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Urogenital Myiasis Caused by *Psychoda albipennis* in a Female Child in Libya

Libya'da Bir kız Çocukta Psychoda albipennis'in Neden Olduğu Ürogenital Miyazis

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ABSTRACT

Urogenital myiasis is a parasitic infestation caused by larvae of *Psychoda* spp. and it is very rare in humans. A 10- year old female was presented with urogenital myiasis and 4th stage Larvae of *Psychoda albipennis* (Diptera: *Psychodidae*) were found in urine. The patient was complained of painful sensation, discomfort and burning while urination. Urinary tract antiseptics were prescribed for the patient and advised to drink plenty of water for hydration. Local health authorities should take proper measures to maintain hygienic conditions for the people under risk.
Keywords: Myiasis, *Psychoda albipennis*, urogenital myiasis, Libya

ÖZ

Ürogenital miyazis, *Psychoda* türlerinin larvalarının neden olduğu bir parazit hastalığıdır ve insanlarda çok nadirdir. On yaşındaki bir kıza, idrarında *Psychoda albipennis*'in (Diptera: *Psychodidae*) 4. dönem larvalarının saptanması ile ürogenital miyazis tanısı kondu. Hastanın idrar yaparken ağrı duyma, rahatsızlık hissetme ve yanma şikayetleri vardı. Hasta için idrar yolu antiseptikleri reçete edildi ve hastaya bol su içmesi tavsiye edildi. Yerel sağlık yetkilileri, risk altındaki insanlarda hijyenik koşulları sağlamak için uygun önlemleri almalıdır.
Anahtar Kelimeler: Miyazis, *Psychoda albipennis*, ürogenital miyazis, Libya

INTRODUCTION

Myiasis is considered a rare parasitic infestation in tissues of the body caused primarily by dipterous larvae (1-4). Transmission of myiasis occurs by accidental deposition of the fly eggs on genitourinary openings, or swallowing contaminated food with eggs or larvae (5). The larvae infected the mammalian tissues and feed on it. From clinical point of view, myiasis is classified in relation to the part of the body tissue invaded by the larvae. The commonest and most popular clinical form is cutaneous myiasis where cutaneous tissues are involved. On the other hand, myiasis types that include body cavity; nasopharyngeal, ocular, aural, the gastrointestinal tract and urogenital system are less common (6,7). When myiasis involved healthy tissues, it is called primary myiasis (8), but if wounded tissues are involved, then it's called secondary or wound myiasis (9). Urogenital myiasis is not common and exceptionally rare, since these sites of the body are usually protected by clothes, and inaccessible for the flies (10). Urinary myiasis may occur and were caused by *Psychoda* flies (11-13). This fly is widely distributed and found in tropical or subtropical regions, in summer times, these flies appear in moist environments like bathrooms and may cause urogenital myiasis in humans (14,15). In Libya, myiasis has been reported previously in humans and animals (16-18), but recently a human myiasis caused by *Psychoda albipennis* has been reported in the country (18). We report here

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a case of a 10-years-old female who was diagnosed with urogenital myiasis caused by *Psychoda albipennis*.

CASE REPORT

A female patient of 10 years presented to the Medical Laboratory Department in Tripoli, Libya. The patient's mother reported complained, discomfort and painful urination of her daughter with occasional larva-like organisms emerging from urine over the past year. The patient previously was admitted to many hospitals and treated with antibiotics and recommended oral hydration before being discharged. Although, the patient diagnosed with urogenital myiasis caused by *Psychoda* flies, prognosis of the patient was not mentioned in the medical report.

The physical examination of the patient, complete urinalysis, complete blood count and biochemical values were found to be normal. Leukocytes, erythrocytes, parasites or parasite eggs were not found on microscopic examination of stool. The patient was admitted for the second time to the hospital and monitored for 48 hours, the diagnosis of urogenital myiasis was confirmed by observing the larvae and macroscopic examination of the urine. Two long worms were recovered (Figure 1) and microscopic examination of the larvae were found to be in fourth stage of *P. albipennis* with typical mouth skeleton and syphon structure (Figure 2).

