

# Enterobiasis in a Primary School-Going Child Treated with the Homoeopathic Nosode Scirrhinum: A Case Report

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**Abstract:** Enterobiasis is a common infection caused by the helminth *Enterobius vermicularis*. It is mostly prevalent among school-age children, often ranging from 5 to 12 years old. In India, over 61% of children are reported to be infested with *Enterobius vermicularis*. Children having enterobiasis have major clinical symptoms like nocturnal pruritus ani, pruritus vulvae accompanied by vaginal discharge in females, disrupted sleep and insomnia caused by nocturnal perianal pruritus, bedwetting during night. Retrograde infection prevents the expulsion of pinworms for which even after repeated medicinal intervention the pinworm persists in human body. Several studies have shown the effect of homoeopathic medicines for worm infestations in children. Dr Burnett, authority for the Homoeopathic Nosode Scirrhinum, stated that, a patient who had been administered Scirrhinum informed him that it had resulted in the expulsion of a significant quantity of threadworms. So, this case report of 7 year old female child contributes in understanding of the potential effect of homeopathic medicine Scirrhinum in the expulsion of pinworms and its management in primary school-going child.

**Keywords:** Enterobiasis, Primary school-going child, Homoeopathy, Scirrhinum

## 1. Introduction

Common worm infestations in children include four types: roundworm, whipworm, hookworm and pinworm. The significance of worms in relation to worldwide child health issues lies in their capacity to induce long-lasting chronic disabilities that often last from childhood to adolescent [1]. The disease burden caused by parasite infection and infestation is quite significant, with an estimated disability-adjusted life year (DALY) of 4.98 million years. The majority of illnesses are concentrated in India [2]. **Enterobiasis** is a common infection caused by the helminth *Enterobius vermicularis*. Its **ICD-10 code is B80**. Pinworm infestation refers to the process in which pinworms become established, grow and reproduce within the host. It can occur in individuals of any age; however it is mostly prevalent among school-age children, often ranging from 5 to 12 years old. Pinworm is globally distributed, commonly found in chilly and temperate regions [3].

As per the **Centers for Disease Control and Prevention (CDC)**, it is important to prevent re-infection in pinworm infestation, as it can develop quickly [4]. In **India**, over 61% of children are reported to be infested with *Enterobius vermicularis* [5]. Several studies conducted globally have shown the prevalence of enterobiasis in school going children specially of age group 5 to 12 years old [6]-[9]. Various studies have also been conducted in India to find out the prevalence of enterobiasis cases in primary school going children and the risk factors for its prevalence [10]. The risk factors that heightened the likelihood of enterobiasis in primary school going children included residing in rural areas, residing in households with nine or more family members, failing to practice proper hand hygiene after using the toilet, having a mother with an elementary school education, having siblings who are either older or younger,

maintaining long nails, thumb sucking, lack in parental understanding, inadequate personal cleanliness [6]-[10].

Here, we report the case of a child who presented with worm infestation and was diagnosed to be having enterobiasis based upon the clinical symptoms and investigation.

Children having enterobiasis have major clinical symptoms like nocturnal pruritus ani, pruritus vulvae accompanied by vaginal discharge in females, disrupted sleep and insomnia caused by nocturnal perianal pruritus, bedwetting during night. If not treated then will develop cellulitis, granuloma or abscess in the perianal area from scratching due to intense itching, disrupted behavioral attitudes like agitation, inattentiveness, and noncompliance in school, accompanied by a sense of humiliation and inferiority, irritability, behavioral issues such as teeth grinding, masturbation, bedwetting, abdominal pain, diarrhea and decreased appetite [11]. Various studies have found out the complications of recurrent enterobiasis like appendicitis, recurrent urinary tract infection, chronic salpingitis, pelvic inflammatory disease, peritonitis, hepatitis, ulcerated lesions in the large or small intestine and eosinophilic ileocolitis [12]-[15].

