Umbilical Myiasis Associated with *Staphylococcus Aureus* Sepsis in a Neonate

Soumya Patra, Radheshyam Purkait, Rajarshi Basu, Mithun C. Konar, Debanjali Sarkar[1]
Department of Paediatric Medicine, N.R.S Medical College & Hospital, Kolkata, West Bengal, [1]Departments of Obstetrics and Gynaecology, MGM Medical College, Kishanganj, Bihar, India

ABSTRACT

Myiasis is an infection of live mammalian tissue by the larvae of dipteran flies and commonly found in the tropics and subtropics. It usually infects domestic and wild animals, but sometimes also affects human. Umbilical cord myiasis in the neonatal period associated with sepsis is a rare occurrence with few reported cases in the literature. In this article, authors report a 7-day-old neonate from a rural area presented with neonatal sepsis due to umbilical myiasis caused by fly larval form of blow fly (*Chrysomya megacephala*).

Key words:
Myiasis, neonate, sepsis, umbilical

INTRODUCTION

Myiasis is defined as the invasion of live mammalian tissue by the immature stage (maggots) of dipteran flies which feed on the host's necrotic or living tissue.[1] Although myiasis is mainly a disease of animals but humans may be affected sometimes when they are reared in poor hygienic conditions.[2] It is more commonly seen in children less than 5 years of age and especially with a rural background.[3] Umbilical cord myiasis with sepsis in the human neonatal period is a very rare occurrence[2,4] and almost exclusively found in neotropic areas.[5]

CASE REPORT

An exclusively breast fed, 7-day-old, male baby, born at home out of nonconsanguineous marriage to a primi gravida mother with uneventful perinatal, from a flood-devastated remote village in West Bengal was admitted in our hospital with complaints of poor feeding and umbilical discharge. On physical examination the baby weighed 2.1 kg, temperature was 39°C, respiration were 47 breath/min and the heart rate was 170 beats/min. The anterior fontanel was soft and pulsatile. Abdomen was slightly distended; liver and spleen were palpable just below the costal margin. In addition to foul-smelling purulent discharge from umbilicus, mild omphalitis and cellulitis was noted. On close observation after removal of pus with sterile cotton swab, the tip of some white spindle-shaped mobile worm-like structures were noted [Figure 1]. These on pulling out with forceps proved to be a maggot. Blood, urine and cerebrospinal fluid (CSF) were sent for culture and sensitivity. Investigations revealed growth of *Staphylococcus aureus* on blood culture and the infant was treated accordingly. Urine and CSF analysis were negative. More than hundred maggots were removed within 24 hours of hospital admission following instillation of ether (repellent). Following removal, the maggots were preserved in ethyl alcohol and sent to Department of Parasitology, School of Tropical Medicine, Kolkata, for species identification. The dead maggots were examined microscopically and were identified as *Chrysomya megacephala*. Ultrasound scan of the umbilical area did not reveal any collection or abscess. As soon as all larvae were out of the epidermis, the periumbilical cellulitis rapidly resolved without any sequelae. The infant was discharged from the hospital on the 10th day after admission with satisfactory physical and clinical condition.

DISCUSSION

Myiases are infestations of animals and rarely human with larvae of diptera, which feed on dead or living host tissue for a variable period. The classification of myiasis is based on larvae location on the host body (dermal,

Address for correspondence:
Dr. Soumya Patra,
RMO Cum Clinical Tutor, Department of Pediatrics,
N.R.S Medical College & Hospital, Kolkata - 700014,
West Bengal, India. E-mail: dr_soumyapatra@rediffmail.com

Access this article online

Quick Response Code:

Website: www.jcnonweb.com

DOI: 10.4103/2249-4847.92229

Figure 1: Few maggots are seen around the umbilicus

subdermal, nasopharyngeal, internal organs, intestinal and urogenital) or according to the type of host–parasite relationship (obligatory, facultative or pseudomyiases).[6] In umbilical myiasis, a type of cutaneous tissue myiasis, the fly lays eggs on dry skin or umbilicus and the larvae subsequently invade the wound. Larvae grow rapidly and reach maturity in 4-8 days.[2] Identification of the maggot is very crucial in determining pathogenesis and as well as controlling of the disease. Third stage larva is ideal for species identification.[7] *C. megacephala*, which was the species in our case, commonly known as the Oriental Latrine Fly. It is known to breed in human feces, meat and fish. In the rural Indian population, defecating in open air is a common practice. The fly is attracted by feces and lays eggs on them. After landing on feces it lands commonly on human foods and on very rare occasion on open human wounds or on umbilicus of a newborn.[2] Myiasis creates a port of entry for skin flora and this may be the pathogenic event that leads to Staphylococcus sepsis as in our case. Examination of umbilical area is crucial in evaluating a neonate with sepsis. Antibiotic coverage for *S. aureus* is also fundamental in treating neonatal sepsis with cellulitis or omphalitis. Effective treatment of myiasis typically consists of the removal of the larvae, cleaning of the wound and use of local antiseptics and systemic antibiotics to control any possible associated infection as in our case.[8] Surgery is usually unnecessary while the larvae remain alive but is used for the removal of dead or decayed larvae from an affected site to prevent secondary infection or sepsis.[8] The medical management of myiasis is straightforward, but this case serves to emphasize the importance of patient education in matters of hygiene, especially in neonate.

REFERENCES

1. Yüca K, Caksen H, Sakin YF. Aural myiasis in children and literature review. Tohoku J Exp Med 2005;206:125-30.
2. Ghosh T, Nayek K, Ghosh N, Ghosh MK. Umbilical myiasis in newborn. Indian Pediatr 2011;48-321-323
3. Singh I, Gathwala G, Yadav SP, Wig U, Jakhar KK. Myiasis in children: The Indian perspective. Int J Pediatr Otorhinolaryngol 1993; 25:127-31.
4. Beeregowda YC, Kiran B, Gowda NY. Neonatal umbilical myiasis with sepsis. Indian J Pediatr 2010;77:1443-5.
5. Duro EA, Mariluis JC, Mulieri PR. Umbilical myiasis in a human newborn. J Perinatol 2007;27:250-1
6. Hall M, Wall R. Myiasis of humans and domestic animals. Adv Parasitol 1995;35:257-334.
7. Cook GC, Zumla A. Medical acarology and entomology. Manson's tropical disease, 21st ed, Philadelphia: Saunders (ELST); 2003. p. 1727-32.
8. Gordon PM, Hepbum NC, Williams AE. Cutaneous myiasis due to dermatobia hominis: A report of six cases. Br J Dermatol 1995;132:811-4.

How to cite this article: Patra S, Purkait R, Basu R, Konar MC, Sarkar D. Umbilical myiasis associated with *Staphylococcus aureus* sepsis in a neonate. J Clin Neonatol 2012;1:42-3.

Source of Support: Nil, **Conflict of Interest:** None declared.