

# Urogenital myiasis caused by *Psychoda albipennis*

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## ABSTRACT

يعد النفق من الإصابات الطفيلية للحيوانات الفقارية بسبب بيض ويرقات الذبان داخل الأنواع ذوات الجناحين. تعد بسكودا ألبينيس حالة نادرة من النفق البولي التناسلي. نستعرض في هذا التقرير حالة مريض ذكر يبلغ من العمر 42 عام تم تشخيصه بالنفق البولي التناسلي بسبب بسكودا ألبينيس.

Myiasis is a parasitic infestation of vertebrate animals caused by the eggs and larvae of flies within the Diptera species. *Psychoda albipennis* is a rare cause of urogenital myiasis in humans. We present the case of a 42-year-old male diagnosed with urogenital myiasis caused by *Psychoda albipennis*.

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Myiasis is derived from the Greek word 'myia', which means fly. It is an infestation of the skin, tissues or organs of humans or other vertebrate animals caused by the eggs and larvae of flies within the *Diptera species*.<sup>1</sup> Myiasis can manifest in various body parts, such as the eye, nose, ear, skin, gastrointestinal system and urogenital system.<sup>2</sup> *Psychoda albipennis* (*P. albipennis*) can thrive in the environment of a moist bathroom and may cause urogenital myiasis in humans.<sup>3</sup> This insect typically lives in tropical or subtropical regions and usually appears during the summer. We report the case of a 42-year-old male who was diagnosed with urogenital myiasis caused by *P. albipennis*.

**Case Report.** A 42-year-old male patient presented to the urology outpatient clinic with a complaint of

moving, worm-like objects in his urine for the past 3 weeks. No history of travelling abroad, and his medical history was not significant. Physical examination was unremarkable other than mild obesity (body mass index: 32.28). During macroscopic examination of his urine, 2 0.8-cm-long worms were detected. The worms were examined under the microscope and they were diagnosed as being in the fourth larval stage of *P. albipennis* (Figures 1 & 2). Urinalysis results were remarkable, with 7 erythrocytes per high power field. The complete blood count and serum chemistry were within normal limits. Urinary ultrasonography did not reveal any pathology. The urine culture was negative for infection. He was scheduled for cystoscopic evaluation. He was also instructed to drink 3 liters of water per day and was prescribed oral nitrofurantoin 50 mg 3 times a day. Cystoscopic evaluation was performed one week after. Edema in the prostatic urethra was noted, with debris and sediment accumulation at the base of the bladder. He was discharged on the same day and he reported resolution of his symptoms at a follow-up visit one week postoperatively.

**Discussion.** Urogenital myiasis is a very rare clinical entity caused by *Sarcophaga spp.*, *Megaselia scalaris*, *Thyrsoctenema incisilobata*, *Lucilia sericata*, *Eristalis tenax*, *Dermatobia hominis*, *Chrysomya bezziana*, *Fannia canicularis*, and *P. albipennis*.<sup>2,4-9</sup> *Psychoda albipennis* is known to exist in temperate regions of Europe and China.<sup>10</sup> It is common in various provinces of Turkey including Ankara, Edirne, Tekirdag, Istanbul, and Bursa.<sup>6</sup> The larvae of *P. albipennis* thrive in damp and dirty areas, rotting fruit and vegetables, garbage piles and irrigation canals. The fourth stage larvae infest the urine of humans. Its gross appearance is of whitish-grey, slightly flat worms, approximately 3-5 mm in diameter. The larva has a double knob covered with long hair at the end as well as a syphon that narrows from the base to the tip.<sup>2,10</sup>

To our knowledge, this is the seventh case of urogenital myiasis caused by *P. albipennis*, and all previous reported cases were also from Turkey.<sup>2,3,5,6,11,12</sup>



**Figure 1** - The fourth stage larvae of *Psychoda albipennis*.



**Figure 2** - Syphon of the *Psychoda albipennis*.

Predisposing factors for urogenital myiasis are poor hygiene, limitation of mobility, urinary obstruction, sleeping without a blanket in the summer months and low socioeconomic levels.<sup>13</sup> However, a significant portion of urogenital myiasis cases have been reported from developed countries and in patients with good hygiene.<sup>14</sup> Our patient was living in an underdeveloped part of Istanbul; however, his personal hygiene appeared good. No other predisposing factors were identified. In patients with urogenital myiasis, symptoms often manifest as dysuria, polyuria, hematuria, flank pain, or vomiting.<sup>2,15,16</sup> Urogenital myiasis can be misdiagnosed as an obstructing ureteral stone.<sup>6</sup> Our patient did not present with any of these symptoms.