The diagnosis of enterobiasis is confirmed by perianal scotch tape test which consists of touching tape to the perianal area several times, removing it and examining the tape under direct microscopy for eggs. The test should be conducted right after awakening on at least three consecutive days. This technique can increase the test's sensitivity to roughly 90 percent. 50% of infection is detected by one examination, 90% by 3 examinations and 99% by 5 examinations [16].

The World Health Organization (WHO) advises the use of preventive chemotherapy (albendazole 400 mg or

mebendazole 500 mg once a year or every two years) as a public health measure for young children aged 12-23 months, preschool children aged 1-4 years and school-age children aged 5-12 years<sup>[17]</sup>. In 2015, the Indian Government initiated the fixed-day Anganwadi and school-based National Deworming Day with the aim of deworming all children between the ages of 1 and 19 years old. The National Deworming Day is implemented in all states and union territories in two rounds. The first round takes place on February 10, followed by the second round on August 10 every year<sup>[18]</sup>. Those preventives given to school going children are not much effective in expelling the pinworms though they are having the feature of reinfection. The process of **retrograde infection** prevents the expulsion of pinworms for which even after repeated medicinal intervention the pinworm persists in human body. This sets the human body as a potential reservoir for *Enterobius vermicularis*<sup>[16]</sup>.

Dr Hahnemann says in the chronic diseases: In all vermicular diseases, it is necessary for expulsion of worms by purgatives. But the presence of worms inside children specially depends on psoric constitution combined with the unhealthy mode of living. So to bring complete cure in children, the unhealthy mode of living should be improved to healthy living and with that homoeopathic treatment to be given. If you treat in such way the worms will not reappear otherwise by repeated use of purgatives combined with cina seeds there is high chance of recurrence instead of cure<sup>[19]</sup>. Stuart close in the Genius of Homoeopathy says: Entozoa or organized living animal parasites, when their presence in the body gives rise to disease, must be expelled by mechanical measures or by the administration of medicines capable of weakening or destroying them without endangering the person suffering from their presence. Dynamical treatment of homoeopathic principles may be required to remove the functional derangement and restore the patient to health<sup>[20]</sup>. Several studies have shown the effect of homoeopathic medicines for worm infestations in children. The effectiveness of homoeopathic medicines has also been reported for the treatment of pinworm infestation<sup>[21]-[22]</sup>. No case reports/case series or studies were found on effect of homoeopathic nosode *Scirrhinum* for the management of enterobiasis. Dr Burnett, authority for the **Homoeopathic Nosode Scirrhinum**, stated that, a patient who had been administered *Scirrhinum* informed him that it had resulted in the expulsion of a significant quantity of threadworms<sup>[23]</sup>. So, this case report contributes in understanding of the potential effect of homeopathic medicine *Scirrhinum* in the expulsion of pinworms and its management in primary school-going child.

## 2. Patient Information

A 7 year old girl child was brought by her mother to the pediatric OPD of White memorial homoeo medical college and hospital, with complaints of itching in the anal region for 2 weeks. Her mother narrated that the itching occurs mostly at night. She had developed decreased desire for food. The quantity of intake of food was decreased. During elaborate homoeopathic case taking, her mother revealed that from 5 years of age, she had recurrent worm infestation.

In the initial days the child was taking proper food but later on, the quantity of intake got decreased.

### History of presenting complaint:

Three years ago, when she started going to school the complaints of the worm infestation started. Initially there was mild itching in the perianal region for which allopathic medication for deworming was administered, after which the complaints got better and there was no itching. There was reappearance of the symptom after 6 months even after taking the de-worming medication. The intensity of the itching was increasing. Again the child was given de-worming medication. So in every 6 months the child was given medication but the recurrence of symptoms was there. Initially the itching was happening in night time but gradually in every recurrence the itching was happening in both day and night time. The child sleep was disturbed. The child had gradually developed decreased appetite and the quantity was also decreased.

