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Case Report

MYIASIS IN A CASE OF INVASIVE DUCTAL CARCINOMA BREAST – A RARE PRESENTATION

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Abstract
A 48-year-old woman presented with a right breast fungating ulcer with maggots. After wound toileting, biopsy was done from the ulcer, which revealed invasive ductal carcinoma. Myiasis of uncommon sites should raise suspicion of underlying malignancy and prompt histopathological examination.
Keywords: Myiasis, Inflitrating ductal carcinoma

Introduction

Myiasis refers to infestation of live human or animal tissue by dipterous larvae. They complete their life cycle totally or in part, feeding on living or dead tissue, as well as on body fluids. It is frequently found in tropical and subtropical countries due to poor personal hygiene, inadequate infrastructure, warm humid climate, proximity to domestic animals, lack of public education and awareness. Poor access to the most basic of health facilities renders any open wound to chronicity and secondary infections. Myiasis is an aspect of the same. They invade open wounds as well as macerated skin or they enter though natural orifices. Myiasis can involve the skin, eyes, ears, stomach and intestinal tract or genitourinary tract. Myiasis by itself is not an uncommon condition however myiasis of the breast is a rare occurrence. We report a case of fungating breast cancer with maggot infestation that is unreported till date as per currently available literature.

Case Summary

A 48-year-old lady presented to the surgical outpatient department with afoul smelling right breast ulcer. She had noticed an ulcer over her right breast, six month ago. The ulcer was gradually progressive and at the time of presentation, had involved majority of the breast tissue. She did not seek medical advice, living in a remote area bereft of healthcare facilities. On account of the overpowering foul odor emanating from her, relatives forced her to seek medical attention.

Examination revealed a breast that was contracted with destroyed nipple areola complex. The whole breast had become a hard fungating ulcerated lesion, infested with maggots (Figure 1). The left breast was normal. Right Axillary lymph nodes were palpable.

Investigations

Blood investigation revealed a haemoglobin of 8.3g% with mild leucocytosis. Urea, creatinine, electrolytes, and coagulation screen were within normal limits with slightly deranged liver function test.

An ultrasound scan of the abdomen and pelvis showed multiple liver metastasis. Incisional biopsy confirmed invasive ductal carcinoma breast.

The patient was treated with broad spectrum antibiotics and Turpentine oil soaked gauze dressings. 30-40 of motile maggots were extracted manually. The wound became maggot free within six days of treatment.

Incisional biopsy from the right breast ulcer was reported as carcinoma breast stage IV and she was planned for palliative chemotherapy. Patient and her relatives were counseled regarding the nature and stage of disease, treatment options and prognosis. In view of financial constraints, patient deferred further treatment and was lost to follow up.

Discussion

Myiasis (from the Greek "myia," meaning fly) means"the infestation of live human and vertebrate animals with fly larvae of the Diptera order (two winged flies), which at least for a period, feed on the host's dead or living tissue, body fluids, or ingested food material". Myiasis was first described by Hope in 1840.[1]

There are two main systems for categorizing myiasis: anatomical and ecological classifications.

The anatomical classification system first proposed by Bishop in 1962, later modified by James[2] and by Zumpt[3]. Each of those authors used different terms with the similar meaning. To avoid confusion Francesconi[4] used the following classification, which was based on Bishopp's, Jame's, and Zumpt's proposed classifications:

1. Sanguinivorous or bloodsucking
2. Cutaneous myiasis, furuncular and migratory
3. Wound myiasis
4. Cavitary myiasis, where the infestation receives the name of the affected organ, e.g., cerebral myiasis, aural myiasis, nasal myiasis, and ophthalmomyiasis

Ecological classification is based on the level of parasitism of the parasite and the host.

Table 1: Ecological classification of myiasis

Ecological classification	**Description**
Specific/obligatory	Parasite dependent on host for part of its life cycle
Semispecific/facultative	
Primary	Free living and may initiate myiasis
Secondary	Free living and unable to initiate myiasis; may be involved once animal is infested by other species
Tertiary	Free living and unable to initiate myiasis; may be involved when host is near death
Accidental/pseudomyiasis	Free-living larva and not able to complete its life cycle; causes pathological reaction when accidentally in contact with the host

Nosocomial Myiasis first reported in 1980by Jacobson J Arefers to myiasis in a hospital setting.[5] It is not uncommon in tropical countries where hospital rooms are warm and humid.

Identification of the larva is critical to plan the treatment and to promote preventive measures. Immediately after removal, the maggot should be immersed in very hot (enough to produce vapour) water for 30 second then to be preserved in a solution of 70% to 95% ethanol. This method preserves larval length, colour and morphology.

The three major species of obligate parasites are responsible for wound myiasis. These are the New World screwworm (Cochliomyia hominivorax), the Old World screwworm, (Chrysomya bezziana) and Wohlfahrt's wound myiasis fly (Wohlfahrtia magnifica).

The species was identified in our case as the larvae of Chrysomya bezziana by the parasitologist.

Although malignant wounds are well recognized as a predisposing factor for wound myiasis, but very few cases has been reported till now. Most of them are open-skin malignancies such as basal cell carcinoma and squamous cell carcinoma. Association of myasis with eccrine adnexal neoplasm,[6]angiosarcoma,[7] larynx carcinoma,[8] breast cancer,[9] Kaposi's sarcoma,[10] melanoblastoma,[11]non-Hodgkin's lymphoma,[12] and cervical cancer [13] also has been reported but to the best of our knowledge, no case of myiasis with breast cancer has been reported in the literature.

The aim of the treatment is to remove the larvae, treat any secondary infection with antibiotics and perform surgical debridement if needed. Removals of larvae improve Symptoms immediately. In superficial wound myiasis, the larvae may be removed mechanically with forceps. Larvae are photophobic and tend to burrow deep into the tissues. Occlusion of wounds creates localized asphyxia and forces them to move out of hiding. Occlusion can be achieved by using a variety of substances including petroleum, animal fat, beeswax, butter, liquid paraffin, hair gel, nail polish, and mineral oil. Polymyxin B also has been reported to be a useful and sterile option. Extraction can be made easier with 1% lidocaine injection in deeper planes to paralyze the larva or with liquid nitrogen which stiffens the larva. Topical 1% iv ermectin is also useful for furuncular lesion.

In the presence of dead tissue the lesion should be surgically explored, larvae should be removed without cutting them and dead tissue should be debrided. Occlusion and surgery may be complemented with larvacidal such as systemic antihelminths like albendazole or Ivermectin but dead larva may be trapped within the skin with a consequent inflammatory reaction.

Poor sanitation is the most important risk factor for human myiasis. This condition can be prevented by improving sanitation, personal hygiene, extermination of flies by insecticides, destruction of animal carcasses, and clearing of debris and rubbish near houses. Flies may deposit their eggs on the clothes which can be removed by simple measures such washing clothes thoroughly and exposure of heat in form of adequate sun-drying and/or ironing clothing.[14]

Figure 1: Clinical plate showing myiasis in a breast ulcer

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