FURUNCULAR MYIASIS OF THE BREAST CAUSED BY THE AFRICAN TUMBU FLY (Cordylobia anthropophaga).

Adisa Adeyinka Charles1*, Mbanaso Augustus1**
1. Department of Surgery, Abia State University Teaching Hospital, Aba, Abia State, Nigeria.
*e mail: adisayinka@yahoo.com
**e mail: ausymbanaso@yahoo.com
Corresponding Author: ADISA ADEYINKA CHARLES
Department of Surgery, Abia State University Teaching Hospital, Aba, Abia State, Nigeria
e mail: adisayinka@yahoo.com

ABSTRACT

BACKGROUND
Cutaneous myiasis of the breast due to infestation by the larva (maggots) of Cordylobia anthropophaga is rare. To the best of our knowledge, only one case has been reported in the English literature. This rarity calls for a high index of suspicion as it can be easily confused with other furuncular breast lesions like Tuberculosis, Mycosis, Actinomycosis, Furunculosis, Chronic breast Abscess and Fungating Malignancies. We present a case of furuncular Breast Myiasis due to Cordylobia anthropophaga earlier misdiagnosed as Mastitis.

CASE PRESENTATION
We report a 70 year old widow who presented with a week history of itchy multiple discharging sinuses of the Right Breast. The sinuses contained wriggling maggots of Cordylobia anthropophaga. Fourteen maggots were extracted from the breast and the sinuses healed quite well after the extraction and a course of broad spectrum antibiotics.

CONCLUSIONS
Cutaneous Myiasis of the breast is rare, hence, a high index of suspicion should be entertained when a patient presents with furuncular skin lesions especially in endemic areas or people returning from such areas. Lesions heal well after extraction of the maggots and a course of broad spectrum antibiotics. Preventive measures such as ironing of dresses and a good personal hygiene are crucial.

INTRODUCTION
Myiasis is the term applied to the infestation of live humans and vertebrate animals with the larvae (maggots) of dipterous (two winged) flies which, at least for a certain period, feed on the host's dead or living tissue, liquid body substances, or ingested food. In humans, infestation may affect the skin, wounds, intestines and body cavities (oral, nasal, aural, ocular, sinusial, vaginal and urethra). 1 When open wounds are involved, the myiasis is known as traumatic and when boil-like, the lesion is termed furuncular.

Myiases may be described as obligatory, facultative or accidental. Obligatory ectoparasites must have a living host to complete their development and are unable to survive in the absence of the host. In contrast, facultative parasites can develop in both living and dead organic matter. The final group of species causes accidental or miscellaneous cases of myiasis. These are species that are only rare or chance agents of myiasis, which may invade an inappropriate host or which may cause a myiasis when fly eggs are accidentally ingested.

Cordylobia anthropophaga is a non hematogenous dipterion (two winged fly) belonging to the Calliphoridae family. It produces a myiasis called “Tumbu Fly” or “Verde Cayor” or “Mango Fly” or “Skin maggot fly.” 2
Furuncular Myiasis due to Cordylobia anthropophaga has been endemic in the West African sub region for more than 135 years.\textsuperscript{3,4} The other flies that cause furuncular myiasis include Hypoderma, Dermatobia, Wohlfahrtia Cordylobia rhodaini and Cuterebra, which produce lesions resembling furuncles, containing the maturing larvae.

\section*{CASE REPORT}

A 70yr old woman referred to the surgery clinic of the Abia State University Teaching Hospital with a week history of “multiple itchy, painful boils” of the (Rt) Breast. Pain and swelling of the (Rt) breast was so severe on the day of presentation that she was taken to the emergency unit of the Hospital where a diagnosis of (Rt) Breast Mastitis was made before her referral to us. She reported visiting her village several months back and admitted that people in the village sometimes develops “boils” from which maggots were subsequently extracted. She usually spreads her washed dresses on a line near the bush and does not iron them before wearing them.

Examination revealed a patient in severe painful distress; multiple discharging sinuses on the (Rt) breast and each sinus had a whitish object at the opening with some wriggling movement. (figures 1-4) The diagnosis of cutaneous myiasis of the (Rt) Breast was made. Fourteen (14) maggots were extracted from the affected area (FIGURE 5 and movie 1). The maggots were identified as the larva of Cordylobia anthropophaga by the Parasitologist in the Hospital. She was placed on Ampcillin/cloxacillin capsules, tetanus toxoid injection and analgesics and daily wound dressing with Eusol. She was seen in the clinic a week later when all the furuncles had healed.(figure 6-7). She has been doing well since then with no recurrence of the disease.

