



Occipital epidermoid cyst of furuncular myiasis presenting with spontaneous bleeding: a case report.

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ABSTRACT

A 77-year-old female patient was presented to the emergency department with swelling and bleeding in the occiput. It was learned from the patient that the soft tissue swelling on her head had been present for 1 year, and she had no history of trauma. The patient had diabetes mellitus and hypertension and a history of breast cancer 15 years ago. An epidermoid cyst, approximately 5x5 centimeter in size, bleeding in the form of leakage was observed on the patient's occipital scalp. There was no intracranial pathology in the brain computerized tomography. Wound debridement revealed that the cyst contained approximately 30 live larvae. All larvae were cleaned from the tissue defect. When looking from the outside, the larvae were 8-12 millimeters in size, yellow-white, spiral in shape, and were thought to be compatible with the larva of *Lucilia sericata* diptera. Myiasis is an ectoparasitic infection of diptera larvae by settling in human and animal tissues. When flies leave their larvae in the tissue, the larvae that invade and develop in that area cause infection. Cutaneous myiasis is the most common clinical form and can be seen on the scalp and cause furuncular myiasis. Immunosuppression, lack of self-care, travel to endemic areas and trauma have been reported as risk factors for myiasis. It was thought that the history of diabetes and old malignancy might be predisposing in our patient. In this case report, it is aimed to present a case of furuncular myiasis that settled down without any trauma to the occiput and presented with spontaneous soft tissue bleeding.

KEY WORDS: Myiasis, furunculosis, myiasis, scalp, bleeding.

INTRODUCTION

Myiasis is an ectoparasitic infection caused by fly larvae settling in human and animal tissues. The disease occurs when the larvae invade and multiply in the host tissue. Human myiasis is caused by fly species such as Oestridae, Calliphoridae, Sarcophagidae, Cuterebridae. Myiasis often occurs in tropical climates, rural areas, and especially after predisposing conditions such as trauma [1]. Myiasis cases reported in our country are mostly from the warmer southern regions [2,3]. We noticed that myiasis was seen in a patient living in Istanbul, which is in a more northern climate zone and has less rural characteristics. It is noteworthy that fly larvae settle in the cerebral cutaneous region without any trauma and cause myiasis.

In this case report, it is aimed to present a case of furuncular myiasis located in the occipital area, who presented with spontaneous soft tissue bleeding. Informed consent was obtained from the patient for the publication of all information and images.

CASE REPORT

PATIENT INFORMATION: A 77-year-old woman presented to the emergency department with bleeding from a soft tissue swelling located on the occiput. It was learned that the soft tissue swelling on her head had been present for 1 year, she occasionally scratched but bled for the first time, and she had no history of trauma or travel. She also had no pets or contact with any pets. It was learned that the patient had a history of diabetes mellitus and hypertension, had breast cancer 15 years ago, and was cured after mastectomy and 3 months of chemotherapy treatment. She was taking amlodipine 5 mg, insulin glargine 100 U/ml, and insulin aspart 100 U/ml.

CLINICAL FINDINGS: The patient had a 15 on the Glasgow Coma Scale score, was fully oriented in terms of place, time, and people, and had normal and equal muscle strength in all of their extremities. She had an epidermoid cyst of about 5 x 5 centimeter in size on the occiput. The soft tissue around the swelling was hyperemic and there was a leaking type of hemorrhage. The lesion was contained to the scalp and did not extend past the occipital bone. No accompanying fever, changes in consciousness or neurological deficit were observed in the clinic of patient. Arterial blood pressure was 130/70 mmHg, pulse was 80 beats/minute, oxygen saturation was 99%, and fever was 36.2°C.

INITIAL DIAGNOSTIC TESTING: In laboratory, white blood cell count was 10700/ μ L, C-Reactive protein level was 0.9 mg/dL, hemoglobin level was 12.2 g/dL, and blood glucose level was 109 mg/dL. All laboratory results are summarized in Table 1. There was no intracranial pathology in the brain computerized tomography of the patient (Figure 1). When the lesion was debrided, it was discovered to contain motile live larvae. About 30 live larvae were discovered inside the swelling (Figure 2).

Table 1. Laboratory results of patient

Assay	Result	Reference Range
Alanine aminotransferase	9	0-55 U/L
Aspartate aminotransferase	23	5-34 U/L
Albumin	4.1	4.2-4.6 g/dL
Alkaline phosphatase	57	25-100 U/L
Amylase	52	20-160 U/L
C-reactive protein	0.9	0-0.5 mg/dL
Creatinine	0.76	0.57-1.11 mg/dL
Blood urea nitrogen	36.3	21-43 mg/dL
Gamma-glutamyl transferase	8	9-36 U/L
Phosphate	3.6	2.8-4 mg/dL
Glucose	109	70-105 mg/dL
Chloride	103	98-107 mEq/L
Lactate dehydrogenase	378	125-220 U/L
Lipase	21	8-78 U/L
Magnesium	2.03	1.6-2.6 mg/dL
Potassium	4.8	3.5-5.1 mEq/L
Procalcitonin	<0.05	<0.05 ng/mL
Protein	8.2	6.4-8.3 g/dL
Sodium	136	135-145 mEq/L
White blood cell count	10.73	4.00-10.00 10 ³ u/L
Neutrophil count	8.19	2.00-7.00 10 ³ u/L
Hemoglobin	12.2	11-15g/dL
Platelet	226	100.00-400.00 10 ³ u/L

INITIAL THERAPEUTIC INTERVENTION: The lesion was cleaned with sterile distilled water and all larvae were removed. After applying 10% polyvinylpyrrolidone iodide to the wound site, the wound was closed with dressing. It was observed that the live larvae removed were 8-12 millimeters in size, spiral in shape, and yellowish-white colored larvae. The larvae could not be transferred for parasitological analysis due to the severity of the emergency department conditions. However, the appearance of the larvae was compared with various fly larvae, and it was thought that it might be compatible with *Lucilia sericata* larvae. The patient was given tetanus prophylaxis and the first dose of amoxicillin-clavulanic acid (1-gram peroral) in the emergency department.

