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Amoebic dysentery from the perspective of Unani literature: A review

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Abstract

Amoebic dysentery is the most common protozoan infection leading to morbidity and mortality caused by the protozoan *Entamoeba histolytica*. It affects all age groups. It is more common in tropical countries and occasionally seen in nontropical countries. Infection largely depends on hygienic conditions and ways of living. In Unani enriched texts, the description of Amoebic dysentery is described under Zaheer-e-Sadique. Eminent Unani physicians enlisted many causative factors for Zaheer-e-Sadique, one among them is contaminated foods and drinks. According to Unani text books, there are two types of Zaheer. Zaheer-e-Sadique and Zaheer-e-Kazib. Zaheer-e-Sadique is similar to Amoebic dysentery because the symptoms and pathology are almost the same in modern and Unani concept. Zaheer-e-Kazib is caused by intestinal obstruction and develops conditions similar to Zaheer-e-Sadique but with less pain and irritation. Great Unani Physicians Hippocrates, Ibn-e-Sina, Zakariya Razi, Hakeem Ajmal Khan, and others gave ample of description about this disease. Hippocrates described this disease as bloody diarrhoea. Eminent Unani physician Ibn-e-Sina stated in his treatise *Al Qanoon fil-Tib* that Zaheer is abnormal movement of rectum, in which patient tries to defecate the faecal matter but only scanty mucous comes out associated with severe pain. In this article, I have reviewed many enriched Unani texts and published articles and tried to correlate the current and available Unani concept.

Keywords: Zaheer, amoebic dysentery, illat-ud-dajajah, zaheer-e-sadique, zaheer-e-kazib

Introduction

Amoebic dysentery is the parasitic infection of colon caused by *Entamoeba histolytica* with characteristics diarrhoea and dysentery. It is one of the leading causes of death by parasitic infection worldwide and spreads from person to person through contaminated foods and drinks [20]. This disease affects 15% of Indian population and 500 million people worldwide. In tropical countries people are affected more due to underdeveloped sanitation [6]. Dysentery, the word is coined by Hippocrates which is derived from Greek word "dysenteric" in which dys means bad and enteron means intestine [23].

Entamoeba histolytica

Amoeba lives in the large intestine. The life cycle of *Entamoeba histolytica* is in three phases.

1. Trophozoite
2. Precystic
3. Cystic

1. Trophozoite

It is invasive form of the parasite, passed only in faeces of patient with active dysentery. It measures 10-60 micro meter and shape varies because of regular changing position. Cytoplasm has a clear ectoplasm and a granular endoplasm. Endoplasm contains RBC and a food vacuole. It contains single, spherical nucleus 4-6 mm in size. Trophozoite is active form due to presence of organ of locomotion that is pseudopodia, a finger like projection [27, 28].

