



Sociedad Argentina de Pediatría
Dirección de Congresos y Eventos
Filial Córdoba



La Niñez de Hoy

**38° CONGRESO
ARGENTINO
de PEDIATRÍA**

"Desafío, oportunidad y esperanza"
26, 27, 28 y 29 de septiembre de 2017

Hemorragia Digestiva (HD) Evaluación y Manejo Inicial en la Emergencia

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Niño con HD en la Emergencia

❖ Esta realmente «sangrando».....?



❖ La sangre proviene Aparato Digestivo ...?



❖ Es mas que una cantidad «trivial» de sangre..... ?
HD riesgo vida,,,,?

Colorantes
Remolacha
Espinaca
Hierro
Chocolate
uvas

Sangra
Cavidad
bucal?
Nasofaringe?

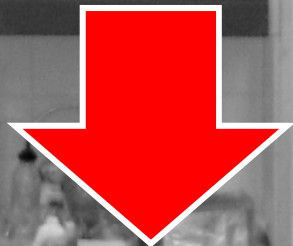
- **Anormalidad estructural** ? (Meckel-Diverticulo)
- **Quirúrgico-Endoscópico o Urgente?** (Invaginado-Varices E)

Niño con HD en la Emergencia

- ❖ Cuanto ha sangrado ?
- ❖ Sigue sangrando?
- ❖ Requiere Resucitación
Líquida?



Manejo Inicial en la Emergencia ?



- ❖ Donde esta sangrando ? porque ?
- ❖ Especialistas ha convocar?

Niño con HD en la Emergencia

- ❖ Cuanto ha sangrado ?
- ❖ Sigue sangrando?
- ❖ Requiere Resucitación Líquida?



Shock

APARIENCIA

RESPIRATORIO

CIRCULACION

Estable

Niño con HD en la Emergencia

- ❖ Cuanto ha sangrado ?
- ❖ Sigue sangrando?
- ❖ Requiere Resucitación Líquida?



Cuanto ha Sangrado ??



Cuanto ha Sangrado ??

% Pérdida volemia	Hasta 15%	15-30%	30-40%	> 40%
➤ FC	↑	↑	↑	↓
➤ Pulsos	N	Radial –	Femoral ↓	Ausentes
➤ TA	N	↓	↓↓ ↓↓	Ausente
➤ Piel	Sudor	Pálida-fría	Pálida-fría	Cianótica
➤ Relleno capilar	N	Prolongado	Prolongado	
➤ FR	N	↑	↑↑	↓- apnea
➤ Conciencia	Ansioso	Irritable	Letárgico	Coma
➤ Diuresis	N	↓	↓	ausente

Clasificación shock hemorrágico ATLS (Advanced Trauma Life Support)

Resucitación Líquida.....



Sol. Salina(Fisiológica-Ringer) isotónica: 20 cc/K/10m'o <

(-)

Sol. Salina(Fisiológica-Ringer) isotónica: 20
cc/K/10m'o <

(-)

COLOIDES ≠ 3º bolo
Sol.Sal??

Respuesta ??

«Respuesta» a Resucitación Líquida..... Cuanto ha sangrado y sigue sangrando?:



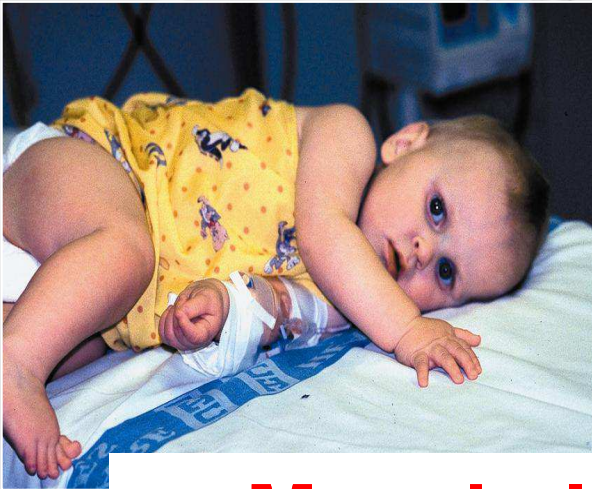
Mínima o Nula = pérdida > 40%
Continúa? Requiere GR , PFC,
Quirofano ? Endoscopia?