There was no significant past clinical history rather than worm infestation. All the developmental domains: gross motor, fine motor, language & speech, vision & hearing appeared on time as per the age of child. The child was immunized as per the national immunization schedule with no adverse reactions. The child was studying in 2<sup>nd</sup> standard in Government school. The child's paternal grandmother and grandfather were having Diabetes mellitus type II and hypertension, while her parents and other family members were not having any health related issues. While collecting the information regarding the child's family status, she was belonging from lower middle socio economic status though her father was 10<sup>th</sup> pass and mother had studied middle school. She was belonging from joined family. She had one younger brother. She had strong desire to eat boiled eggs. She was fond of playing outdoor games.

Though her parents were not highly literate so information regarding their knowledge upon hygiene and worm infestation was collected. Her parents were not having the habit of washing hands with handwash after coming from latrine, the child was not properly washing the hands before meal, was not dressing tight pants at night, was not changing the underwear every day, was wearing her cousin clothes and mother was not washing properly the fruits and vegetables after bringing from market.

### Life space investigation:

Antenatal history was collected where age of mother during pregnancy- 28 year. There was no bad antenatal history and had four antenatal visits. Natal history: 37 weeks of gestational age with no history of prolonged rupture of membrane and no history of fetal distress. During her birth the mode of delivery was normal vaginal delivery. Under post natal history: her birth weight was 3kg 300gm. Vitals were normal. Passed meconium and urine after 24 hours of birth. Her mother started exclusive breast feeding after 1 hour of birth. She was discharged from hospital after 3 days of birth. Child started going to school in age of 4 years. The child has a good relation with other family members.

**Homoeopathic Generalities:****Mental generals:**

On enquiring about the mental state of the child, the mother informed that the child has interest to learn new things. She was introvert in nature. She always tries to be with her mother. She was not obstinate. She has fear of strangers.

**Physical generals:**

The child was taking less quantity of food. It was enquired that she was not taking proper food as per her required daily calorie. She was not able to sleep properly at night due to itching in perianal region. She always preferred to sleep on left side. She was passing stool once a day. She also had nocturnal enuresis since 3 weeks. Perspiration was from scalp and face. She was a chilly patient and was susceptible to catch cold easily. She catches cold after getting drenched in rain. She had an intense desire to eat boiled eggs and sugar rich foods. She was having aversion to eat vegetables.

**Clinical Findings:****Physical examination:**

The child was conscious and alert during examination. She was appearing dull and not well nourished. She was not having any abnormalities in nails, skin and had steady gait. She was not anemic. Lymph nodes were not enlarged.

**Anthropometric measurements:**

Her height was 116 cm and weight was 18 kg. Her body mass index was 13.38 kg/m<sup>2</sup>. She was underweight. Her head circumference was 53 cm. Her mid upper arm circumference was 14 cm.

**Vital signs:**

Her blood pressure was 100/70 mm of Hg. Her pulse rate was 79 beats/minute. Her body temperature was 98.4 °F. The respiratory rate was 21 breaths/minute.

**Systemic examination:**

During examination of perianal region it was found that perianal area was red and excoriated. Anal tone sphincter was normal. No abnormalities were detected from respiratory system, cardiovascular system, gastro intestinal system and urogenital system examination. The child was well oriented to time, place and people.

**Diagnostic Assessment:**

A provisional diagnosis of Enterobiasis was made based on her presenting complaints, that is itching in the perianal region, as per the ICD-10, B-80, which was further confirmed by perianal scotch tape test. In that test perianal swab was taken by scotch tape and send to lab for microscopic examination. The findings were there was presence of pinworm ova. (Figure 1)



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Name: BA	Age: 7 Years	Sex: Female
OP No: 2682/23	Received On: 26.04.2023	Report On: 26.04.2023
Referred By: Dr. DIVYA RATNA SAHOO, B.H.M.S.		