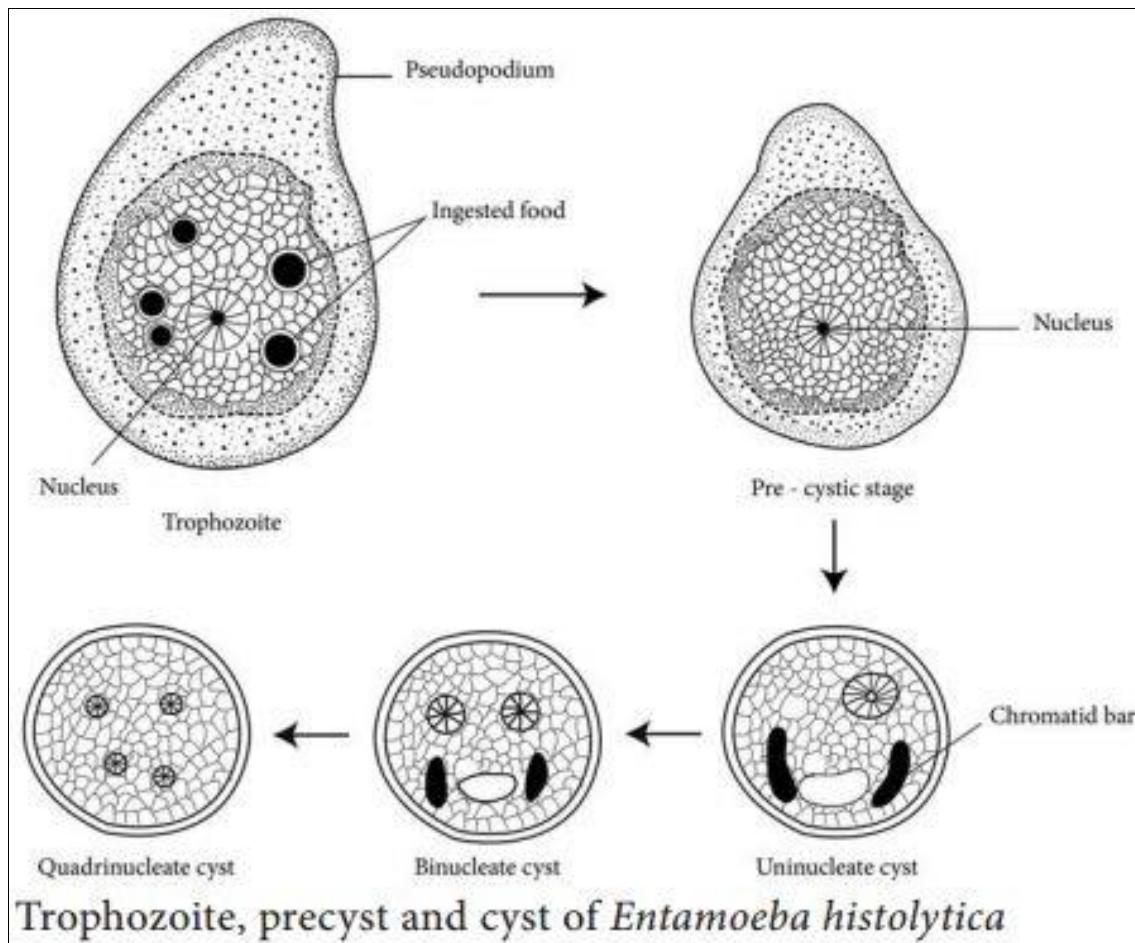
2. Precystic

It is the intermediate stage between trophozoite and cyst. It is oval in shape with blunt pseudopodia. It is smaller in size varying from 10-20 micron.

3. Cystic

It is infective form of the parasite found in the infected person stool. It is spherical in shape and measuring 10-20 micron, covered with smooth chitinous wall that makes

them resistant to gastric acid. Nucleus structure is same as trophozoite. The cyst begins as a uninucleate body but soon divided by binary fission and develops into quadrinucleate cyst.



Description of Amoebic Dysentery in Unani literature

According to the survey of literature, this disease was well known before Christian era. In 400 BC, Hippocrates described this disease as bloody diarrhoea accompanied by straining and tenesmus. Further Greek Hakeem described this disease in details.

In Unani medicine, this disease has been described under the heading of Zaheer-e-Sadique. In Kitab-al-Haziq, Hakeem Ajmal khan mentioned many causes of Zaheer in which one of the causes that has been written is consumption of contaminated foods and drinks. He also described the foods and drinks that causes Zaheer like eating stale food, salty food, drinking of raw milk and eating of contaminated fish. He said dysentery is contagious during rainy season and it is more common among females. All the symptoms mentioned in this book are similar to Amoebic dysentery such as mucous in stool, colicky abdominal pain, blood in stool and fever^[11].

In Kitab al Qanoon Fil Tib, Zakhira Khwarazm Shahi, Al Hawi and in other books it is mentioned that Zaheer-e-Sadique caused due to "Warm-e-Haar". In Unani literature "Warm" refers to inflammation and in this disease, patient develops colitis^[1, 13].

So, all these correlations show that Zaheer-e-Sadique is the same as Amoebic dysentery.

Another type of Zaheer is also described in Unani text books that is Zaheer-e-Kazib which is due to obstruction in

the intestine. When the morbid matter adheres to the intestine and obstruct them then body tries to defecate but only scanty mucous comes out and produce similar condition like Zaheer-e-Sadique. But in this there is less pain and less irritation^[11].

Unani Hakeem gave ample description about this disease. In Tib e Akbar, Hakeem Mohammad Akbar Arzani has described that, Zaheer is also known as "Illat-ud-Dajajah". Zaheer is involuntary movement of rectum in which faecal matter is expelled out from the body but, only fluid or blood with mucous comes out^[3].

In kitab al Haziq, Hakeem Ajmal khan stated that dysentery is severe and very painful condition in which irritant matters is accumulated in the colon and rectum that develops inflammation of the inner mucosal layer of the intestine. He also described the types of Zaheer in his book^[11].

