WOUND MYIASIS CAUSED BY *LUCILIA SERICATA*

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*Lucilia sericata* is one of the facultative parasites which causes myiasis in animals, and rarely in humans as an ectoparasite. Infestation in humans and domestic herbivorous animals occurs in wounds, mouth, eyes, and nose. It causes itching, pain, inflammation, secondary bacterial infections, eosinophilia, and erythema. We report on a 26-year-old man from Kashan, with a 12-year history of opium and a 3-year history of heroin injections was taken to Iran, following a heroine injection, and with signs of hypoxic encephalopathy, decreasing mental cleanness, and coma. He was HBsAg and HIV negative, and HCV positive. From the wounds of his left hand, which were caused by repeated injections, 38 live larvae were removed. The larvae proved to be *Lucilia sericata.*

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Introduction

*L. sericata* and *L. cuprina* flies belong to Calliphoridae family which are ectoparasites found in meat and corpse of animals, and cause myiasis in humans and domestic herbivorous animals.1 – 3 *Lucilia* species are distributed in the world and are the most known species in human infestation in America, Africa, and Asia.4

In humans, the myiasis due to *Lucilia sericata* was reported in 1826 by Magen who for the first time separated parasites from mouth, eyes, and paranasal sinuses of a hospital patient.5 Adult *Lucilia sericata* has a metallic green or copper green color with a diameter of 8 – 10 mm, and is seen around butcher shops and slaughter houses. With a hairy back and hairless squama wings it makes noise and bothers the residents. The female lays eggs in meat, fish, animal corpse, infected wounds of humans or animals, and excrement.4, 5 Service has reported that the developmental stage of *Lucilia* takes 10 – 23 days.4 Between 8 – 12 hr, the eggs transform into a conical larva, and complete peritreme of posterior respiratory spiracles. After 4 – 8 days, larvae develop and drop onto soil and after 6 to 14 days transform into adult fly. *Lucilia* larva very rarely invades living tissues and feeds. Larva has two posterior breathing spiracles can be seen. The third stage larva, after leaving nutritious wounds continues to develop in soil until becoming adult.6

Case Report

The patient was a 26-year-old man, jobless living in Kashan, with a 12-year history of addiction to opium and a 3-year history of addiction to heroin. He, after injection of an unknown dose of heroin, was brought to Shaheed Beheshti Hospital of Kashan with signs of hypoxic encephalopathy and coma where he was hospitalized. He was HIV and HBsAg negative but HCV positive. Thirty-eight larvae were separated from his wounds in the left hand caused by repeated injections. The larvae were studied in the Laboratory of Kashan University of Medical Sciences. After complete larva stages, posterior spiracles and cephalopharyngial skeleton were fixed on slides by cytologic glue and studied by microscope. By the shape of posterior breathing spiracles and cephalopharyngial skeleton and hairless squama in adult wings, were diagnosed as *Lucilia* (Figure 1).
Wound myiasis caused by Lucilia sericata

Figure 1. Spiracle (stigmal plates) of the Lucilia sericata larvae.

Discussion

Lucilia sericata is found in wounds and natural orifices of human body or animals particularly the mouth, eyes, and sinuses. If causes itching, pain, erythema, bleeding, eosinophilia, and sometimes secondary bacterial infections.5,6

Pays et al7 in 1976 reported a case of myiasis due to Lucilia sericata and Cho et al8 in 1999 reported the first myiasis in human wound in Korea. Daniel et al5 had reported a case of traumatic myiasis of wound of nose in 1826 and separated 50 larvae from nose, paranasal sinuses and mouth of the patient.5

In 1999, Bourel et al9 from France reported that there might be a relationship between the effect of morphine and development of larvae of Lucilia sericata. The addict who was reported in this study showed a fast development of Lucilia sericata larvae which could be due to repeated injections of heroin.

In current study, larvae were separated from wounds and by microscopic study they were identified as Lucilia sericata larvae. The treatment in human beings has not been established but in sheep, according to the study by Smith et al,10 fipronil with a concentration of 0.5 ppm can kill 100% of larvae. We suggest more studies to be undertaken in humans and domestic animals in Kashan area.

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