**DEPARTMENT OF CLINICAL PATHOLOGY**

Test	SCOTCH TAPE METHOD
Specimen	PERIANAL SWAB
Group	
Period	0 DAY
Name of the parasite	PIN WORM OVA PRESENT

**\*\* End of Report \*\***

MICROBIOLOGIST  
 Dr. BAKTHASINGH LAZARUS.Y  
 M.Sc., M.Phil., P.hd., (Microbiology)

**Figure 1:** a. Pinworm ova in the microscopic examination of perianal swab before treatment; b. Perianal scotch tape test result before treatment

Visual analogue scale score (Figure 2) for perianal itching was recorded before treatment to know the intensity of the itching. The VAS score for perianal itching was 6 which denoted moderate pruritus.



1.) On a scale of „no itch“ (left) to „worst imaginable itch“ (right), how was

Please mark a position between 0 and 10 that best represents your itch with a cross on the line below.

...your itch, on average, in the past 24 hours?

...your worst itch in the past 24 hours?

VAS score interpretation	
VAS score	Interpretation
VAS 0	No itching
VAS < 3	Mild itching
VAS ≥ 3- <7	Moderate itching
VAS ≥ 7- <9	Severe itching
VAS ≥ 9	Very severe itching

**Figure 2:** Visual analogue scale score for perianal itching

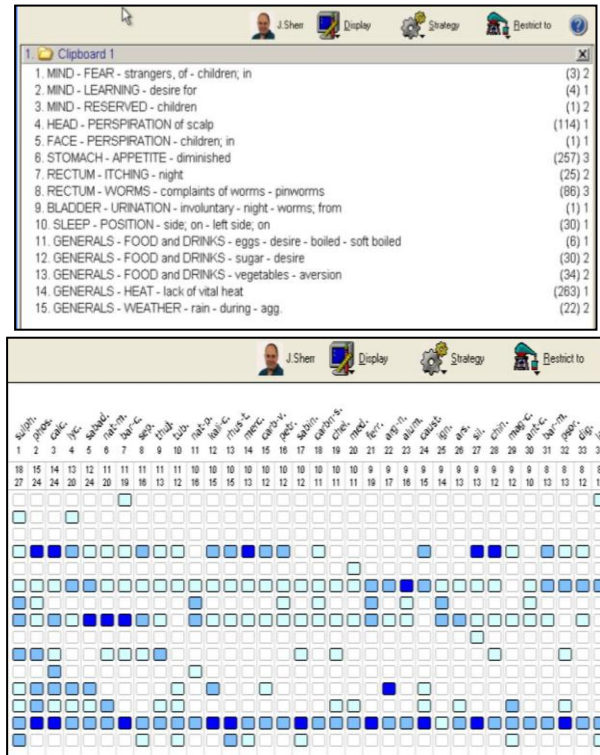
### Case Analysis:

While analyzing the case, the general and particular symptoms were classified as per the intensity and evaluated as per their merit. After symptom analysis, the totality of symptoms was framed using characteristic mental, physical and particular generals (Table 1)

Table 1: Symptoms forming the totality
Introvert in nature
Fear of strangers
Interest to learn new things
Decreased appetite
Sleeping position on left side
Nocturnal enuresis
Perspiration from scalp
Perspiration from face
Catches cold easily
Catches cold when drenched in rain
Desire to eat boiled eggs +++
Desire to eat sugar rich foods ++
Aversion to eat vegetables
Itching in the perianal region at night due to pinworm

### Repertorization:

Considering the totality, synthesis repertory was selected and repertorisation was done using RADAR OPUS software 10.5.003 (figure: 3). The top remedies were *Sulphur* 27/18, *Phosphorus* 24/15, *Calcarea carbonica* 24/14, *Lycopodium clavatum* 20/13, *Sabadilla* 24/12, *Natrium muriaticum* 20/11.



**Figure 3:** Repertorisation chart

### Therapeutic Intervention:

After repertorisation, from the list of drugs (figure 2), *Sulphur* was selected after further confirmation from homoeopathic materia medica. It was prescribed in fifty millesimal potency; 0/2, 16 doses, one dose in alternate days in the morning on empty stomach, and the patient was asked to report in every 15 days.