The patient was discharged and recommended to drink plenty of water and prescribed a urinary tract antiseptic to interfere with any secondary bacterial infection. A month later, the patient was followed up and large number of grayish worms were reported dead and discharged in the urine, clinically, abdominal pain and discomfort were disappeared.

Figure 1. The fourth stage *Psychoda albipennis* larvae on glass slide

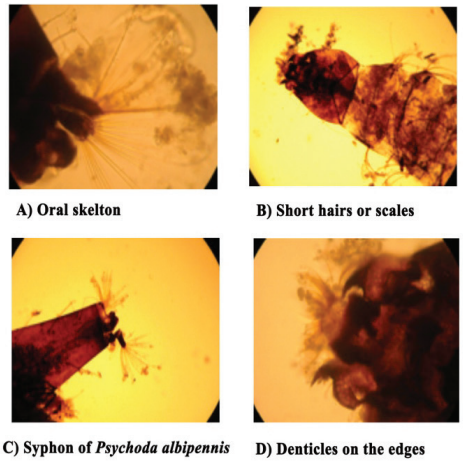

Figure 2. *Psychoda albipennis* forth stage larvae

DISCUSSION

Although urogenital myiasis is a rare clinical condition, poor people living with low personal hygiene are highly susceptible to this infestation. It has been reported in different countries in the Middle East including Saudi Arabia Turkey and Iran (13,19,20). Most of the reported cases of urinary myiasis were among females (15,21), it is not clear about the high infection among females, probably due to urination in open bathrooms or sleeping without covering.

Psychoda spp. are facultative parasites of the subfamily *Psychodinae* causing myiasis. The females lay eggs in moist areas, especially in bathrooms, close to sewage water and in dumps. Eggs usually hatch within 48 hours, larvae feed on decaying organic matter and microorganisms. The clinical complications associated with the pathogenicity of the larvae include inflammation and secretion of toxins. Larvae can be distinguished by its cylindrical shape, gray in color and about 5 mm in diameter and 3 cm in length. The presence of larvae in urogenital tract of humans is very rare and probably the patient might have a urogenital infection and the female flies lay eggs in the urogenital tract during urination. In this case, burning during urination and itching were most prominent symptoms.

Urogenital myiasis treatment varies according to localization and severity of infestation. This includes larvae removal by cystoscopy, washing of urine by drinking plenty of water, use of urinary tract antiseptic medications and the use of antibiotics if symptoms are severe.

In conclusion, urogenital myiasis caused by *P. albipennis* is a rare disease in Libya, this case is the second reported in the country (18), Health authorities must take appropriate precautions to maintain hygienic conditions especially in public bathrooms. Urologists must consider these parasites for accurate diagnosis and treatment of this infection. The disease can be managed with hydration and urinary tract antiseptics. However, preventive measures should be considered in low socioeconomic areas which use traditional open squad bathrooms, sleeping without covers in open areas, education and raising awareness among the public. On the other hand, urologists should be aware of this rare clinical condition for proper diagnosis and management of this infestation.

* Ethics

Informed Consent: A consent form was completed by all participants.

Peer-review: Internally peer-reviewed.

* Authorship Contributions

Concept: A.A., H.A.D., Design: A.G., A.A., O.H., H.A.D., Data Collection or Processing: A.G., A.A., O.H., H.A.D., Analysis or Interpretation: A.G., A.A., O.H., H.A.D., Literature Search: A.G., A.A., O.H., H.A.D., Writing: A.A.