In Moalejat-e-Buqratiya, Hakeem Ahmad Bin Mohammad Tabari used the term Zaheer only for that conditioned in which patient complaints of tenesmus with bloody stool and if a person suffered from similar complain without tenesmus, then it is termed as bloody diarrhoea and if irritation is present then it is called "Sahaj-e-Ama"^[10].

Al Qanoon Fil Tib gives a comprehensive description of this disease. Zaheer is an abnormal movement of the rectum, in which patient tries to defecate the faecal matter but only scanty mucous comes out associated with severe pain^[1].

In Kamil al Sana'a, Ali Ibn-e-Abbas Majusi stated that

dysentery is a disease in which abnormal movement of the rectum causes a person to have an urgent need for stool and when the stool is passed nothing comes out except a mucous like fluid which is similar to "Reeth", accompanied by saffron colour blood [2].

According to Ibn-e-Sina dysentery has several stages: In first stage, when the infection is mild, patient defecate stool mixed with mucous. As the disease progresses, infection spread up to mucosal layer of intestine and the patient defecate stool mix with that layer. Further progression of disease damage the intestinal arteries resulting in blood mix stool [1].

In kitab al Hawi, Zakariya Razi stated that Zaheer is an ulcer of the rectum and is one of the most severe types of ulcers [16].

In Firdaus al Hikmat book Rabban Tabri describes the complications of Zaheer, nothing that if watery stools resembling wax appear, it is a bad sign indicating that inflammation has spread in the intestines. Furthermore, if watery stools are followed by flesh-coloured stools, it suggests that the liver has become weak [12].

Pathogenesis

According to modern science this disease is caused by ingestion of viable cyst from faecal oral route through contaminated foods and drinks. There are three form of Entamoeba histolytica that is Trophozoite, Precystic and Cystic form.

When a person ingests cystic form of parasite, it reaches the stomach but in stomach gastric secretion is unable to dissolve the cystic form because it is covered by a thick chitinous wall that make them resistant to gastric secretion²⁴. So, when the cyst migrates into the small intestine, enzyme "Trypsin" dissolves the chitinous wall and developed into Quadrinucleated Trophozoite. These trophozoite are further divided into 8 metacystic trophozoite. These metacystic trophozoite are mature trophozoite and pass in the colon and are divided by binary fusion and are colonized in the mucosal surface and crypts of large intestine. Trophozoite are invasive form, they start invading the mucous membrane of the large intestine especially in the colon. After invasion lesions are formed that are maximal in the caecum but the extension of ulcer is up to the anal canal. These are "FLASK SHAPED ULCER" [19, 20].

In 10th century Hakeem Razi described Dysentery as an ulcer of the rectum. Now, the modern science said the same thing after knowing the pathogenesis of this disease.

Some of the trophozoite enter into the bloodstream through portal circulation and produced extra intestinal lesion in the brain, lungs and liver and some of the trophozoite moves in the distal part of the intestine, they start excysted into the cyst form. When it will excrete from the faeces and further causes infection when a healthy person ingests it.

Humoral Pathology of Amoebic Dysentery

Zaheer-e-Sadique is a type of Marz-e-Murakkab Maddi. In Unani literature, the pathology of any disease depends on three factors viz Mizaj, Tarkeeb and Ittesal. If equilibrium of these factors is altered it leads to Sue-e-Mizaj, Sue-e-Tarkeeb and Taffaruq-e-Ittesal. Among these if any one factor is altered then, it is called as Marz-e-Mufarad and if more than one factor altered then it is called as Marz-e-Murakkabv [15].

In this disease abnormalities happen are:

1. **Sue-e-Mizaj:** Entamoeba histolytica secrete cysteine proteinase, which altered the protective function of the mucous barrier of intestine. This disruption changes the temperament of the intestinal mucosal cells from normal, that change is termed as Sue e Mizaj.
2. **Taffaruq-e-Ittesal:** Entamoeba histolytica invades the mucosal layer which causes discontinuing in the surface mucosa. This discontinuing is called as Tafarruq-e-Ittesal in Unani.