### Follow-Up and Outcomes:

The follow up of the child was taken in every 15 days [Table 2]. Initially for three months there was gradual decrease in the intensity of itching in perianal region at night. The child appetite had increased. The child was not having nocturnal enuresis. Again after three months the intensity of itching in perianal region got increased. She had also developed nocturnal enuresis but not in regular basis, it was like weekly once. Though there was again recurrence of pinworm infestation so the child was administered homoeopathic nosode *Scirrhinum* in 1M potency (Table 2). After taking in water doses for 15 days, the itching intensity was mild. The medicine was repeated for again 15 days. Then there was complete absence of itching in perianal region. Even the child had no nocturnal enuresis. The visual analogue scale score for perianal itching was taken for every 15 days (Table 2). Though the itching was absent so the repetition of *Scirrhinum* 1M was not required thereafter. The child was only administered placebo for next two months and was asked for visit to O.P.D every 15 days. During the whole follow-up period the proper hygienic measures was advised to them. After 2 months of placebo intake the perianal scotch tape test was done where there was absence of pinworm ova (figure 4).

Table 2: Follow up

Date	Symptoms	VAS score for perianal itching	Medicine prescribed
30 <sup>th</sup> May 2023	Itching in the perianal region has slightly decreased Appetite- slightly increased. Stool – once in a day Urine- 4/day, 2/night. Weight– 18 kg Height- 116 cm	5	Sulphur 0/3, 16 doses, one dose in alternate days daily in the morning, on empty stomach
3 <sup>rd</sup> July 2023	Itching in the perianal region has slightly decreased. There is no nocturnal enuresis Appetite- Increased desire Stool- once in a day Urine- 4/day, 2/night. Weight- 18.5 kg Height- 116 cm	3	Sulphur 0/4, 16 doses, one dose in alternate days daily in the morning, on empty stomach
5 <sup>th</sup> August 2023	Itching in the perianal region is absent. Appetite- is taking 4-5 times a day. Stool – once in a day Urine- 4/day, 2/night. Weight– 19 kg Height- 119 cm	0	Placebo/15 days
28 <sup>th</sup> August 2023	Itching in the perianal region has reappeared since 3 days Reappearance of nocturnal enuresis, since 3 days Appetite- is taking 4-5 times a day. Stool – once in a day Urine- 4/day, 2/night. Weight– 19 kg Height- 119 cm	5	Scirrhinum 1M / Gtt ii, Aqua dist ozi 60 ml, M.Ft.Mist, 10 drops once a day, after food, in morning
27 <sup>th</sup> September 2023	Itching in the perianal region present mildly during day time but not in night time Nocturnal enuresis absent Appetite- is taking 4-5 times a day. Stool – once in a day Urine- 4/day, 2/night. Weight– 19.5 kg Height- 119 cm	1	Scirrhinum 1M / Gtt ii, Aqua dist ozi 60 ml, M.Ft.Mist, 10 drops once a day, after food, in morning
2 <sup>nd</sup> November 2023	Itching in the perianal region is absent. Appetite- is taking 4-5 times a day. Stool – once in a day Urine- 4/day, 2/night. Weight– 19.5 kg Height- 119 cm	0	Placebo/ 15 days
3 <sup>rd</sup> December 2023	Itching in the perianal region is absent. Appetite- is taking 4-5 times a day. Stool – once in a day Urine- 4/day, 2/night. Weight– 19.5 kg Height- 119 cm	0	Placebo/ 15 days
16 <sup>th</sup> January 2024	No symptoms Investigation: perianal scotch tape test for pinworm: absence of pinworm ova (figure 4)	0	

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Name: BA...	Age: 7 Years	Sex: Female
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**DEPARTMENT OF CLINICAL PATHOLOGY**

Test : SCOTCH TAPE METHOD  
 Specimen : PERIANAL SWAB  
 Group :  
 Period : 180<sup>th</sup> DAY  
 Name of the parasite : PINWORM OVA ABSENT

\*\* End of Report \*\*

MICROBIOLOGIST  
 C. J. S. Y  
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**Figure 4:** Perianal scotch tape test result after treatment

### 3. Discussion

In this case, though the child was given deworming medication but the medicine was not much effective being not specific for enterobiasis. If we compare with other helminthes they are being examined under microscopic stool examination but pinworm can only be examined in perianal scotch tape test. Pinworms don't get expelled through stools easily though they have the quality of retroinfection and autoinfection. In this case the mother was taught properly the procedure for collection of perianal swab for perianal scotch tape test. Proper awareness should be created regarding different worm infestations so that the children can be properly screened and treated soon.

