

## Cutaneous Myiasis Caused by Tumbu Fly Larvae Infestation in an Infant: A Case Report

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### Abstract

Myiasis is a parasitic infestation of the body of a mammal caused by Cordylobia Anthropophaga (Tumbu fly) larvae. The infestation is prevalent in Sub-Saharan Africa, South-East Mexico and Central America. It is usually seen among rural dwellers and has no age or sex predilection. We report a case of Tumbu fly myiasis seen in a 7-month-old male living in Port Harcourt, Nigeria who was erroneously thought to have bullous impetigo.

### Introduction

Myiasis is an infestation of humans by the larva of the Dipterans. The infestation could be furuncular or migratory, wound or intracavitary.<sup>1</sup> The furuncular myiasis is often misdiagnosed as cellulitis or impetigo. Although myiasis is common in Sub-Saharan Africa, it can be found in any age, race or sex. In a study done in Anambra state of Nigeria, the prevalence of myiasis was said to be 8.8% among primary school children.<sup>12</sup> The larva can be found on damp soil contaminated with faeces.<sup>12</sup>

### Case Presentation

This is the case of a male infant who presented to the Paediatric Emergency Room with complaints of rash all over his body of four days duration and fever of a day duration. The rash was initially noticed by his mother on his left jaw and spread to involve his abdomen, back and limbs on the same day. It progressively increased in size, was pruritic and painful. The fever was noticed a day prior to presentation.

There was a history of change in body lotion as child recently started using locally prepared shear butter (which is locally called 'Ori'). A week prior to the rash, the mother had air-dried the baby's clothes underneath a tree. There was no history of contact

with anyone with similar rash. At onset of symptoms, mother gave syrup paracetamol and with persistence, he was brought to the emergency room.

He is the third child of educated parents and his elder siblings were not affected by the rash. At presentation, he was crying, in painful distress, afebrile, not pale. He had nodular umbilicated lesions on the neck, chest, abdomen, arms and legs as shown in figure I. A diagnosis of bullous impetigo was initially made by the Medical Officer. A Full Blood Count, revealed a haematocrit of 32%. The test also showed leukocytosis of  $15.2 \times 10^9/L$  and elevated Erythrocyte Sedimentation Rate of up to 92mm/Hr.

The baby was initially commenced on oral antibiotics by the Medical Officer but on further review by the Consultant Paediatrician later that day, a diagnosis was of Tumbu fly myiasis was made. Petroleum jelly was applied to the surface of the lesions and creamy-white larvae were seen to emanate from some of the lesions. Figure II shows the process of teasing out the larvae by using petroleum jelly as suffocating material. Fifteen live larvae were gently expressed from the different sites and

the child made a full recovery in a few days. Figure III depicts the larvae that were successfully extracted.

### Discussion

The word myiasis was derived from a Greek word “myia” meaning fly.<sup>2</sup> Dipterans are a large order of true flies that are two-winged.<sup>3,4</sup> The flies that give rise to foruncular myiasis include *Dermatobia hominis*, *Cordylobia anthropophaga*, *Wohlfahrtia vigil* and *Cuterebra* species.<sup>1,2,4</sup> Other species like *Cochliomya bezziana* and *Wohlfahrtia magnifica* cause wound myiasis while *Gasterophilus* and *Hypoderma* species cause creeping myiasis.<sup>2</sup>

*Cordylobia anthropophaga* is common in the African sub-region and mainly affects rodents and dogs.<sup>1</sup> Humans are accidentally infected, especially during the rainy season.<sup>5</sup> The Tumbu fly oviposits about 100-300 eggs on sandy soil, or soil contaminated with faeces or urine.<sup>6</sup> Clothes or beddings that are spread on the grass may be contaminated with these eggs. The hatched larva can remain viable for 9-15 days and it may penetrate the



Figure 1. Umbilicated nodules on the chest, abdomen, axilla and neck



Figure 2. Teasing out the larvae after suffocating with petroleum jelly



Figure 3. The larvae that were successfully forced out.

intact skin painlessly.<sup>1,5</sup> The larva usually infects the skin area that are covered with clothing but it may sometimes penetrate the head and neck.<sup>7</sup> The larva matures into a pupa in 8-12 days, but it may remain in the subdermal region for 5-12 weeks.<sup>8</sup> The pupa eventually leaves the host, drops to the ground, buries itself and pupates into an adult fly.<sup>1</sup> Foruncular myiasis in humans presents as small erythematous papules that grow into large painful and pruritic boils with a central pore that exudes purulent or serous fluid.<sup>4</sup> The respiratory apparatus of the larva may be seen protruding through the central pore on careful examination.<sup>4</sup> The lesions are usually painful, itchy and characterized by a sensation of movement.<sup>4</sup>

The diagnosis of foruncular myiasis can be made solely with a good history and physical examination. In multiple infestations, there may be eosinophilia and elevated immunoglobulin E and histopathologic examination of the larva reveals the Dipteran larva. Application of petroleum jelly suffocates the larva and forces it to come out for air.<sup>6,9</sup> Incomplete removal of the larva may lead to a severe inflammatory response in which case it would have to be surgically extracted.<sup>9</sup> This infant probably acquired the infestation when his clothes were spread outside to dry under a fly-infested tree. Myiasis is a relatively benign condition but fatal cases where the larva burrows into the brain tissue have been reported.<sup>1</sup>

The infestation may be prevented by drying clothes on lines placed directly under sunlight, ironing both sides of clothing, using insect repellent creams and keeping flies out of the house.<sup>7,10,11</sup>

In conclusion, we report a case of cutaneous myiasis on the body of a 7-month-old baby who was erroneously thought to have bullous impetigo. Usually, the foruncular myiasis is often misdiagnosed as cellulitis or impetigo. This would lead to poor management of the patients. Considering that myiasis occurs in tropical and subtropical areas, it is very important for the physicians to be vast concerning clinical manifestations of cutaneous myiasis.”

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