Transitoria o parcial: Pérdida 20-40%:
¿Continúa?

Rápida con estabilización posterior =
pérdida < 20% y ha parado

Niño con HD en la Emergencia ...

- ❖ Cuanto ha sangrado ? Sigue sangrando?
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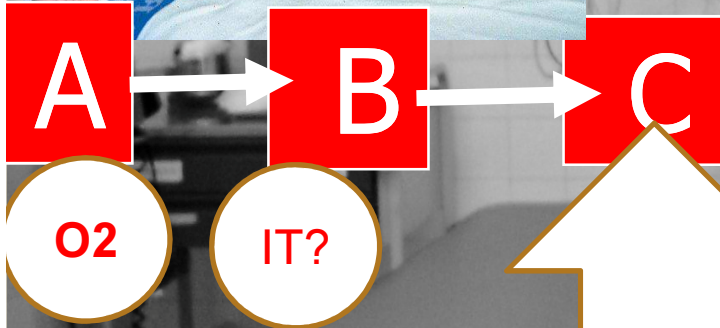
Manejo Inicial en la Emergencia

Niño con HD en la Emergencia ...

- ❖ Cuanto a sangrado ? Sigue sangrando?
- ❖ Requiere Resucitación Líquida?



Manejo Inicial en la Emergencia



- Accesos vasculares
- Resucitación Líquida:
 - Sangre????
 - Prevenir y tratar coagulo Patía (PFC)
 - Vit K?

Sonda gástrica:

- Confirma Diagnóstico HDA
- Ritmo de sangrado
- Limpia campo de endoscopia
- Previene bronco aspiración

Niño con HD en la Emergencia ...

- ❖ Cuanto a sangrado ? Sigue sangrando?
- ❖ Requiere Resucitación Líquida?



Manejo Inicial en la Emergencia

- Reposo gástrico-Tolerancia oral
- Vía EV ?
- Evite AINES
- Protección gástrica
- Laboratorio?
- Hospitalización?
- Tratamiento Etiológico



Niño con HD en la Emergencia ...

- ❖ Cuanto ha sangrado ? Sigue sangrando?
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Manejo Inicial en la Emergencia



Ds para ↓ producción Acido:

- Anti H2: Ranitidina
- Bloqueantes Bomba protones: Omeprazol- lansoprazol

- Hemograma completo
- Coagulación
- Función hepática-Renal
- Estado ácido base – Medio Interno

Niño con HD en la Emergencia

- ❖ Cuanto a sangrado ?
- ❖ Sigue sangrando?- Requiere Resucitación Líquida?

Manejo Inicial en la Emergencia

❖ **Donde esta sangrando ?**

HD:
Forma de
presentación?
?

HD
Alta/Media-
Baja??

HD:
Forma de
presentación ?



Hematemesis

Vomito “café molido”



Melena

Hematoquecia o

**Rectorragia
Sangre oculta**

HD
Alta/Media-
Baja?

HDA

Hematemesis
Melena
Rectorragia?
Aspirado gástrico +

Duodeno

Estómago

eyuno

HDM

HDB

Melena
Hematoquesia

Recto

Niño con HD en la Emergencia

- ❖ Cuanto ha sangrado ?
- ❖ Sigue sangrando?- Requiere Resucitación Líquida?

Manejo Inicial en la Emergencia

❖ Porque esta Sangrando ?

- Enfermedad inflamatoria local?
- Enfermedad Sistémica ?
- Coagulo Patía ?

HD y Localización ?

HD y Edad ?

HD y Severidad ?

No

Niño con HD en la Emergencia

- ❖ Cuanto ha sangrado ?
- ❖ Sigue sangrando?- Requiere Resucitación Líquida?