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REFERENCES

1. Bernhardt V, Finkelmeier F, Verhoff MA, Amendt J. Myiasis in humans-a global case report evaluation and literature analysis. Parasitol Res 2019;118:389-97.
2. Ringstad J, Formoe E. Cutaneous myiasis. Tidsskr Nor Laegeforen 2005;125:292.
3. Wang NB, Ding YJ, Si GY. A case with myiasis. Zhongguo Ji Sheng Chong Xue Yu Ji Sheng Chong Bing Za Zhi 2001;19:92.
4. Millikan LE. Myiasis. Dermatol Clin 1999;17:191-5.
5. Koifman L, Barros R, Schulze L, Ornellas AA, Favorito LA. Myiasis associated with penile carcinoma: a new trend in developing countries? Int Braz J Urol 2017;43:73-9.
6. Zollner C, Bayer I, Langer E, Keller A, Resch A, Stommer P. Myiasis in female travelers to the tropics. Pathologe 1993;14:37-41.
7. Freitas DM, Aranovich F, Olijnyk JN, Lemos R. Genital myiasis associated with genital piercing. Case report. Sao Paulo Med J 2018;136:594-96.
8. Retraction. Blepharo-conjunctivitis due to Leishmania (Viannia) Braziliensis cutaneous infection: report of two cases in Rio de Janeiro, Brazil. Br J Ophthalmol 2011;95:154.
9. Raposo AA, Schettini AP, Massone C. Concurrent primary and secondary myiasis on basal cell carcinoma. An Bras Dermatol 2012;87:292-5.
10. Sapre AS, Natu VN, Patel MV, Chandwaskar N. Rare case of urogenital myiasis. J Obstet Gynaecol India 2013;63:145-6.
11. Yenice MG, Demir T, Babur C, Nalbantoglu S, Kilic S. A case of urogenital myiasis caused by Psychoda albipennis (Diptera: Nematocera). Mikrobiyol Bul 2011;45:558-64.
12. Guven E, Kar S, Dogan N, Karaer Z. Urogenital myiasis caused by Psychoda albipennis in a woman. Turkiye Parazitol Derg 2008;32:174-6.
13. Culha MG, Turker K, Ozsoy S, Serefoglu EC. Urogenital myiasis caused by Psychoda albipennis. Saudi Med J 2016;37:1401-3.
14. Cicek M, Diker AI, Ipek DN, Tekin A, Dal T. Urogenital myiasis caused by Psychoda albipennis. Turkiye Parazitol Derg 2012;36:51-3.
15. El-Badry AA, Salem HK, El-Aziz Edmardash YA. Human urinary myiasis due to larvae of Clogmia (Telmatoscopus) albipunctata Williston (Diptera: Psychodidae) first report in Egypt. J Vector Borne Dis 2014;51:247-9.
16. Gabaj MM, Beesley WN, Awan MA. Oestrus ovis myiasis in Libyan sheep and goats. Trop Anim Health Prod 1993;25:65-8.
17. Leclercq M. Importation of animal and human tropical myiasis by Cochliomyia hominivorax (Coquerel) in Libya (diptera: Calliphoridae). Rev Med Liege 1990;45:452-7.
18. Saadawi WK, Shaibi T, Annajar BB. A human case of urogenital myiasis caused by Psychoda spp. larvae in Tripoli, Libya. Ann Parasitol 2017;63:69-71.
19. Demir AD, Iraz M, Ipek DN. Urogenital myiasis caused by Psychoda albipennis in a child. Turk Pediatri Ars 2015;50:65-8.
20. Rasti S, Dehghani R, Khaledi HN, Takhtfiroozeh SM, Chimehi E. Uncommon Human Urinary Tract Myiasis Due to Psychoda Spp. Larvae, Kashan, Iran: A Case Report. Iran J Parasitol 2016;11:417-21.
21. Zhang B, Wang L, Liu J, Xu L, Song L, Wu X, et al. Case report: A rare case of urinary myiasis induced by the fourth instar larvae of Telmatoscopus albipunctatus. PLoS Negl Trop Dis 2017;11:e 0006016.