AL-Azhar University

Faculty of Medicine –Assiut

Pediatric Departement

Update of upper gastrointestinal tract bleeding in children

Essay

Submitted for partial fulfillment ofmaster degree in pediatrics

Submitted by

Manal Ahmed Safwat Taha

(M.B.B.Ch)

Supervised by

Dr.YaserAbd EL-rahman Ahmed

Assistant Professor of pediatrics

Faculty of medicine, Al-Azhar University –Assiut

Dr. Amira Mohammed Mohammed Hammed

Lecturer of pediatrics

Faculty of medicine, Al-Azhar University –Assiut

Faculty of medicine –Al-Azhar University_ Assiut

2013

Acknowledgement

First of all thanks for Allah for supporting me throughout my life. Without that support I would not be able to complete this work.

I would like to express my deepest thanks, gratitude and appreciation to *Dr.Yaser Abd EL-rahman Ahmed,* Assistant Professor of pediatrics, Faculty of medicine, Al-Azhar University – Assiut , for his sincere support and encouragement.

I would like to express my gratefulness to *Dr. Amira Mohammed Mohammed Hamme*, Lecturer of pediatrics, Faculty of medicine, Al-Azhar University –Assiut, for her sincere encouragement and valuable guidance.

Also, I give my all thanks and gratitude to my parents, brothers , sisters and also to my husband, *Eng. Ahmed Khaled*, for his sincere support, encouragement and help.

Last but not least, I am grateful to all who have helped me in the production of that work.

Contents

List of figures

List of tables

List of abbreviation

List of abbreviation

abbreviation	mean
AGML	Acute gastric mucosal lesion
APC	argon plasma coagulation
ARPKD	autosomal recessive polycystic kidney disease
AST	acid-suppressive therapy
AST,ALT	Aspartate Aminotransferase, Alanintransaminase
BA	Biliary atresia
BCS	Budd-Chiari Syndrome
BRTO	Balloon retrograde transvenous obliteration
BSS	Bernard-Soulier syndrome
BWS	Beckwith–Wiedemann Syndrome
CDU	color Doppler ultrasonography
CFLD	cystic fibrosis liver disease
CHF	Congenital hepatic fibrosis
CMV	Cytomegalo virus
CNS	Central nervous system
CRP	c-reactive protein
CT	computed tomography
DIC	disseminated intravascular coagulopathy
DSRS	distal splenorenal shunt
DU	duodenal ulcer
EBL	Endoscopic band ligation
EGD	Esophagogastroduodenoscopy
EHPVO	extrahepatic portal vein obstruction
EHT	endoscopic hemostatic therapy
EN	Enteral nutrition
EoE	Eosinophilic Esophagitis
ESR	Erythrocytic sedemintation rate
EST	Endoscopic sclerotherapy
EUS	endoscopic ultrasound
EVL	Endoscopic variceal ligation
FAP	familial adenomatous polyposis
FB	Foreign body

List of abbreviation

FHVP	free hepatic venous pressure
FT–AT	FibroTest–ActiTest
GBS	Glasgow-Blatchford bleeding score
GERD	gastroesophageal reflux disease
GI	Gastrointestinal
GISTs	Gastrointestinal stromal tumors
GOV	gastroesophageal varices
GU	gastric ulcer
GT	Glanzmann thrombasthenia
HBV	hepatitis B virus
HBsAg	hepatitis B surface antigen
HCV	hepatitis c virus
HSP	Henoch-Schönlein purpura
H2RAs	histamine-2 receptor antagonists
HVPG	hepatic venous pressure gradient
ICU	Intensive care unite
IGV	Isolated gastric varices
IHE	Intramural hematoma of the esophagus
IPH	Idiopathic portal hypertension
ITP	Idiopathic thrombocytopenic purpura
IV	Intravenous
LB	liver biopsy
LES	Lower esophagus sphincter
MRI	magnetic resonance imaging
NG	Nasogastric
NHL	non-Hodgkin lymphoma
NRH	Nodular regenerative hyperplasia
NSAIDS	Non-steroidal anti-inflammatory drugs
PH	Portal hypertension
PICU	Pediatric Intensive care unite
PPI’s	Proton Pump Inhibitors
PRISM	pediatric risk of mortality score
PT	Prothrombin time