Manejo Inicial en la Emergencia

❖ **Porque esta Sangrando ?**

Endoscopi
a
de
Urgencia ?

Quirúrgica
de
Urgencia ?





Muchas Gracias

Hemorragia Digestiva Alta

Neonato	Lactante	1-5 a	> 5 años
Sangre deglutida Deficit Vit K Sepsis Alergia Prot leche vaca Trauma SNG Ulcera stress	Causticos Duplicacion I Cuerpo extraño Medicamentos	Esofagitis Gastritis Ulcera Causticas Cuerpo extraño Varices esofágicas Vómitos	Esofagitis Gastritis Ulcera Cáusticos Angiodisplacia Vomitos Coagulopatias

Hemorragia Digestiva baja

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Hemorragia Digestiva Alta

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Gastric lavage *via* nasogastric tube can improve the accuracy of endoscopy Upper endoscopy is the test of choice for evaluating hematemesis. The goals of endoscopy in UGIB are to identify the site of bleeding and to facilitate initiation of an appropriate therapeutic approach a differential diagnosis addresses both the clinical presentation and the age of the patient.

Hemorragia Digestiva baja

LGIB in children is a common clinical problem; 0.3% of children in the emergency department. In most cases, the bleeding is self-limiting, with the majority (80%) of LGIB cases in the emergency department undergoing routine discharge[19]. However, conditions such as Meckel's diverticulum, melena by variceal hemorrhages, acute intestinal obstruction or severe attack of ulcerative colitis often present with lifethreatening

In cases of severe LGIB, especially when melena is present or the patient is hemodynamically unstable, the source of bleeding may include the upper gastrointestinal region

Neonato	Lactante	1-5 a	> 5 años
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VI. CRITERIOS DE INTERNACIÓN

1. Todos los pacientes con HDA (excepto que el cuadro clínico sugiera otro origen: otorrinolaringológico o grietas en el pezón).

2. Las HDB que presenten estados clínicos de emergencia inmediata o mediata por sangrado

importante, **excepto** las que sugieran cuadros

que no revisten urgencia y se puedan diferir

(ejemplo: pólipos rectales) o cuadros banales que

tengan otro tipo de resolución (fisuras anales,

infecciones, entre otras).

Todo paciente internado debe consultarse a

la brevedad con el especialista

Consenso Nacional de Urgencias Endoscópicas en

Pediatría 2016 *Comité Nacional de Gastroenterología Infantil Arch Argent Pediatr*

2017;115 Supl 1:S1-S26 / **S1**

Radiología:

La **radiografía directa de abdomen** descarta signos de perforación, cuerpos extraños (CE) y obstrucción. Los **estudios contrastados** no están indicados en el episodio agudo por su baja sensibilidad; únicamente podrían indicarse ante la posibilidad de un sangrado crónico (enfermedad inflamatoria intestinal o tumores).²

Ecografía:

Tiene un papel limitado en la evaluación inicial de una HDA. Es de gran utilidad cuando existe enfermedad hepática, hipertensión portal o grandes malformaciones vasculares.²

Tomografía axial computada (TAC) y angioenterotomografía computada (angioentero-TC):

Reservadas para aquellos casos con sospecha de malformaciones vasculares y masas tumorales o inflamatorias.²

Tratamiento farmacológico

□ **Supresores de la secreción ácida:** Hay evidencia de que el ácido gástrico y la pepsina alteran la normal formación del coágulo en la lesión sangrante. El empleo de estos fármacos tiene la finalidad de aumentar el pH en forma sostenida por encima de 6 para optimizar los mecanismos procoagulantes. Las drogas utilizadas son:

- **inhibidores de receptores H₂**, ranitidina (de 5 a 10 mg por kg de peso al día dividido en dos-tres dosis).
- **inhibidores de la bomba de protones (IBP) omeprazol, lansoprazol y esomeprazol).**

