



# A Study of Wet Mount Preparation of the faecolith present in the lumen of biopsy specimen of appendix

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## Abstract

A total number of 195 Biopsy specimens of Appendix were studied, out of which 61 contained faecolith in the lumen. The faecolith was taken for the wet mount saline preparation. Wet mount preparation and examination of the faecolith found in the lumen of the biopsy specimen of the Appendix is rarely mentioned, but it gives valuable information, is inexpensive, less time consuming and needs no sophisticated instrument or procedures in arriving at the diagnosis of worm infestation.

**Key words:** *Wet mount saline preparation of faecolith in Appendix*

## INTRODUCTION:

Worm infestation (Ascariasis, Enterobiasis, Hook worm etc) is very common in the developing countries, causing major public health problems. The examination of the stool is one of the methods for diagnosis of intestinal worm infestations. Wet mount preparations with saline or iodine preparations of the stool are the simplest tests that can demonstrate the ova or adult worms<sup>1</sup>. Intestinal worm infestation is also one of the commonest causes of Appendicitis which necessitates Appendicectomy<sup>2</sup>. A Wet mount preparation of the faecolith present in the lumen of the biopsy specimen of the Appendix was studied to find out the presence of intestinal worm infestations. A conventional technique of wet mount preparation and microscopic examination was done, as it is being done for the stool.

## AIMS AND OBJECTIVES

To correlate the findings of histopathological sections with that of the wet mount saline preparation of the appendicular faecoliths (biopsy specimen).

## MATERIALS AND METHOD

The study was conducted in the Department of Clinical Pathology, Nazareth Hospital, Shillong, over a period of 18 months from January 2007 to June 2008. A total number of 195 appendicectomy specimens were received in the department of clinical pathology for histopathological examination.

As many as 61 (31 %) of them contained faecolith in the lumen (found while doing a gross examination before tissue processing). All the Appendix specimens containing faecolith were taken up for the study and those without a faecolith in the lumen were excluded from the study. The faecolith is taken randomly from any part of the appendix that is from the base to the tip. A pinch of the faecolith is taken on a clean, dry, grease or oil free glass slide and mixed with normal saline, then covered with an ordinary cover slip and examined under the microscope using low power (10X) and high power (40X) fields .



**PLATE NO 1: Fertilized eggs of *Ascaris lumbricoides* in wet mount (40X)**



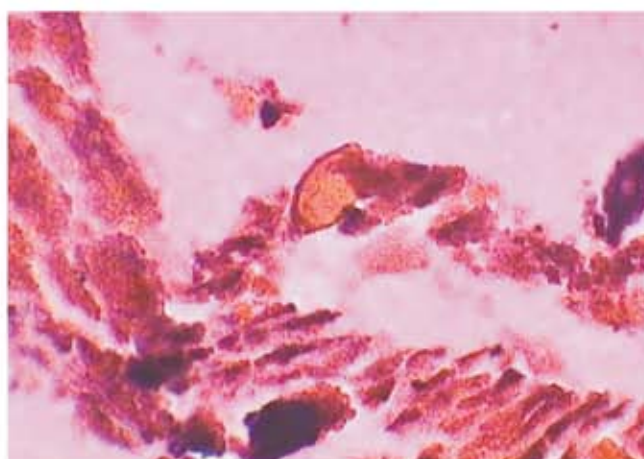
**PLATE NO 2:** Showing the egg of *Trichuris trichuria* in wet mount saline preparation of Faecolith (40 x).



**PLATE NO 5 :** Tail end of the adult worm of *Enterobius vermicularis* in wet mount (40X).



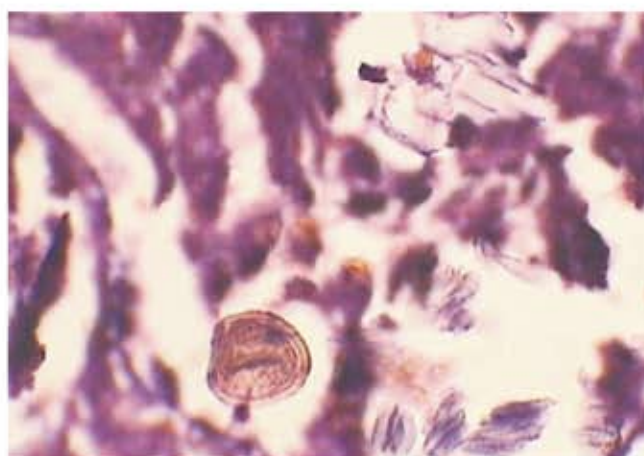
**PLATE NO 3 :** Adult worm of *Enterobius vermicularis* in wet mount (10X).



