Bloody diarrhea among children under 10 years in Tikrit Teaching Hospital

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Abstract:

In the few cases of childhood diarrhea that require antimicrobial therapy, the correct choice of the drug depends on detailed previous knowledge of local strains. In order to establish such parameters in our city, we reviewed the results of all 60 stool of children between 0 and 10 years of age during at a pediatric outpatients clinic in TTH. Parsites were identify by direct smear and bacterial strains had been presumptively identified by culturing in selective media and by biochemical testing. Data about patients' sex, age, resedency and sign and syptoms of the cases were also studied. Males corresponded to 48.7% of our sample, and most of our patients. The results shows that 56.7% of cases were caused by bacterial infection, 33.7% parasitic infection and 9.6% due to others. E.coli was the predominant among bacterial causes(48.3%) while, E.hisolytica was predominant among parasitic causes (33.7%). These data are useful for practitioners and they reinforce the need for continuous microbiological surveillance

Introduction:

Severe presentations of acute diarrhea constitute one of the commonest challenges faced by the medical team in pediatric ambulatories and emergency rooms in the developing world. Supportive anti-dehydration treatment is the cornerstone of therapy and must be promptly started, but specific antimicrobial treatment may be required, depending on the severity of the disease and on the risk of complications. As stool cultures take several days to provide adequate information about pathogens and their susceptibility patterns, empirical treatment must be immediately adopted in such cases. To guide the empirical choice of antibiotics, it is crucial to know both which pathogens are most likely to be infecting the patient in a particular geographic area and the most effective antibiotics for treating them(1,2).

Bloody diarrhea is a clinical presentation of inflammation of the large intestine characterized by diarrhea with blood and mucus in stool. The diarrhea is a major cause of morbidity and mortality among infant and children in developing countries (1). The causes of bloody diarrhea may be bacterial, viral parasitic or may be due to other causes like tumor, leukemia, traumatic agents and idiopathic agents(2).

All over the world, severe acute gastroenteritis is caused mainly by Shigella, whereas Salmonella, E.histolytica, E. coli (chiefly enteropathogenic E. coli, or EPEC, but also enterohemorrhagic E. coli or EHEC, enteroinvasive E. coli or EIEC and other types), Campylobacter and Vibrio spp. have also been shown to play a role in the epidemiology of diarrhea, especially in certain areas of the globe Entamoiba histolytica is the one of the major cause of bloody diarrhea. E.histolytica occur widely, but most often in subtropical and tropical countries, E. histolytica cause bloody diarrhea after invading epithelial cells in colon resulting in microabscesses and ulcer(3). Entero-hemorrhagic E.coli (EHEC) is the another important cause of bloody diarrhea since one quarter of diarrhea in developing countries is caused by this bacteria. EHEC produce a sever cytotoxin causing diffuse bleeding in colon. Many other microorganism like Shigella, C.jejuni, and S.mansoni may cause bloody diarrhea(3).

This study was carried out to identify the most important pathogens involved in the epidemiology of bloody diarrhea in children who sought medical attendance at a pediatric outpatients and inpatients department of TikritTeaching Hospital. General demographic data about the patients and the disease were also recorded

Materials and Methods:

A total of 60 patients with bloody diarrhea were included in this study during period between June to October, 2002 among children under 10 years in Tikrit Teaching Hospital (TTH). The diagnosis was based on clinical and laboratory examination.

Full history was taken about demographic data and type of nutrition. The stool samples were collected in a clean, dry tubes and examined macroscopically and microscopically.

The specimens were examined macroscopically to check the color, consistency, presence of blood, pus, mucus and other characteristics. Then, wet preparation, Gram stain and inoculation on MacConk agar and tetra-thionate broth were prepared from each samples. The developed colonies were identified following the convention method (4).

Results:

Total number of 60 cases with bloody diarrhea were included, 51.6% were female and 48.7% were male(Fig.1).





The distribution of patients according to the age were illustrated in figure 2. It was found that (76.7%) were among age group 1-2 years.

Fig. (2): Percintage distribution of patients according to age



61.7% of patients were living in rural areas while 38.3% of them were living in urban area (Fig.3).

Fig.(3): Distribution of patients according to residency



Table 1 shows the distribution of patients according to causative agents. The results shows that 56.7% of cases were caused by bacterial infection, 33.7% parasitic infection and 9.6% due to others. E.coli was the predominant among bacterial causes(48.3) while, E.hisolytica was predominant among parasitic causes (33.7%).