Se inicia con omeprazol en doble dosis en bolo y luego por infusión continua por 72 h; después del día 4 al 7, cada 6-8 h por vía endovenosa, y se puede usar en doble dosis; y, a partir de la semana, dosis habitual omeprazol: de 0,3 a 3 mg/kg/día, dosis máxima de 80 mg/día; lansoprazol: 1,5 mg/kg/día). Se prefieren los IBP sobre los bloqueadores H₂, ya que, al inhibir la bomba de protones, se inhiben secundariamente as tres vías de producción de ácido, y los bloqueadores H₂ solo inhiben la vía de la histamina. Además, estos fármacos producen taqui f i laxia, de modo que no pueden utilizarse en forma prolongada, por lo que no constituyen, en la actualidad, una opción

CUADRO 6. *Score sistémico predictivo sobre la necesidad de realizar videoendoscopia digestiva alta a niños con hemorragia digestiva alta aguda*

Historia clínica Condición clínica preexistente **1**

Melena **1**

Hematemesis **1**

Evaluación clínica FC > 20 de la FC media para la edad **1**

Llenado capilar prolongado **4**

Laboratorio Caída de Hb > 20 g/L **3**

Gestión y reanimación Necesidad de un bolo **3**

Necesidad de transfusión de sangre (Hb < 80 g/L) **6**

Necesidad de otro producto de la sangre **4**

Puntuación total: 24 Corte: 8

**Consenso Nacional de Urgencias Endoscópicas en
Pediatría 2016**

Comité Nacional de Gastroenterología Infantil

Arch Argent Pediatr 2017;115 Supl 1:S1-S26

Likewise, caution must be taken to ensure the passed “blood” actually contains hemoglobin. Many substances ingested by children may simulate fresh or chemically altered blood. Red food coloring (as in some cereals, antibiotic and cough syrups, Jell-O®, and Kool-Aid®), as well as fruit juices and beets, may resemble blood if vomited or passed in the stool. Melena may be confused with dark or black stools due to iron supplementation, dark chocolate, bismuth, spinach, cranberries, blueberries, grapes, or licorice. In these cases, confirmation of the absence of blood with Gastrocult® (vomitus) and Hematest® or Hemocult® (stool) tests will allay parental anxiety, as well as prevent unnecessary concern and workup. Gastrocult is a specific and sensitive assay, stable in an acid environment, which can detect as little as 300 mcg per dL of hemoglobin.

A careful search for other causes of presumed GI bleeding (recent epistaxis, dental work, menses, buttock sores, and sore throat) should be sought.

In most cases of upper and lower GI bleeding, the source of the bleeding is inflamed mucosa (infection, allergy, drug induced, stress related, or idiopathic). The emergency physician must be vigilant in differentiating inflammatory conditions that are often self-limited from causes that may require emergent surgical or endoscopic intervention, such as ischemic bowel (intussusception, volvulus), structural abnormalities (Meckel's diverticulum, angiodysplasia), and portal hypertension (esophageal varices).

Children with only a few drops or flecks of blood in the vomit or stool should not be considered “GI bleeders” if their history and physical examinations are otherwise unremarkable. Caution must be taken, however, to exclude that small amounts of blood (whether in emesis or passed per rectum) are the harbinger of more extensive enteral bleeding.

Conclusiones

Primer y principal objetivo es determinar la estabilidad hemodinamica y localización sangrado

Se requiere Equipo incluye Emergentologo, Cirujano y Gastroenterólogo

Circuncribir o “Limitar” los diagnosticos diferenciales con historia examen fisico y test laboratorio basandonos en las causas HD edad dependiente

The most important aspect of the initial GIB

In the case of a child with no clinical impairment, it is sufficient to ensure vascular access and perform baseline tests (*i.e.*, blood count and group, liver and kidney function, blood coagulation) as well as a pre-anesthesia examination.

