

Abdominal Pain and Diarrhea in an Adolescent Indian Girl

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Case Overview

AT, a 13-year-old girl with abdominal and pelvic pain, and diarrhea for two months duration, that started during her first menstrual cycle and gradually got worse. She now has several episodes of diarrhea per day associated with blood and mucous. Symptoms are worse during her menstrual cycles.

Patient Profile

- Name: A.T.
- Age: 13
- Sex: Female
- Marital Status: Single
- Living Conditions: Lives with her father and two brothers in a remote village in India.
- Social History: No history of smoking, drinking, or chewing tobacco.
- Past Medical History: None. Never immunized.
- Family History: Mother died of unknown causes six months ago. She had abdominal pains, nausea, diarrhea and fevers off and on and had lost a lot of weight and appeared very sick before her death, as per history from the family. Never got any medical care.

Socioeconomic Status

Father and brothers work in the fields, and they are poor and uneducated. They have deep-rooted cultural and religious beliefs and are superstitious. They live in a mud hut padded with cow dung. There's no source of running water at home. The only source of water is the nearby lake where all the villagers (mostly women) bathe, wash, and collect water for cooking and other household use. The lack of toilets in the community results in open defecation typically by the lake. AT uses the water from this same lake for cooking and typically keeps the leftover boiled water for drinking for her family members. For the most part she drinks the water directly from the lake and her father and her brothers drink the water from a well situated in the field where they work. AT has been thirstier lately and drinking more water at the lake.

Chief Complaint

AT is a 13 year old, single girl presenting with abdominal and pelvic pain and diarrhea for two months duration. The problem started during her first menstrual period two months ago. Since then she has continued to have abdominal and pelvic pains along with diarrhea off and on, but the symptoms seem worse during her menstruation. Her diarrhea now accounts for 6-8 bowel movements per day associated with abdominal cramping, bloating, weight loss, and recently blood and mucous in the stool. Noticing blood in her stool while not on her menstrual cycle finally made her complain about her problems to her father who brought her to the primary

health center (PHC) located 50 kilometers away from her home. Other family members have no GI symptoms.

Presenting Complaint

Patient complains of pain in the abdomen and pelvic areas along with bloating. Also complains of nausea off and on. She has poor appetite and states that her clothes are falling off her waist. Admits to feeling lightheaded and dizzy. She has passed out two times while doing household chores. The last episode was two days prior to arrival at the PHC and was witnessed by her father, which prompted a conversation about her health between them. Complains of excessive thirst, chills, and fatigue. She feels warm but is unsure of fevers. She has headaches off and on. Upon further questioning she admits to heavy cycles requiring her to change and wash her cloth sanitary napkin several times a day for seven days during each of her past three cycles. She has to go to the lake to urinate and do the washing at all times of the day and night. Her urinary output is less but she's unaware of it, as she doesn't understand what is normal. Does admit to drinking water from the lake while doing her chores of washing, bathing, and after defecation/urination, especially lately because of thirst. Her visit to the lake has increased since her menarche as she needs to go there to clean herself and change the menstrual cloth pads and wash them. Her visit to the lake has gradually increased over the past six to nine months as she was helping her mother with her chores before she died and has taken over all the chores since her mother's death.

Her living situation makes it difficult for her to seek medical attention and care from her community. In rural India symptoms pertaining to bowel and bladder problems are not openly communicated. Additionally in many parts of India, menstruation is seen as taboo, so it is neither discussed nor addressed with appropriate resources to help girls during their cycles.

Evaluation

Patient is a young girl who looks frail and slightly older than her age. She is severely underweight and malnourished. She is in moderate distress due to abdominal pain. She appears dehydrated with dry oral mucosa and poor skin turgor. Her blood pressure is 85/50 and her pulse rate is 110, with positive orthostatics. Her temperature is 101.1. Her conjunctiva are pale. Her bowel sounds are hyperactive. Her abdomen is bloated and tender. There are no masses. She had an urge to defecate during the exam. Since she was at the PHC, the doctor ordered the patient to use the toilet to defecate and encouraged her to collect a stool sample, which was bloody and filled with mucous. It was also foul smelling. Because of her ill appearance and degree of dehydration she was admitted to the local government hospital where she was treated with IV fluids.

Diagnosis

Laboratory results showed severe microcytic anemia. The stool evaluation showed parasites consistent with *entamoeba histolytica* leading to a diagnosis of amoebiasis.

Treatment

She was given IV hydration initially followed by instructions for oral rehydration, to treat diarrhea-induced dehydration. The importance of boiling lake water before consumption was stressed. It was recommended that she locate alternative sources of water, as the water in the lake was likely contaminated by human and cattle feces. The option of fetching water from the well in the fields where her father worked was discussed, but she was still encouraged to boil and cool it before consumption. She was treated with Metronidazole to eradicate her amoeba infection and instructions about hygiene were discussed. She was also started on iron supplements to help resolve the anemia, which was due to amoebiasis as well as heavy menstruation. It was unclear if AT would follow through with the instructions and the treatment plan because of underlying financial restraints, lack of education and resources, and cultural beliefs including negative perceptions of medications. A visiting health worker was assigned to AT's village to not only follow up on AT but also to evaluate and assess the disease burden of amoebiasis, dehydration and anemia in that community.

Discussion

This patient demonstrated symptoms during her first menstrual cycle making it difficult to discern whether the pain was due to her menstrual cramps or something else. Since there was no reason to suspect any other medical problems she ignored her pain and then the diarrhea. As her symptoms worsened she came to the attention of healthcare providers who could fortunately diagnose and treat her accurately.

Given the overall unwillingness of women to talk about their health and menstruation in particular and lack of resources to address their symptoms and treat their problems, anemia often becomes fatal. Additionally in most rural areas in India, menstruation is considered a curse and a woman untouchable during that time frame. Even if there had been other water sources in this case, a menstruating woman is kept out of the house in a cow shed and asked to use an outside body of water for her personal needs. Healthcare workers do not have access to or are not entertained in rural areas because of their cultural and social beliefs and lack of trust in modern medicine. People instead rely on traditional remedies. Consequently, the healthcare workers are also not well trained in dealing with rural women's health issues.

AT was more vulnerable than her male family members to this infection because her responsibilities of household chores, as a woman, required her to use lake water. Additionally her exposure to contaminated lake water also increased because of menstruation and personal hygiene needs and lack of sanitation and menstrual supplies to rural women who are 'cursed' and undergoing menstruation. Anemia and menstruation further reduced her immunity making her more vulnerable to infections, dehydration, and weight loss. It is likely that AT's mother had been dealing with similar health issues, and with earlier diagnosis and treatment would have had a better chance at survival.

With increased awareness of the potential health risks inherent in the roles typically designated for women in the community, the overall wellbeing of women can be promoted while ensuring the establishment of an appropriate healthcare infrastructure for women and men alike.

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