

CASE REPORT

Black threads in Infants Stool : Worms or?

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INTRODUCTION

Worm infestation is a common health condition seen mainly in developing countries. Almost 7% of the Indian population is found to be manifested by the hookworms in childhood [1]. The occurrence of live worm is higher in children under the age of 4 years as compared to infants. The prevalence of worms in children is higher due to the habit of playing in mud and poor hygiene [2]. Rarely worm infestation is also observed in infants and sometimes resembles undigested food items rather than actual worms. The investigation of the stool microscopic examination becomes mandatory if the recurrence of the same type of stools which have worm or worm like things, persists for consecutive days. History of infant diet mainly banana and other clinical history along with the routine stool analysis is needed before reaching the diagnosis.

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CASE REPORT

A 9 month-old male infant came to us with frequent loose stools, yellow-greenish in color and watery most of the time, since last one and half months. Parents reported that they had observed worm-like filaments in the stool since the last couple of weeks (Figure 1a and b). The infant was otherwise asymptomatic, there were no other medical issues and the results of physical examination were normal. Poor weight gain was noticed in the last one month. The child had already received multiple courses of anti-worm medication and antibiotics before presentation to us, but had not received any benefit. Detailed dietary history was obtained and it was found that the baby had been recently started on complementary feeding which included fruits like ripe banana. On further questioning, his mother stated that she had increased the intake of banana since a few weeks due to the local belief that ripe banana will help in recovering from loose motions. Screening for worms in the stool & routine stool examination was found negative twice. Further, the black threads-like substance from infant stool were examined under a microscope and simultaneously compared with a sample taken from a banana and were found to be the same. Banana was withdrawn from the diet. Gradually his stools became normal in consistency, frequency and color. Figure 2 & 3 show the stools on third and seventh day, respectively, after stopping banana in the diet. Alternative complementary feeding was introduced. The child remained normal after 1 month of follow up and started showing weight gain as well.



Figure – 1 (a and b) Black threads seen as worms in Stool

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DISCUSSION

Appearance of banana fibers in the stool mimicking parasites has been reported in the medical literature since the early 20th century. In 1903, Walter Bierring described the identification of banana fibers in the stool of a 5-year-old child by preparing a sample of the child's stool and a separate sample of a banana with potassium hydroxide and examining them under a microscope. [3] A few other similar cases have been reported as well earlier in a 6 months old infant and 14 month old child. [4, 5] Banana contains cellulose as a major fiber type, and thus may be easily mistaken for long worm-like threads by parents [6,7]. This case study highlights the misconception of having worm in stool at first sight by parents. Indian parents are especially prone to the false impression of having worms in the stool due to illiteracy and erroneous local beliefs. Further, infants are even less likely to have worm infestations as compared to toddlers. Thus, medication and unnecessary testing can be avoided in children by obtaining a careful history.

CONCLUSIONS

Worm infestation is rarely observed in infants. Fruits like ripe banana contain blackish fibers that are not digested and may be

observed as black threads matching worms in stools in infants. Thus, the importance of dietary history and naked eye stool examination cannot be over-emphasized in pediatric patients.

FURTHER READING:

1. Nampijja M, Auple B, Lule S, Akurut H, Muhangi L, Webb EL, et al. Effects of Maternal Worm Infections and Anthelmintic Treatment during Pregnancy on Infant Motor and Neurocognitive Functioning. *J Int Neuropsychol Soc.* 2012;18(6):1019-30. doi: 10.1017/S1355617712000768.
2. Digra KK, Pandita D, Pandita A. Neonatal Worm Infestation: A Rare Entity. *J Pediatr Neonatal Care.* 2017;6
3. Ward HB. Precision in the determination of human parasites. *JAMA.* 1903;XLI:703-709
4. Abhinandan Patila, Vijay Malib, Rajendra Banana fibers camouflaging as a gut worm in a 6-month-old infant, *American journal of medicine* 03 (2020) 245-247
5. Timothy P. Young, MD Banana Fibers Masquerading as Worms in the Stool of a 14-Month-Old Girl, *Clinical Pediatrics* 2015, Vol. 54(4) 382–383, DOI: 10.1177/0009922814533409
6. Young TP. Banana Fibers Masquerading as Worms in the Stool of a 14- Month-Old Girl. *Clin Pediatr (Phila)* 2015;54(4):382-3. doi: 10.1177/0009922814533409.
7. Ladas SD, Polymeros D, Tzathas C, Emmanuel T, Malamou H. Banana fibers in colonic mucus may puzzle the endoscopist. *Endoscopy.* 2005 Dec;37(12):1261. doi: 10.1055/s-2005-921152. PMID: 16329034