Table-1. Distribution of cases according to causative agents.

Causative agent	No.	%
E.coli	29	48.3
Salmonilla	4	6.7
Shigella	1	1.7
E.histolytica	20	33.7
Others	6	9.6

Table 2 represent the clinical signs and symptoms of patients. Tenesmus was found among 93.3% of cases and abdominal pain in (80%) of patients

Table-2 .chinical signs and symptoms			
Clinical findingst	No.	%	
Tenesmus	56	93.3	
Abdominal pain	48	80	
Abdominal tenderness	42	70	
Vomiting	47	78.3	
Vomiting with fever	25	41.6	
Vomiting without fever	22	36.7	
Fever	25	41.6	
Dehydration	26	43.3	

able_? clinical signs and

Discussion:

Bloody diarrhea is still common in our country and the most common types is the infective once. Amoebiasis is one of the most common parasitic infections worldwide. The disease affects about 500 million people, mostly in developing countries, where it is one of the major health problems. However, only 10% of infections lead to sever disease like dysentery, whereas 90% of carriers remain asymptomatic (5,6).

Among sixty patients with bloody diarrhea, our result show that 51.6% were female and 48.4% were male. This differences might be due to sample size and geographic distribution. Regarding age, a large percentage (76.7%) of cases were reported within age group 1-2 years. The same results were reported in USA, India, Indonesia and Baghdad(5,6,7). 61.7% of patients were live in rural area, this result might be due to poor personal hygiene, poor sanitation and weak medical services.

Our results shows that E.coli the predominant bacteria(48.7%) while E.histolytica was the predominant parasitic cause(33.7%), these results might be due to invasive habit of these microorganisms.

References:

- 1-LoubialaPJ, Jaakkola N, Ruotsalainen R and Jaakkola JJK. Day-care centers and diarrhea: A public health perspective. J. Pedia. 1997;131 :15-17.
- 2-WHO. Important microbial causes of acute diarrhea in infants and young children. In a manual for the treatment of diarrhea. WHO, Geneva: 1990; 27-31.
- 3- Tarlow MJ. Acute infantile gastroenteritis. Med. Internal. J. 1984; 51: 51-55
- 4-Baker FJ and Silverton RE. Introduction to medical laboratory techenology. 5th ed. Butter Worths, 1978, England.
- 5-Lebaran Charles W. Viral agents of gastroenteritis public health importance and outbreak management. USA search-Internets. 2001:2-3
- 6-Edmundson SA. Diarrhea in India and Indonesia. D3. Internet W. edmunds.com.au.2001:7-18.
- 7-AL-Thahabi S. Isolation and identification of the most common pathogenic agents in cases of infantile diarrhea. Dip. Thesis. Col. Med Health. Tech, Haghdad.2002.

الاسبهال الدموي لدى الاطفال المراجعين لمستشفى تكريت التعليمي والذين هم دون سن العاشرة

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الملخص:

ان حالات الاسهال لدى الاطفال والتي تحتاج الى مضادات حياتية فان هذه الحالات تعتمد على معلومات مفصلة عن المسببات المرضية في المنطقة. ولتوفير مثل هذه المعلومات تم دراسة ٦٠ حالة اسهال دموي في الاطفال والذي تتراوح اعمارهم من يوم الى ١٠ سنوات. لقد تم التعرف على الطفيليات والبكتريا المسببه باستخدام الطرق التشخيصية المعتمدة مثل الفحص المباشر والزرع على الاكار اضافة الى اختبارات الكيمياء الحياتية. كما تم اخذ معلومات عن كل مريض باستخدام استبيان لمعرفة جنس

المريض وعمره ومنطقته سواء كانت ريفية او مدنية وكذلك الاعراض والعلامات السريرية.

بینت الدراسة ان ٤٨,٧% کانوا ذکور والبقیة اناث، کما بینت ان ٥٦،٧% من المسببات کانت بکتیریة و ٣٣،٧% طفیلیة و ٩،٦% کانت مسببات اخری. اظهرت الدراسة ان ٤٨،٣% کانت ایشیریکیا قولونیة و ٣٣،٧% امبیا زحاریة.

ان هذه المعلومات تشكل قاعدة للاختصاصيين وتدعونا للاستمرار بالابحاث المايكربايولوجية في هذه الحقول.