Pattern of Drug usage of non-Specific Anti-Diarrheal Agents in Acute Diarrhea in a Rural Set up in Pune District, Maharashtra

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ABSTRACT

Introduction: In clinical practice, nonspecific antidiarrheals (allopathic and ayurvedic) are most commonly used by clinicians along with routine treatment to hasten the recovery and to give psychological reassurance. This study was conducted to find out the pattern of drug usage in cases of acute diarrhea in clinical practice.

Material and methods: This was a prospective, observational study done in clinical settings for a period of 3 years at two pediatric clinics and at a tertiary care hospital. 600 prescriptions for acute diarrhea were analyzed. Use of two allopathic (loperamide and racecadotril) and two ayurvedic (Mebarid and Diarex) anti-diarrheal agents was assessed. No. and percentage of prescriptions having these nonspecific antidiarrheals were analyzed.

Results: A total of 600 patients were enrolled in the study. Racecadotril was the most commonly prescribed allopathic antidiarrheal (175) compared to loperamide (34). Mebarid was commonly prescribed ayurvedic antidiarrheal (123) compared to Diarex (78).

Conclusion: This study suggests that racecadotril was the preferred antidiarrheal in clinical practice in children with acute diarrhea.

Keywords: Acute diarrhea, Diarex, Drug Usage, Loperamide, Mebarid, Nonspecific antidiarrheals, Racecadotril

INTRODUCTION

Acute diarrhea, defined as diarrhea occurring within a minimum period of 24 hours and lasting usually for less than 7 days, accounts for significant morbidity and mortality in children.1 Antimicrobial agents have limited role in its management as most episodes of diarrhea are self-limited. ORS forms the mainstay in treatment of diarrhea.2-4 Its use prevents and corrects dehydration, reduces the morbidity and mortality; but it does not reduce frequency and volume of stools or the duration of diarrhea.5 Hence, nonspecific antidiarrheals are commonly used in clinical practice.6-8

Both, allopathic and ayurvedic anti-diarrheal agents are freely available and are widely used. Present study was undertaken to know the trends of drug prescribing of nonspecific antidiarrheals in acute diarrhea in children. To find out the pattern of drug usage of nonspecific antidiarrheals in acute diarrhea in children.

MATERIAL AND METHODS

This was a prospective, observational study done in clinical settings from April 2011 to March 2014. The study protocol was approved by Institutional Ethics Committee. It was conducted at following centres after obtaining their permission

1. Pediatric clinic (secondary care hospital), Talegaon, Pune, Maharashtra.
2. Pediatric clinic (secondary care hospital), Chakan, Pune,

Maharashtra.


Study population and study design: Children suffering from acute diarrhea and fulfilling the selection criteria (Table 1) were enrolled into the study. Their parents were informed about the study in simple and lucid language. Informed written consent was obtained from the parents and ascent was obtained from children between 7 to 10 years. Baseline demographic and clinical characteristics were recorded.

Children were treated at the discretion of the pediatricians, who were explained about the study. All children received oral rehydration therapy (ORT). The antidiarrheals were prescribed till recovery. Control group consisted of patients who did not receive any nonspecific antidiarrheal. Exclusion criteria are shown in table 2.

Data collection and data analysis - Prescription audit was conducted and prescriptions were analyzed in detail. Use of

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<th>Table-1: Inclusion criteria</th>
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<td>1. Age: 2 - 10 years.</td>
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<td>2. Acute diarrhea of varied etiology.</td>
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<td>3. Duration of diarrhea of &lt; 2 days.</td>
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<td>4. Diarrhea with mild co – morbidity.</td>
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<td>5. No i/o of treatment with antimicrobials/antidiarrheals/antimotility drugs within the preceding 7 days.</td>
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<th>Table-2: Exclusion criteria</th>
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<tr>
<td>1. Age &lt; 2 and &gt; 10 years.</td>
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<td>2. Iatrogenic / bloody diarrhea / or severe diarrhea e.g. cholera.</td>
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<td>3. Diarrhea with severe dehydration / significant systemic illnesses.</td>
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<td>4. Children with severe malnutrition (BW&lt;50% of expected for that age).</td>
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<td>5. Children receiving pre / probiotics and / or zinc.</td>
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RESULTS

600 patients were enrolled and out of which 584 successfully completed the study as per the protocol. Sixteen patients did not turn for the follow up. However, telephonic feedback was obtained successfully from them. Overall compliance in our study was good (90%). The base-line parameters are shown in Table 3. There was no significant difference between the five groups.

Racecadotril was the most commonly used allopathic antidiarrheal (29%). Mebarid was commonly used ayurvedic antidiarrheal (20%) (Fig-1 and table 4)

DISCUSSION

Racecadotril was the most commonly used allopathic antidiarrheal (29%) compared to loperamide (6%). This finding is consistent with study by Uhlen et al (2004), who surveyed the pattern of drug usage by private pediatricians in France. Loperamide was used preferably in older children and proved to be a useful adjuvant drug to ORS.

Racecadotril was preferred over loperamide in clinical practice because it does not affect gut motility, hence may not affect clearance of pathogens. The pure antisecretory action of racecadotril, its high therapeutic index even in young children, lack of significant CNS related adverse effects make it a preferred anti-diarrheal agent in practice.

There is less incidence of adverse events like constipation and abdominal distension with racecadotril. Some comparative studies carried out in adults and children support these advantages.

Mebarid was more commonly used ayurvedic antidiarrheal (20%) as compared to Diarex (13%). Mebarid, a polyherbal preparation contains Bael, Ajmoda, Lodhara, Dadim, Badishep, Daruhalad, Jaiphal, Sunth, Ativis and Kuda. Diarex is a herbomineral ayurvedic preparation containing Kuda, Guduchi, Bael Dadim, Shankh bhasma and Musta. There is no satisfactory explanation for preferential use of Mebarid over that of Diarex. However, use of Diarex in children > 5 years of age might be due to its availability in tablet form.

CONCLUSIONS

This study suggests that racecadotril was the preferred anti-diarrheal in clinical practice in children with acute diarrhea, may be because of its anti-secretory action, leading to symptomatic relief and its lack of effect on gut motility, assuring the clinicians of no effect on the clearance of pathogens.
REFERENCES


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