Wound Myiasis in a Sixty-Two-Year-Old Man

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1. Introduction

Myiasis is defined as infestation of mucosal and skin tissues by Dipterus larvae. Myiasis is classified based on numerous factors; with regard to anatomical region, it is classified by three distinct classification methods (Table 1) (1, 2). Myiasis is considered a rare disorder; however, many cases from different countries have been reported. The reported cases in Iran are summarized in Table 2 (3). In most of the cases, myiasis can cause embarrassment to both patient and health care providers. Wound myiasis is an open wound infestation with fly larvae, which are obligatory or facultative parasites (4). Presence of open wound beside poor hygiene, low socioeconomic status, inadequate nursery care for the elderly, and being alcoholic or homeless are known risk factors for open wound myiasis (5, 6). We present a case of neck wound myiasis in a homeless patient.

2. Case Presentation

A 62-year-old homeless man with a long history of intravenous drug use and crack cocaine consumption, presented with a mass in his left side of neck that was developed after self-wounded maculopapular rash four months ago and ruptured two hours before admission. On physical examination, the patient normal vital signs and physical appearance were normal except for a necrotic and open mass in the left side of his neck with the dimension of 7 × 4 cm, 3 cm depth, and noticeable larvae. By close examination, there were about eight to ten white-colored larvae wriggling out the puncture site, and had a diameter of about 5 × 2 mm. The patient received 0.5 mg dose of diphtheria and tetanus toxoids (dT) vaccine and 500 mg of Tetabulin intramuscularly. Three larvae were separated and sent for further investigation. Ultrasound examination of the cervical soft tissue revealed a heterogeneous hypoechoic lesion with cystic-necrotic centric area, with the dimensions of 92 × 67 mm, a pressure effect, movement of middle elements to right, and excavated area to outside. Neck computed tomography angiography was performed and revealed intact vessels. The results of blood tests as well as blood and wound cultures were normal. The patient underwent antibiotic therapy for seven days with vancomycin (1 g, bid) and meropenem (1 g, TDS). The mass debridement was performed in operating room by totally removing sternocleidomastoid muscle and some parts of trapezius muscle with chest skin graft. The parasitology report revealed that cutaneous myiasis was due to Lucilia sericata larvae infestation (Figures 1, 2 and 3).
**Table 1. Anatomical Classification of Myiasis**

<table>
<thead>
<tr>
<th>Classification by Zumpt</th>
<th>Classification by Bishopp</th>
<th>Classification by James</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sanguinivorous</td>
<td>Bloodsucking</td>
<td>Bloodsucking</td>
</tr>
<tr>
<td>Dermal/Subdermal</td>
<td>Tissue-Destroying, Subdermal Migratory</td>
<td>Furuncular, Creeping, Traumatic Wound, Anal/Vaginal</td>
</tr>
<tr>
<td>Nasopharyngeal</td>
<td>Infestation of the Head Passages</td>
<td>Nose, Mouth, Sinuses, Aural, Ocular</td>
</tr>
<tr>
<td>Intestinal</td>
<td>Intestinal/Urogenital</td>
<td>Enteric, Anal/Vaginal</td>
</tr>
<tr>
<td>Urogenital</td>
<td>Intestinal/Urogenital</td>
<td>Bladder, Urinary Passages, Anal/Vaginal</td>
</tr>
</tbody>
</table>

**Table 2. Reports of Human Myiasis Cases and Dipteran Species From Iran**

<table>
<thead>
<tr>
<th>Types of Myiasis</th>
<th>Causative Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auricular</td>
<td>Chrysomya bezziana, Sarcophaga haemorrhoidalis</td>
</tr>
<tr>
<td>Gingival</td>
<td>Wohlfahrtia magnifica</td>
</tr>
<tr>
<td>Head skin</td>
<td>Chrysomya bezziana</td>
</tr>
<tr>
<td>Nasal</td>
<td>Eristalis tenax</td>
</tr>
<tr>
<td>Ocular</td>
<td>Oestrus ovis</td>
</tr>
<tr>
<td>Oral mucosa</td>
<td>Oestrus ovis, Lucilia sericata</td>
</tr>
<tr>
<td>Urogenital</td>
<td>Chrysomya bezziana</td>
</tr>
<tr>
<td>Pharyngeal</td>
<td>not specified</td>
</tr>
</tbody>
</table>

**3. Discussion**

Wound myiasis is caused by invading a wounded skin by *dipterous* larvae (6). The infestation can occur in obligatory or facultative bases. *Cochliomyia hominivorax*, *Chrysomya bezziana*, and *Wohlfahrtia magnifica* are known as the most common causes of the obligatory myiasis, mean-
while Muscidae spp, Calliphoridae spp, and sacrophagidae spp are considered the most common causes of the facultative ones (4). Usually, the larvae infestation starts when the Dipterous female puts the eggs in a necrotic, purulent, or hemorrhagic tissue. Some reports demonstrated that alkaline discharges with pH 7.1 to 7.5 attract the flies (7). The presence of a necrotic tissue also is considered as an important factor. In addition, skin diseases such as psoriasis (8, 9), Seborrheic keratosis (10), basal cell carcinoma (11), and cutaneous B-cell lymphoma (12) have been reported to be a risk factor for wound myiasis.

Facultative parasites can be helpful agents for the patient in most cases, by inducing granulation, production of bactericidal agents, or cleaning the necrotic tissue. Meanwhile, the complications of the obligatory agents consist of destruction of local tissues, deep tissue invasion, and secondary bacterial infection (5, 10). Co-tary agents consist of destruction of local tissues, deep tissue. Meanwhile, the complications of the obligatory agents consist of destruction of local tissues, deep tissue invasion, and secondary bacterial infection (5, 10). Co-tary agents consist of destruction of local tissues, deep tissue. Meanwhile, the complications of the obligatory agents consist of destruction of local tissues, deep tissue invasion, and secondary bacterial infection (5, 10). Co-tary agents consist of destruction of local tissues, deep tissue. Meanwhile, the complications of the obligatory agents consist of destruction of local tissues, deep tissue invasion, and secondary bacterial infection (5, 10). Co-tary agents consist of destruction of local tissues, deep tissue.

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Authors’ Contributions

Design of the study, scientific collection of information, drafting the paper, reviewing, and approving the final manuscript: Mohammad Yasin, Masoud Mardani, Nina Gozali Asl, and Amirhossein Moghhtader Mojdehi. Parasitological analysis: Kamran Akbarzadeh.

References