For cases of UGIB, nasogastric aspiration and saline lavage are indicated to confirm the presence of intragastric blood[27], to determine the rate of gross bleeding, to check for ongoing or recurrent bleeding, to clear the gastric field for subsequent endoscopic visualization, to prevent aspiration of gastric contents and to prevent hepatic encephalopathy in patients with cirrhosis. Parenteral vitamin K (1-2 mg/dose) should be administered empirically to infants, even when results of coagulation are pending. The finding of coagulopathy with an international normalized ratio >

1.5 or abnormal partial thromboplastin time should be corrected by administration of fresh frozen plasma (10 mL/kg initially); cryoprecipitate administration may be

.
In conclusion, supportive measures with stabilization of hemodynamic status, correction of any coagulation or platelet abnormalities are necessary before diagnostic procedures are undertaken.

Niño con HD en la Emergencia

- ❖ Cuanto a sangrado ? -Sigue sangrando?
- ❖ Requiere Resucitación Líquida?



- ❖ Donde esta sangrando ?
- ❖ Porque ?

Signos Asociados
Purpura
hepatosplenomegalia
Ictericia, hemangiomas
cutaneos. Eczema

HD
Alta/Baja?

Factores de
riesgo
?
Sepsis,
Coagulopatía,
Trauma

Niño con HD en la Emergencia

- ❖ Donde esta sangrando ?
- ❖ Porque sangra?

Según edad

Causas HDA riesgo vida:
Úlcera
Malformaciones vasculares
Duplicación
Varices esofágicas

Causas mas comunes /edad

Neonato: sangre deglutida
Lactante: esofagitis,gastritis ,
Mallory Weiss
Preescolar: gastritis, mallory weis
Escolar: ulcera, gastritis, mallory weis

Gastrointestinal (GI) bleeding is a relatively common problem in pediatrics. Over one study period, for example, complaints of rectal bleeding accounted for 0.3% of all visits made to the emergency department (ED) at Children's Hospital, Boston. Most infants and children who arrive in the ED with what appears to be GI bleeding have an acute, self-limited GI hemorrhage and are hemodynamically stable.

In such patients, three important questions must be asked:

- (i) Is the patient really bleeding?
- (ii)(ii) Is the blood coming from the GI tract?
- (iii) Is there more than a trivial amount of blood?

HD y administracion de Sangre

???

Depende del Hto una vez que se saca del shock : Y de que continúe sangrando

- Si ha parado, Hto 30% con GR , menos volumen que es importante par no sobrehidratar en caso de varices, ulceras, tienen menos amonio , importante si hay compromiso hepatico
- Si continua sangrando

The risks inherent in massive transfusions are definitely lowered by using packed red blood cells, fresh-frozen plasma, proper filters, and blood warmers.

Any patient with or without a previous history of liver disease who presents with GI bleeding associated with an abnormal PT should receive vitamin K (5 to 10 mg intramuscularly or intravenously) as soon as possible.

Overexpansion of intravascular volume is potentially dangerous, particularly in bleeding varices but also in bleeding gastric or duodenal ulcers. Therefore, after correction of shock and restoration of urine flow, further IV volume replacement should be titrated to match continuing blood loss. The decision to begin transfusion depends on the level of hematocrit taken at the time of restoration of blood volume and on evidence of ongoing bleeding. For a patient who has stopped bleeding, blood transfusion is given to allow some reserve in case of rebleeding. Under most circumstances, slow transfusion to return the hematocrit to approximately 30% is recommended to achieve this objective. In this case, packed red blood cells (10 mL per kg) are used to reduce the volume load to the patient. In addition, packed blood cells contain considerably less ammonia than whole blood, an important factor for patients who have severe liver disease. For a patient who has continuous bleeding, ongoing blood transfusion is the only means of maintaining adequate oxygen-carrying capacity. In this case, the rate of bleeding determines the rate of transfusion. A sustained rate of transfusion is recommended and is best achieved with an electrical infusion pump, not by gravity. Potential complications of massive transfusions include hypercitrinemia, hyperlacticacidemia, hypocalcemia, decreased levels of clotting factors, and thrombocytopenia. The risks inherent in massive transfusions are definitely lowered by using packed red blood cells, fresh-frozen plasma, proper filters, and blood warmers. Any patient with or without a previous history of liver disease who presents with GI bleeding associated with an abnormal PT should receive vitamin K (5 to 10 mg intramuscularly or intravenously) as soon as possible.