List of abbreviation

PTT	partial thromboplastin time
PUB	Peptic ulcer bleeding
PUD	Peptic ulcer disease
PVT	Portal vein thrombosis
RO	Reflux Esophagitis
RUT	rapid urease test
SOS	sinusoidal obstruction syndrome
SRMD	stress-related mucosal disease
SSBT	Sengstaken Blakemore tube
SUB	stress ulcer bleeding
TB	Tuberculous bacilli
TIPS	transjugular intrahepatic portosystemic shunt
TPN	Total parentral nutrition
TSB	Total serum bilirubin
UBT	Urease breath test
UE	Upper esophagus
UGI	upper Gastrointestinal Bleeding
UGIB	upper Gastrointestinal
UVC	umbilical vein catheterization
VWD	Von Willebrand disease
WHVP	wedged hepatic vein pressure
ZES	Zollinger–Ellison syndrome

List of abbreviation

INTRODUCTION

Upper gastrointestinal (UGI) bleeding refers to bleeding which arises from a source between the pharynx and the ligament of Treitz in the distal duodenum, commonly presents with hematemesis(vomiting of blood or coffee ground-like material) and/or melena (black, tarry stools).**(Vidyut and Rakesh, 2011)**

The UGIB incidence is not well established in children ,but it represents as much as 20 %of all episodes of gastrointestinal bleeding in children**. (Nguyễn ,2011)**

The incidence of (UGI) bleeding is high in children requiring mechanical ventilation. Organ failure and high pressure ventilator setting are significant risk factors for UGI bleeding. **(Deerojanawong et al,2009)**

Bleeding into the upper gastrointestinal (UGI) tract occurs when there is damage (erosion or ulceration) to the protective mucosal layer overlying the blood vessels in the esophagus, stomach or duodenum. Bleeding can also occur due to abnormal blood vessels in the upper gastrointestinal tract. These can be caused by primary malformation**. (Jairath et al,2010)**

Peptic ulcer disease is the most common cause of hematemesis in children greater than 1 year old. Peptic ulcer disease occurs when the protective mucus layer wears away

allowing damage to occur from the natural acids of the stomach. **(Hsia et al,2009)**

H. pylori infection is the major cause of primary peptic ulcers. Other causes of primary ulcers include those caused by rare conditions of acid hypersecretion such as Zollinger–Ellison syndrome; G-Cell hyperplasia; systemic mastocytosis; short bowel syndrome; and hyperparathyroidism. Secondary ulcers occur more often in younger children. They have a worse prognosis and are usually associated with physiological stress and systemic illness such as sepsis, head trauma, burns, sickle cell disease, type I diabetes, systemic lupus erythematosus and drug therapy (e.g. NSAIDs , corticosteroids, sodium valproate, and theophylline). **(Sullivan ,2010)**

Other causes of UGIB are due to non acid related ulceration (e.g., tumors, viral infections ,and inflammatory disease), Mallory-Weiss tear , erosions and esophagitis. **(Kumar et al,2010)**

Esophageal and gastric varices are common causes of (UGIB) in children 2 years and above. Esophageal varices are caused by portal hypertension which occurs when there is increased resistance to blood flow through the portal system that is due to prehepatic, intrahepatic , and suprahepatic obstruction, the most common causes of portal hypertensionin children are portal vein thrombosis and billary atresia. Gastric varices are most commonly found in the fundus and are characterized by dilated blood vessels.**(Hsia et al,2009)**

Improved endoscopic optics has not changed diagnostic ability for UGIB. Etiologic differences for UGIB in children from varying geographic areas are related to indication for endoscopy, patient selection, and co-morbid conditions. Duration of bleeding and time to endoscopy after a bleeding episode may help predict when endoscopy should be performed to determine a bleeding source. **(Katherine et al. 2012)**

Red blood cell transfusion can be used in upper gastrointestinal haemorrhage as part of fluid resuscitation in an actively bleeding patient. There are different volumes and schedules of red blood cell transfusion that can be administered, according to whether it is being used for primary resuscitation or as an adjunctive therapy in the management process**. (Jairath et al,2010)**

The current guidelines for the management of UGIB include general supportive care, pharmacological therapy aiming at bleeding control, specific and endoscopic treatment of acute bleeding and follow-up for both gastro-duodenal ulcers and portal hypertension induced bleeding.**(Colle et al. 2011)**

Aim of the work:

This work aim to outlines the rational approach to children with upper gastrointestinal bleeding and discuss recent management of common aetiologies.