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## Recurrent severe anaemia caused by multiple infestation with anklylostoma duodenale and entamoeba histolytica in a 5 months old female Nigerian infant

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**Abstract:** Worm and parasitic infestation is a common problem in children with most occurring in school age. Low socio-economic status and poor sanitary hygiene has been associated with worm infestation. Though it is rare in infancy, there had been reports in these group of children. However there has been no documented

case of multiple infestation in infancy. We hereby report an infant with recurrent anemia and melena and bloody stools caused by anklyostomaduodenale and entamoebahistolytica

**Key words:** Infant Anaemia, Worm Infestation, Ankylostoma Duodenale, Entamoeba Histolytica

### Introduction

The World Health Organization (WHO) recognizes that worm infestation is a public health burden with a prevalence of between 13 – 86 %<sup>1</sup>. Intestinal worm infestations is common in children who suffer higher infestation rates and heavy worm burden<sup>2</sup>. Studies in Africa have shown that there is a high prevalence of worm infestation among children especially in rural and low income communities. The commonest worms implicated are ascaris and hook worm.<sup>3</sup> The effects of worm infestation include anaemia<sup>4,5,6</sup>, malnutrition and poor cognitive functions<sup>7</sup> especially ascaris and anklylostoma. Most studies were done in school age and a few in under-fives.

A Nigerian study had showed that worm infection with anaemia is prevalent in preschool children and incidence increased with age<sup>6</sup>. Factors associated with worm infestation in children include poor sanitary conditions, low socioeconomic status and low literacy level especially in mothers.<sup>8,9</sup> Various reports have shown that worm infestation occur in infants but no documented case on multiple infestations in the same infant, hence we decided to publish this case report

### Case report

A 5 month old female infant first seen at age of two and half months at Massey Street Children Hospital Lagos with complaints of palor, cough and fast breathing. She was found to be severely pale, acyanotic, anicteric not dehydrated. She had tachycardia and dyspnea with a tender hepatomegaly of 3 cm, then a diagnosis of anaemic heart failure of unknown origin was made she was

transfused with packed cell and given antibiotics based on initial suspicion of sepsis. Her blood count showed a packed cell volume: 20.4%; total white blood count: 22,500/L, neutrophils: 28%, lymphocytes: 53%, monocytes: 4%, eosinophils 10%, basophils 4%, malaria parasite was negative with rapid diagnostic test, blood film was normal and post transfusion packed cell volume was 36%. She improved and was discharged. Eight weeks later, she represented with history of palor, fast breathing, cough and seizures. Her packed cell volume had dropped to 11% the admitting diagnosis was severe anaemia with anaemic heart failure secondary to severe malaria, keeping in view sepsis. Her total white cell count was within normal limits. There were no malaria parasites seen on thick film. The anaemia was corrected with packed cell transfusion, and post transfusion packed cell volume was 43%. While on admission she started passing very dark stools initially followed by episode of bloody stools with a drop in her packed cell volume to 24% necessitating a second transfusion. She was not on any iron supplements before or during admission. The diagnosis was changed to recurrent anaemia secondary to gastrointestinal bleeding of undetermined cause. However on further probing, there was a history of passage of dark coloured stools in the past before her last admission which resolved before presentation, and occurred shortly before this second admission.

Stool microscopy showed heavy anklyostoma duodenale ova, as well as cyst and trophozoites of entamoeba histolytica. She resides in a coastal area of Lagos along the beach. She had been bathing and drinking water obtained from the river close to her residence since birth. Her parents were fishermen who lived on wooden plank built on the coastline. She was transfused to correct the

anemia, and treated with metronidazole and albendazole. Her packed cell volume before discharge was 39 %. Bloody stool stopped 5 days after she was commenced on the medication. There were no facilities for endoscopy in the centre and she responded well. She was later discharged and has remained well and followed up for two months post discharge.

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## Discussion

Parasitic infestation is more prevalent in children especially under-fives', however there are case reports and studies showing that worm infestation occur in infancy. There had been reports of infestation in infants in Asia<sup>2,10</sup> with prevalence increasing with age. In India, there were case reports of a 12 week and 8 month infants who had melana stools with upper GI endoscopy showing worms attached to the intestine.<sup>11</sup> A twelve day old Nepalese infant developed severe anaemia owing to hook worm infestation and responded well to mebendazole<sup>12</sup>. In Africa there has been reports of hookworm infestation in a 3 and 4 month old in Nigeria and Uganda respectively, presenting with melena and severe anemia with fever<sup>13,14</sup>. Both infants were treated with albendazole dosages appropriate for their ages and responded well. It was suggested that worm infestation should be suspected in children with severe anemia living in communities with high risk of infestation, presenting with diarrhoea and or melena stools. These were similar to our case both in presentations and treatment. Ameobiasis continue to cause morbidity and mortality in children in developing countries especially in extremes of life. Timing between infectivity and symptoms ranges between 2 to 4 weeks. There has been report of a 4 month old with ameobiasis in the Middle

East<sup>15</sup> who presented with refusal of feeds, hyperactive bowel sound, vomiting, and diarrhea. Studies have shown a high prevalence of ameobiasis in infants in Turkey<sup>16</sup> and Saudi Arabia<sup>17</sup> with prevalence reaching as high as of 50%. Ogunlesi et al in cross sectional study on diarrhoea in under five children recorded two infants aged two and four months old respectively with amoebic dysentery in Ilesa Nigeria. There were case reports in neonates in India<sup>19</sup>. All the cases were successfully treated with parenteral or oral metronidazole similar to our patient who responded well to oral metronidazole.

Risk factors for amoebiasis include poor hygiene, eating or drinking food contaminated with cyst. Socio-economic risk factors have been implicated in aiding the transmission which include, poor sanitary conditions and poor socio economic status. There is need to control the spread of these infestations and there has been calls for policy to be put in place in control of these infestation. To our knowledge there has been no case report of a concomitant ankylostoma and amoebic infection in a infant which makes this case peculiar.

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## Conclusion

Parasitic infestation should be suspected in children especially infant who present with anaemia, stooling with or without melena and bloody living in areas prone to worm infestation. Investigations should include stool microscopy and endoscopy where facilities exist.

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