Symptoms of Amoebic Dysentery

According to Kitab al Haziq, Hakeem Ajmal khan described the symptoms of Zaheer-e-Sadique that are almost same as Amoebic dysentery. Those symptoms are:

1. Low grade fever
2. Frequent stool
3. Abdominal pain
4. Mucous in stool
5. Shreds in stool
6. Tenesmus
7. Nausea and vomiting
8. Blood in stool

Usool-e-Ilaj

1. Dietary control
2. Uses of Laxative drugs
3. Uses of Habis-ud-Dam drugs
4. Uses of Muqawi-e-Amah drugs
5. Uses of Muhalil-e-Auram drugs
6. Uses of Qabizat

Ilaj

Unani treatment of Amoebic dysentery has been practiced since ancient time. Number of effective and curable single and compound drugs are available in this system to treat Zaheer-e-Sadique.

1. Single drugs are

- **Marorphali (*Helicteres isora*):** It is the best drug to cure Amoebic dysentery. It contains a chemical constituent name 4 quinolone alkaloids and malatyamine that show antidiarrheal properties [26].
- **Beekh e khatmi (*Althaea officinalis* Linn):** Root is given in the irritable state of intestine especially in the Zaheer-e-Sadique due to its demulcent action.
- **Teewaj (*Holarrhena antidysrnterica*):** Bark and seeds contain a chemical constituent name "conessine" having amoebicidal properties [9].
- **Beal (Aegle marmelos):** Fruit is very effective in dysentery because of demulcent properties.

2. Compound drugs are

Safoof-e-Muqliyasa, Safoof-e-Teen, Habb-e-Pechish, Sharbat-e-Belgiri, Tiryaq-e-Pechish

3. Mamulat-e-Matab:

Nuskha No.1

Soak Bahidana 3gm and Resha-e-Khatmi 4 gm in Water and collect Luab. Badiyan 5gm is grind with water to make Sheera. Both Luab and Sheera are mixed together, then add 6gm of Sharbat-e-Banafsha and give to the patient at morning and night [11].

Nuskha No. 2

Roast Halela siyah in the cow's ghee and make Safoof. Take Asabgol Musallas, Haloon in equal quantity then add to the Halela Siyah Safoof and give to the patient with water^[12].

Nuskha No. 3

Take Zanjabeel, Samaaq, Dar-e-Filfil, Roast Anardana Tursh, all in equal quantity and make powder. 3.5gm of powder give to the patient in empty stomach with lukewarm water.

Nuskha No. 4

Take Sonth, Saunf, Belgiri, each 7gm add 10gm of Rock Sugar and make powder. On first day 7 gm, 2nd day 10gm, 3rd day 14gm give to the patient with water^[25].

Nuskha No.5

Take Maghz-e-Faloos 40gm, Sheer-e-Gao ¼ seer, Rock sugar 40gm boil it and make decoction then give to the patient.

Nuskha No. 6

Take Murdarsang powder and add Roghan-e-Gul in it and locally apply this on anus.

Nuskha No. 7

Massage of Roghan-e-Gul on the abdomen is very effective in tenesmus^[16].

Conclusion

Amoebic dysentery is a common protozoan infection of the inner mucosal layer of the intestine especially in the colon caused by *Entamoeba histolytica*. It can be acute and chronic and affect wide range of people in tropical countries due to poor hygiene and way of living. While going through the literature, the term amoebic dysentery has not been mentioned as such but the clinical features mentioned under the Zaheer-e-Sadique described by great Unani Physician Hippocrates, Ibn-e-Sina, Zakariya Razi, and others are similar to the clinical features of amoebic dysentery. The causative factor *Entamoeba histolytica*, which is transmitted through contaminated food and drink, even ancient Unani literatures mention contaminated food and drink as the cause.

Eminent Unani physician have given detailed description of this disease. This disease has been described as a disease of amah characterised by low grade fever, frequent stool, abdominal pain, tenesmus, blood in stool, mucous in stool, shreds in stool and nausea & vomiting. The treatment includes uses of laxative, Habbis-ud-Dam drug, Muqawwi-e-Amah, Mohalil-e-Auram, Qabizat and also from Dietary control. Since a long time, various single and compound Unani medicines are effective in the treatment of Zaheer-e-Sadique. In 4th century Hakeem Razi described Zaheer as an ulcer of the Rectum and Hippocrates noted that if the watery stools are followed by flesh-coloured stools, it indicates a weakened liver. Modern science also recognizes liver abscess and flask shaped ulcer as complications of this disease.

Conflict of Interest

Not available

Financial Support

Not available

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