\section*{DISCUSSION}

Myiasis was first described by Hope in 1840.\textsuperscript{5} Since then many cases of myiasis affecting different human organs have been described.\textsuperscript{6,13} Cutaneous myiasis of the breast is very rare, only few cases have been reported in the literature and majority of them are due to the human botfly (Dermatobia hominis).\textsuperscript{9,10,11} To the best of our knowledge, only one case of breast myiasis due to Cordylobia anthropophaga has been reported in the literature, and interestingly from Nigeria, where this second case is being reported.\textsuperscript{12} Flies causing myiasis belong to the family of Diptera and its seven different species(Calliphoridae,Sarcophagidae,Oestridae,Hypodermatidae,Gasterophylidae, Glossinidae and Muscidae).\textsuperscript{13}

C. anthropophaga is a large, robust brownish yellow fly found widely throughout sub-Saharan African.(figure8) It deposits 100-300 eggs on soil polluted with animal excrement or on clothing saturated with perspiration especially soiled diapers. On hatching, the small first stage larva holds themselves erect and can remain alive without food for about 9-15 days. The larva which hatch after 1-2 days are about 0.75 – mm in length and sensitive to both heat and vibration, become attached to a host and begin to penetrate painlessly the unbroken skin. They take 1 minute for entry producing a furuncular nodule at the site of entry. The larva reach the 2nd stage of about 2-4mm length in 2-4days, and then 3rd stage (11-15mm in length), in another 2-3days. Next, they creep out the hole and fall to the ground, where they pupate in 24hrs; the adult 6-12mm in length emerges after about 10days.\textsuperscript{14}

Small rodents, dogs, wild animals like monkeys and wild rodents are other vertebrates involved. In particular, dogs and small rodents are an important domestic reservoir for the parasite. Human are inflected only accidentally. The lesion starts as small papules containing larvae which may be intermittently prickly or itchy. They produce furuncular nodules with an opening in the center. Serous fluid
may be exuded. Because larvae mature within 8 days, skin tumor form rapidly. This is facilitated by secondary bacterial infection and possibly by proteolytic enzymes. Resembling “boil” the lesions grows over a period of 8 days. The larvae are noticed by the time the third stage has been reached. A magnifying lens may be useful to visualize them.

Diagnosis is mainly clinical and a high index of suspicion. The diagnosis is confirmed by removal of the larva or after a histo-pathological examination of surgically excised tissue. Differential diagnosis of furuncular myiasis of the breast includes furunculosis, myiasis of the breast, Actinomycosis, fungating Carcinoma of the breast, TB and chronic ulcerating Breast Abscess. Others include peri ductal mastitis, inflammatory Carcinoma of the breast and Cellulitis. Diagnosis is usually established by the identification of the larva, however radiological investigations like Mammography and ultrasonography may be helpful in diagnosis. Mammographic features include ill defined masses and associated microcalcifications while Ultrasonography may show hyperechoic mass representing the mass surrounded by an hypoechoic halo representing the cavity. Definitive diagnosis can be achieved if larval movement is detected by ultrasonography.

The goal of Treatment is to remove the larva and treat the eventual infection with antibiotics. The lesion heals rapidly after the larva is removed or it spontaneously exits. Complications include cellulitis, abscess formation, osteomyelitis and tetanus.

Methods of removing the larva include obstructing the cutaneous orifice thus suffocating the larva which forces it to wriggle out. Substances used include oil, petroleum jelly, butter, chewing gum, bacon, paraffin and adhesive tape as well as toxic substances such as tobacco, ashes, turpentine, ether, ethanol and dextrose. Forceps or needles may also be used or an incision made over the boil after local anesthesia. In a recent study, ivermectin in propylene glycol has been used very effectively in wound myiasis due to Cochliomyia hominivorax and H. lireatum.

Conclusion
Cutaneous myiasis of the breast is an uncommon condition and a high index of suspicion is essential to avoid unnecessary delay in the diagnosis and treatment. General improvement of sanitation, personal hygiene and the control of fly populations in the environment would also be helpful in prevention. Simple measures like washing clothes thoroughly, hanging of clothes indoor and ironing of clothes are also essential.

REFERENCES


12. B.T. Ugwu and P.O. Nwadiaro

Cordylobia anthropophaga Mastitis mimicking Breast Cancer: Case Report


An imported case of furuncular myiasis due to Cordylobia anthropophaga which emerged in Japan .British Journal of Dermatology - October 2000 Volume 143; 4: 912


Additional files provided with this submission:

Additional file 1: myasis video1-showing how the maggots were extracted.MPG : 3677KB
http://www.biomedcentral.com/imedia/1278849463252504/sup1.mpg