**PLATE NO 6 :** Egg of *Trichuris trichuria* in tissue section, H&E stain (40X)



**PLATE NO 4 :** Head end of the adult worm of *Enterobius vermicularis* in wet mount (40X)

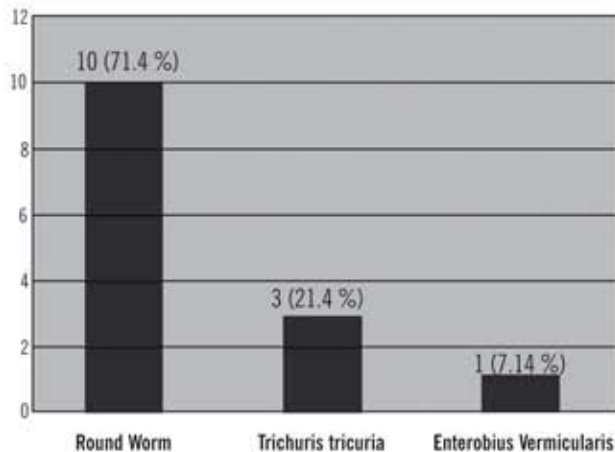


**PLATE NO 7 :** Decorticated egg of *Ascaris lumbricoides* in tissue section, H&E stain (40X).



## RESULTS

Over a period of 18 months a total of 195 appendicectomy specimens were studied. 61(31%) of them contained faecolith in the lumen and they were subjected to wet mount preparation. Out of these, 14(23%) showed presence of intestinal parasites in the wet mount preparation. Among these 14 specimens 5(8.2%) showed presence of parasites in tissue sections. *Figure 1* shows the distribution of different parasites on the wet mount preparation.



**FIG 1: Distribution of the different types of eggs and adult worm in the wet mount (n=14)**

## DISCUSSION

The importance of intestinal parasites as the exciting cause of Appendicitis was first emphasized in 1901 by Metchnikoff, who reported three cases of this disease due to *Acaris lumbricoides*. Metchnikoff's contributions served to awaken some interest among clinicians in parasitic Appendicitis, but the subject is one which, on the whole has received very meager scientific study<sup>3</sup>. The commonest parasitic inhabitant of the Appendix is *Enterobius vermicularis*, followed by *Trichuris trichuria*. Reports and publications of finding Pin worm in the Appendix causing Appendicitis, was also reported<sup>4,5</sup>. Review of literatures showed that, there is a presence of worms and eggs in the lumen of the Appendix specimen studied in tissue sections. However a wet mount preparation of the faecolith present in the Appendix specimen is rarely mentioned. The observations made in our study shows the importance of a wet mount preparation of the faecolith present in the lumen of the Appendix specimens sent for biopsy. While taking the tissue bits from the Appendix specimen and

while grossing, it is useful to note the presence of faecolith inside the lumen and take it for wet mount preparation, since we may not find the parasites in tissue section, but may find them in the wet mount preparation. Diagnosis is often made by the demonstration of an adult worm in the macroscopic examination or finding the larva or ova in the microscopic examination of the saline wet preparation of the stool, Concentration techniques and Bronchial washings or gastric washings, especially in the larval migration<sup>1</sup>.

## CONCLUSION

It is very important, to examine the Appendix specimen properly while doing a gross examination and while taking the tissue bits for biopsy. Look for the presence of faecolith in the lumen of the Appendix specimen, if present to take it for the wet mount preparation. This gives lots of valuable information, it is inexpensive, less time consuming and no sophisticated instrument or procedures are required in arriving at the diagnosis of worm infestation.

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