1.02 ACUTE GASTROENTERITIS

Introduction

Acute gastroenteritis (AGE) is one of the most common diseases of childhood. Admission to the hospital can be prevented in many cases with appropriate use of oral rehydration. Despite this, annual hospitalization rates in the United States have been reported to be as high 3 to 5 per 1000 US children, and the financial burden of emergency department care and hospitalization accounts for up to $350 million in costs annually. Although uncommon in developed countries, morbidity can be profound, and mortality can occur. Among hospitalized patients, complications including electrolyte abnormalities, sepsis, and malnutrition have been noted. Misdiagnosis of AGE may occur, particularly when vomiting is the predominant symptom, which can lead to inappropriate treatment for potentially life-threatening conditions. Pediatric hospitalists routinely encounter patients with AGE and should provide immediate medical care in an efficient and effective manner.

Knowledge

Pediatric hospitalists should be able to:

- Describe the signs, symptoms, and common or concerning complications of AGE, including electrolyte disturbances, dehydration, ileus, and hemolytic uremic syndrome.
- List the common pathogens and related epidemiologic factors for AGE depending upon age, immunization status, geographic location, and exposure and travel history.
- Discuss the pathophysiology of electrolyte disturbances in AGE.
- Discuss the indications for hospital admission, including the need for intravenous fluids, correction of fluid, electrolyte and acid base disturbances, close clinical monitoring, and/or further diagnostic evaluation.
- Discuss essential elements of the history for patients with AGE, including immunization status, water and food sources, method of food preparation, daycare attendance, and recent travel.
- Describe the elements of the physical examination that aid in the diagnosis of AGE and associated complications.
- Compare and contrast clinical findings associated with viral, bacterial, and parasitic AGE.
- Compare and contrast conditions with presentations like that of AGE or its complications, including critical medical and surgical diagnoses such as diabetic ketoacidosis, inborn errors of metabolism, malrotation with midgut volvulus, and bowel obstruction.
- Compare and contrast the differential diagnoses of isolated emesis, bilious emesis, and emesis with diarrhea.
- Describe the differences in approach toward diagnosis and treatment for patients with co-morbid conditions or immunosuppression.
- Discuss the role of infection control in the hospital, as well as public health reporting mandates.
- Describe the indications for diagnostic laboratory tests, including stool, blood, and urine studies, attending to age groups, predictive value of tests, and cost-effectiveness.
- Describe the indications and contraindications of the interventions used to manage the symptoms of AGE, including the role of oral rehydration solutions in the treatment of related dehydration.
- Discuss indications for specialty consultation, such as gastroenterology, nutrition, surgery, and others.
- Describe criteria for hospital discharge, including specific measures of clinical stability for safe care transition.

Skills

Pediatric hospitalists should be able to:

- Diagnose gastroenteritis by efficiently performing an accurate history and physical examination, determining if key features of the disease are present.
- Identify and correctly manage fluid, electrolyte, and acid base derangements.
- Assess patients efficiently and effectively for complications of gastroenteritis such as sepsis, ileus, and hemolytic uremic syndrome.
- Identify and appropriately treat patients at risk for AGE secondary to unusual pathogens.
- Direct a cost-effective and evidence-based evaluation and treatment plan, especially regarding laboratory studies, antibiotics, and oral or intravenous fluid resuscitation.
- Adhere consistently to infection control practices.
- Perform careful reassessments daily and as needed, note changes in clinical status, and respond with appropriate actions, taking care to consider alternative conditions as appropriate.
- Engage consultants efficiently when indicated.
- Communicate effectively with the family/caregivers and healthcare providers regarding findings and plans.
- Ensure coordination of care for diagnostic tests and treatment between subspecialists.
- Create a comprehensive discharge plan that can be expediently activated when appropriate.

Attitudes

Pediatric hospitalists should be able to:

- Realize responsibility for educating the family/caregivers on the natural course of the disease, identification and management of common complications, and infection control practices to manage expectations and decrease pathogen transmission.
- Ensure coordination of care for diagnostic tests and treatments between subspecialists.
- Exemplify and advocate for strict adherence to infection control practices.
- Exemplify effective communication with patients, the family/caregivers, and healthcare providers regarding findings, care plans, and anticipated health needs after discharge.

Systems Organization and Improvement

In order to improve efficiency and quality within their organizations, pediatric hospitalists should:

- Lead, coordinate, or participate in the development and implementation of cost-effective, safe, evidence-based care pathways to standardize the evaluation and management for hospitalized children with AGE.
- Collaborate with hospital administration to create and sustain a process to follow up on laboratory tests pending at discharge.
- Collaborate with institutional infection control practitioners to improve processes to prevent nosocomial infection related to gastroenteritis.
- Lead, coordinate, or participate in efforts to assure consistent public health reporting of appropriate infections and response to trends.

References

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2. Freedman SB, Gouin S, Bhatt M, et al. Prospective assessment of practice pattern variations in the treatment of pediatric gastroenteritis. *Pediatrics*.2011;127(2) e287-e295. https://pediatrics.aappublications.org/content/127/2/e287. Accessed August 28, 2019.