Pharmaceutica Analytica Acta
ISSN: 2153-2435
Sur Genel et al., Pharm Anal Acta 2016, 7:6
DOI: 10.4172/2153-2435.1000e186
Editorial Open Access

Upper Gastrointestinal Bleeding Treatment in Children - A Difficult Challenge for the Doctor

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Received date: June 13, 2016; **Accepted date:** Jun 14, 2016; **Published date:** Jun 17, 2016

Abstract

In order to make the appropriate treatment is necessary an accurate diagnosis. This is also true for upper gastrointestinal bleeding in children. It is not always easy to sustain the diagnosis, but using current methods we can reach etiologic diagnosis. After diagnosis the best treatment options are choosing. These must be both efficient and with fewer side effects. Upper gastrointestinal hemorrhage treatment takes into account two situations: patients with hemodynamic instability with large blood loss and patients with hemodynamic stability. Patients with important upper gastrointestinal bleeding with hemorrhagic shock need resuscitation and should be stabilized prior to endoscopy.

Keywords: Children; Treatment; Bleeding; Gastrointestinal

Introduction

Upper gastrointestinal bleeding represents the loss of blood in the digestive tract from the esophagus to the Treitz ligament. Upper gastrointestinal bleeding is one of the most severe problems that must be diagnosed and treated by pediatric gastroenterologist [1].

In case of a child with upper gastrointestinal bleeding should be established: the source, extent, duration, frequency of bleeding. In the case of a child with upper gastrointestinal bleeding should be established: the source, amount, duration, and frequency of bleeding. Besides bleeding, patients may experience gastrointestinal manifestation such as diarrhea, constipation, vomiting, abdominal pain, or the presence of systemic signs such as fever, pallor, palpitations, cold extremities, and rash [2].

First evaluation of the patients with upper gastrointestinal bleeding sets hemodynamic status of patient and whether it is necessary hemodynamic resuscitation. Resuscitation is important in children and should be done as quickly as possible. The causes of bleeding are established in the shortest time possible. If we are in the case of brisk bleeding or unexplained or when there are signs of shock upper gastrointestinal endoscopy is practiced. In some cases the source of bleeding can be detected and treated by endoscopic procedures. Endoscopic evaluation and treatment are initiated after the patient is stabilized or while 24-48 hours [3,4].

Treatment

Children with upper gastrointestinal bleeding (UGB) can present stable conditions or different degrees of hemodynamic instability, reaching the stage of shock [3,4].

The evaluation of these patients should start with an assessment of hemodynamic state of patients. The initial evaluation includes vital signs such as heart rate, blood pressure, and capillary refill. Such patients should be admitted in an intensive care unit to monitor vital functions including circulation and breathing. During the initial evaluation, two vein lines are chosen for administration of fluids and transfusion [5,6].

Name	Dose	Indications	Contraindications
Fluid replacement	Ringer solutions or saline solutions: - 20mL/Kg bolus in first 5 minutes, without exceeding 80 ml / kg in the first 20 minutes - in patients with heart failure dose is 5-10ml / kg bolus	Hemodynamically unstable patients	Congestive heart failure
Proton pump inhibitors	Omeprazole 1 mg / kg / 24 h iv in a single daily dose or po divided in 1 or 2 doses	Peptic ulcer Stress gastritis	Drug sensitivity / allergy
H2 receptor antagonists	Ranitidine: - oral 2-4mg / kg / day in 2 doses; - iv 2-4mg / kg / day divided every 6 to 8 hours	Peptic ulcer Stress gastritis	-

	- maximum dose 200mg/day		
Vasoactive agents	Octreotide: 1µg/Kg iv bolus, followed by 1-2µg/Kg/hour as a continuous iv infusión - maximum 50 µg/hour	Bleeding from esophageal varices	-
Beta blockers	Propranolol: 0.5-2mg / kg / day, orally, divided in 2 to 4 doses without reducing the heart rate by> 75% from baseline	Portal hypertension, esophageal varices	-

Table 1: Upper gastrointestinal bleeding treatment: drugs and doses

In case of patients with hemodynamic instability resuscitation is prior to diagnosis studies.

Blood transfusion is indicated in unstable patients with hemoglobin < 8g / dL. Patients who have brisk bleeding and coagulopathy receive fresh frozen plasma. If platelets are less than 30,000/ml transfusion of platelets is indicated. After stabilizing the patient begins taking proton pump inhibitors, H2 receptor antagonists, vasoactive drugs, and beta-blockers, depending on the indication [7,8].

In patients who are hemodynamically stable the treatment begins with proton pump inhibitors and, depending on the situation, with H2 receptor antagonists, vasoactive drugs, beta-blockers [9,10].

In case of bleeding esophageal varices the upper gastrointestinal endoscopy has both diagnostic and therapeutic role. Endoscopic treatment methods include ligatures, hemostatic clips, coagulation and sclerotherapy. If bleeding is not controlled by endoscopic procedure, the case must be evaluated for surgical treatment [1,4].

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