Treatment of urogenital myiasis varies according to localization of the infestation and severity of the symptoms. Removal of larvae, use of urinary tract antiseptics and antibiotics are all advocated, depending on the degree of symptoms.<sup>2,3,11,12</sup> As with previously reported cases of urogenital myiasis caused by *P. albipennis*,<sup>2,6,11</sup> we instructed our patient to drink 3 litres of water per day and prescribed a urinary tract antiseptic. We performed a cystoscopic examination to detect and remove the remaining larvae, none were observed at that time, most likely due to the one week delay between initial evaluation of the patient and time of the cystoscopy. However, signs of inflammation (edema and debris) were observed during the cystoscopy.

In conclusion, urogenital myiasis caused by

*P. albipennis* is an extremely rare clinical entity. It can be managed with hydration and antiseptics. Health authorities must take appropriate precautions to maintain hygienic conditions, and urologists must be aware of these parasites for proper diagnosis and management of this infestation.

## References

1. Cestari TF, Pessato S, Ramos-e-Silva M. Tungiasis and myiasis. *Clin Dermatol* 2007; 25: 158-164.
2. Guven E, Kar S, Dogan N, Karaer Z. [Urogenital myiasis caused by *Psychoda albipennis* in a woman]. *Turkiye Parazitol Derg* 2008; 32: 174-176. Turkish
3. Cicek M, Diker AI, Ipek DN, Tekin A, Dal T. [Urogenital myiasis caused by *Psychoda albipennis*]. *Turkiye Parazitol Derg* 2012; 36: 51-53. Turkish
4. Raposo AA, Schettini AP, Massone C. Concurrent primary and secondary myiasis on basal cell carcinoma. *An Bras Dermatol* 2012; 87: 292-295.
5. Taylan-Ozkan A, Babur C, Kilic S, Nalbantoglu S, Dalkilic I, Mumcuoglu KY. Urogenital myiasis caused by *Psychoda albipennis* (Diptera: Nematocera) in Turkey. *Int J Dermatol* 2004; 43: 904-905.
6. Demir AD, Iraz M, Ipek DN. Urogenital myiasis caused by *Psychoda albipennis* in a child. *Turk Pediatri Ars* 2015; 50: 65-68.
7. Perez-Eid C, Mouffok N. [Human urinary myiasis caused by *Fannia canicularis* (Diptera, Muscidae) larvae in Algeria]. *Presse Med* 1999; 28: 580-581.
8. Mumcuoglu I, Akarsu GA, Balaban N, Keles I. Eristalis tenax as a cause of urinary myiasis. *Scand J Infect Dis* 2005; 37: 942-943.
9. Cilla G, Pico F, Peris A, Idigoras P, Urbietta M, Perez Trallero E. [Human genital myiasis due to Sarcophaga]. *Rev Clin Esp* 1992; 190: 189-190.
10. Zumpt F. Myiasis in Man and Animals in the Old World. London (UK): Butterworths & Co. Ltd.; 1965. p. 267.
11. Kaya S, Arslan M, Karaer Z, Koksall I. [Urogenital myiasis caused by *Psychoda albipennis*]. *Turkish Parasitology Association* 2011; 35: 172-174.

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12. 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: 558-564. Turkish
13. Ramalingam S, Nurulhuda A, Bee LH. Urogenital myiasis caused by *Chrysomya bezziana* (Diptera: Calliphoridae) in peninsular Malaysia. *Southeast Asian J Trop Med Public Health* 1980; 11: 405-407.
14. Blejter J. Tracheostomy wound myiasis in a child: case report and review of the literature. *Case Rep Pediatr* 2012; 2012: 317862.
15. Passos MR1, Carvalho AV, Dutra AL, Goulart Filho RA, Barreto NA, Salles RS, et al. Vulvar myiasis. *Infect Dis Obstet Gynecol* 1998; 6: 69-71.
16. Wadhwa V, Kharbanda P, Rai S, Uppal B. Urogenital myiasis due to *Chrysomya bezziana*. *Indian J Med Microbiol* 2006; 24: 70-71.