



# New Diarrhoea Causing Parasite: Entamoeba moshkovskii

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## Why in News?

The recent three-year surveillance study by **the National Institute of Cholera and Enteric Diseases (ICMR-NICED)** reveals the emergence of **Entamoeba moshkovskii (E. Moshkovskii)** as a leading pathogen causing **diarrhoea outbreaks in the Kolkata region**.

- The previously non-pathogenic amoeba, **Entamoeba moshkovskii**, has now become the primary cause of amoebic infections, **surpassing the once dominant pathogen, E. histolytica**.

## What are the Key Findings of the Study?

- **Prevalence of Entamoeba moshkovskii:**
  - The study found that **over 3% of patients with diarrhoea were infected with E. moshkovskii**, making it the leading cause of amoebic infections in humans in Kolkata.
- **The decline of E. histolytica:**
  - Infections caused by **E. histolytica, the previous predominant amoeba pathogen, were decreasing**, while E. moshkovskii was taking its place.
- **Unique Seasonal Pattern:**
  - Unlike **E. histolytica, which usually peaked during the wet season** and decreased during the dry season, **E. moshkovskii infections** in Kolkata exhibited two distinct infection **peaks coinciding with the summer and post-fall seasons**.
- **Age Predominance:**
  - E. moshkovskii infections were most **prevalent in children aged 5-12 years**.
- **Pathogenic Potential:**
  - The study indicated that E. moshkovskii may act as a **"potential" pathogen**, causing **diarrhoea and gastrointestinal disorders**, rather than solely being a commensal of the human gut.
- **Molecular Identification:**
  - Due to the morphological similarities between E. histolytica and E. moshkovskii, **PCR-based molecular identification** was used to differentiate between the two.
    - E. moshkovskii was identified in **over 50% of diarrhoea cases caused by amoebic parasites**.

## What is Entamoeba moshkovskii?

- **About:**
  - It belongs to the same genus as E. histolytica but has distinct genetic and biochemical traits.
  - Originally isolated from sewage in Moscow in 1941.
  - Found in soil, water, and animals.
- **Symptoms:**
  - Causes problems like diarrhea, tummy pain, fever, and dehydration.
  - It can damage the intestines, leading to ulcers, bleeding, or even serious issues like infections in the liver.

▪ **Transmission:**

- People can get infected by eating contaminated food or drinking contaminated water.
- Direct contact with poop can also spread the infection.

▪ **Diagnosis Challenges:**

- Looks like *Entamoeba histolytica* under a microscope, so it's hard to tell them apart.
- Special tests like PCR or DNA sequencing are needed for accurate identification.

▪ **Treatment:**

- Treating infections caused by *Entamoeba moshkovskii* can be tricky.
- The usual drugs used for amoebic infections may not work well.
- More research is needed to find the best treatment options.

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