaran Mardi - Upm, 43400 Serdang, Selangor, Malaysia

Phone: +60103706775

E-mail: shangparanjothi@gmail.com

How to cite this article: Tarmalinggam S, Sree RL, Mohd Asihin MA, Kamarul Al Haqq AG. Management of neglected vicious cat bite in a child: a case report. Sanamed. 2022; 17(2): 103-107. Doi: 10.5937/sanamed17-38630.