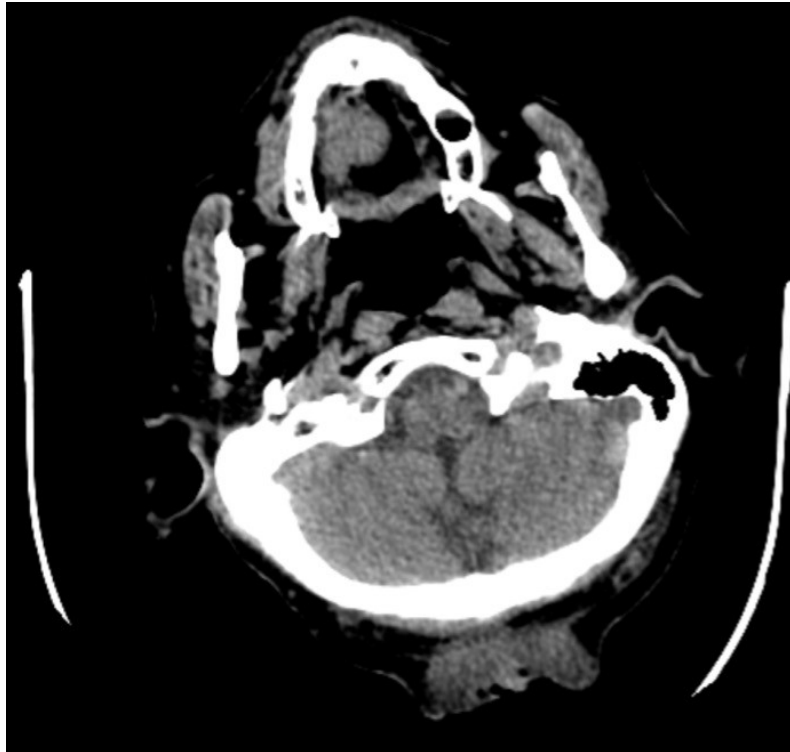


Figure 1. In the brain computed tomography, it is seen that there is soft tissue swelling in the occipital area and there is no intracranial pathology.



Figure 2. A large and deep tissue defect with live larvae is seen in the occipital region.

FOLLOW UP AND OUTCOMES: For prophylaxis against secondary bacterial infections, the patient was given 7 days of amoxicillin-clavulanic acid (2x1 gram peroral) treatment. The patient was re-examined one month later and seen recovered without complications.

DISCUSSION

It has been reported that myiasis infection is more common in various endemic regions, tropical climate, and rural areas in the world [1]. In our country, cases were mostly reported from the southern regions, which have a warmer climate [2,3]. It is noteworthy that our patient lives in Istanbul, which is in a more northern climate zone and where rural risk factors are much less. Various risk factors for myiasis have been defined, such as trauma, lack of self-care, poor hygiene conditions, low socioeconomic status, presence of domestic animals, and a history of travel to endemic areas. Especially the elderly, individuals with diabetes, malignancy or immunosuppressive diseases are at risk [4]. It was thought that the history of diabetes and old malignancy in our patient, whose self-care was quite adequate, and who did not have a travel history, may be predisposing. However, it is remarkable that the larvae settle on the occipital scalp without any trauma and cause infection. Myiasis infection occurs in various body cavities such as head and neck, mouth, teeth, ears, eyes, lymph nodes, malignant lesions and frequently after surgery or trauma. Cutaneous myiasis is the most common clinical form and can be seen on the scalp and cause furuncular myiasis [5]. Depending on the type of the agent, the larvae that settle in the tissues may be single or many as in our case and may not show symptoms for a long time. It was learned that our patient had soft tissue swelling in the occipital region for a year and started bleeding spontaneously. Local pain, serous discharge, pruritus, lymphadenopathy, fever, and malaise may be seen in the clinic. In addition, secondary bacterial infection may develop [6]. In our case, there were no systemic symptoms and signs, while all vital values were within normal limits.

The use of ivermectin has been recommended in the specific treatment of myiasis, but there is no consensus [7]. The main treatment is debridement of the wound site and removal of the larvae. In our case, all larvae were removed from the tissue by debridement and oral antibiotic therapy was started for secondary bacterial infection prophylaxis.

CONCLUSIONS

It is noteworthy that in this case, fly larvae settled down on the scalp without trauma and caused furuncular myiasis. This reminds us that factors such as advanced age and immunosuppression can predispose to parasitic infections.

SUPPLEMENTARY INFORMATION

Funding: No fund was received related to this study.

Institutional Review Statement: The study was conducted according to the guidelines of the Declaration of Helsinki.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The datasets generated and analyzed during the current study are available from the corresponding author on reasonable request.

Conflicts of Interest: The authors declare no conflicts of interest.

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