The child was belonging from lower middle socio-economic status and the parents were unaware of the hygiene measures to be followed. Mother is the primary caregiver of the child. A study by **pokkamol laoraksawong, pimiyada pansuwan, supakrit krongchon, pongphan pongpanitanont and penchom janwan (2020)** [6], which revealed that children whose mothers had only completed basic school education were more likely to be at a greater risk of pinworm infestation. In this case the child's mother was not having accurate knowledge regarding pinworm infestation and hygiene protocols. So, she was given information about clinical symptoms and mode of transmission of pinworms. Both the child and parents were advised to maintain hygiene, to wash hands before and after meals, wash the fruits and vegetables properly after bringing from market, not to share clothes between children, to wash underwear and cloths regularly, to dress tight pants at night, not to go for open defecation, to maintain short nails and to wash hands with hand-wash after coming from latrine.

In the present case, *Sulphur* covered the maximum number of rubrics and had the highest score on repertorial analysis. It was selected as it covered the physical generals and symptoms related to the main presenting complaint in the

highest grade. But 3 months after administration of *sulphur* in fifty millesimal potency, there was recurrence of itching in perianal region. Therefore, Homoeopathic nosode *Scirrhinum* was prescribed as a valuable intercurrent remedy during the course of the individualized treatment, complementing the action of indicated remedy. Dr Burnett during his clinical provings, had given *Scirrhinum* with great success in many cases of troublesome complaint. In inveterate cases where *Cina maritima* and *Teucrium marum verum* have given little relief, there *Scirrhinum* had brought a great change for the better. In this case after administration of *Scirrhinum* there was no recurrence of symptoms [23].

The child was assessed by visual analogue scale score for perianal itching. The patient had a pretreatment score of 6, which was reduced to 0 after treatment. Various previous studies have been conducted where successful treatment outcomes were found in children with enterobiasis using homeopathic remedies [21]-[22]. However, there is no case series or case report for treatment of enterobiasis with homeopathic nosode *Scirrhinum*.

This case responded positively to holistic homeopathic treatment based on the totality of symptoms and administration of intercurrent remedy *Scirrhinum*; hence, it is important to be presented. This case is being reported as per HOM-CASE-CARE guidelines. The result re-establishes the strength of homeopathy as a holistic system of medicine, a proper way of approach for the treatment of enterobiasis along with educating the parents regarding the hygiene measures as per the WHO protocols.

### 4. Conclusion

This case report shows positive results with homeopathic medicine *Scirrhinum* as improvement in decreasing the recurrence rate of pinworm infestation by expelling the pinworm. Further clinical studies are required to establish the role of homeopathic nosode *Scirrhinum* for management of enterobiasis in primary school going children.

#### Patients Perspective:

The patient's mother reported that the child was having recurrent worm infestation in every 3 to 4 months inspite of taking deworming medication. The child had also taken deworming medication given in schools. But after taking homeopathic medicines her child's overall health has improved. Her child has developed proper appetite. She is not having any symptoms of pinworm infestation. Her child is also following the hygiene measures.

#### Declaration of Patient Consent:

A written consent was obtained from the patient's mother for reporting the microscopic examination reports and details of the patient to the journal.

#### Financial Support and Sponsorship:

Nil

#### Conflict of Interest:

None declared.

**Acknowledgements:**

I am thankful to Dr Y.BAKTHASINGH LAZARUS, Ph.D, Microbiologist, for confirming the diagnosis of enterobiasis by perianal scotch tape test and post treatment microscopic examination of perianal swab.

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