Niño con HD ata
Descompensado



Niño con HD Alta
Compensado



Niño con HD baja
Compensado



Niño abdomen agudo
y HD quirurgico?



Pediatric gastrointestinal bleeding: Perspectives from the Italian Society of Pediatric Gastroenterology. *REVIEW*

World J Gastroenterol 2017 February 28; 23(8): 1328-1337

There are many causes of gastrointestinal bleeding (GIB) in children, and this condition is not rare, having a reported incidence of 6.4%. Causes vary with age, but show considerable overlap; moreover, while many of the causes in the pediatric population are similar to those in adults, some lesions are unique to children.

The diagnostic approach for pediatric GIB includes definition of the etiology, localization of the

DEFINITIONS

UGIB proximal to the ligament of Treitz, (esophagus, stomach and duodenum)

LGIB bleeding distal to the ligament of Treitz.

Hematemesis (and coffee ground vomitus) is vomiting of blood from the upper gastrointestinal tract or, occasionally, after swallowing blood from a source in the nasopharynx[1]. Bright red hematemesis usually implies active hemorrhage from the esophagus, stomach or duodenum.

Coffee-ground vomitus refers to the vomiting of black material, which is assumed to be blood.

Melena is the passage of black tarry stools, usually due to acute UGIB but occasionally from bleeding within the small bowel or right side of the colon.

Hematochezia is the passage of fresh or altered blood *via* rectum, usually due to colonic bleeding

Hemorragia Digestiva Alta

from the esophagus to the ligament of Treitz ,
 Hematemesis (73%), melena (21%) and coffee-ground emesis (6%);
 The worldwide mortality rate for UGIB in children can range from 5% to 15%,

Neonato	Lactante	1-5 a	> 5 años
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Hemorragia Digestiva baja

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A valid approach to investigate the causes of LGIB is to classify it according to the child's age, general appearance (ill or well), bleeding rate, and stool characteristics

Meckel's diverticulum should strongly be suspected, at any age, if bleeding is massive and accompanied by both bright and dark red stools. In ill infants, ischemic/surgical causes, such as mid-gut volvulus and intussusception, should be suspected. In older children, other serious medical causes, such as severe attack of ulcerative colitis, Henoch-Schonlein purpura or hemolytic-uremic syndrome,

In cases of severe LGIB, especially when melena is present or the patient is hemodynamically unstable, the source of bleeding may include the upper gastrointestinal region[25]

In conclusion, the main priority for the physician in evaluating a patient with LGIB is to identify those patients in whom bleeding is secondary to intestinal obstruction or surgical causes.

THERAPY

The pharmacological treatment approach to UGIB and LGIB currently includes 3 classes of drugs:

- acid suppression drugs,
- vasoactive drugs,
- non-selective β -blockers

CONCLUSION

The diagnostic approach for GIB should include extensive history-taking and examination including laboratory evaluations and application of the available and most appropriate diagnostic procedures. Endoscopy is the method of choice for evaluating UGIB and LGIB, after stabilization and resuscitation, and within 24 h of presentation. The goals of endoscopy are to identify the site and etiology of the GIB, as well as to facilitate adequate treatment. Visual inspection of the perianal area and digital rectal examination should always be considered if a bright red blood coating is present on normal or hard stool.

In children, persistent or recurrent iron-deficiency anemia could be considered as a sign of OGIB, for which VCE is the first-line endoscopic investigation. Three vasoactive drugs (terlipressin, somatostatin, and octreotide) play a role in the control of variceal bleeding and all act by reducing portal blood flow and portal pressure. Endoscopy has a therapeutic role for polyps, ulcers, erosions, blue nevi, angiodysplasia, varices, strictures and scalloping.