

A 5-year-old boy is brought to the emergency department by his father with fatigue and scrotal swelling. His father noticed the swelling today and is sure that "it wasn't there yesterday." The boy had a low-grade fever and cough 2 weeks ago and "hasn't been himself ever since." He has no significant past medical history. On examination, the patient looks ill and lethargic. Mucous membranes are dry and his capillary refill is 3 seconds. He has a palpable nonblanching rash on his buttocks and lower legs. The right hemi-scrotum is slightly swollen and tender to palpation. Abdominal examination shows mild diffuse tenderness to palpation without rebound or guarding. Laboratory results from urinalysis are as follows:

Specific gravity	1.016
pH	7.0
Protein	+1
Blood	Moderate
Glucose	Negative
Ketones	Negative
Leukocyte esterase	Negative
Nitrites	Negative

The boy is admitted to the hospital for further management. Which of the following adverse outcomes is he most likely to develop?

- ☐ A. Appendicitis
- ☐ B. Cholecystitis
- ☐ C. Diverticulitis
- ☐ D. Intussusception
- ☐ E. Meckel diverticulum
- ☐ F. Volvulus

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- ☐ A. Appendicitis [6%]
- ☐ B. Cholecystitis [6%]
- ☐ C. Diverticulitis [3%]
- ☒ D. Intussusception [68%]
- ☐ E. Meckel diverticulum [3%]
- ☐ F. Volvulus [14%]

Proceed to Next Item

Explanation:

User Id:

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Henoch-Schönlein purpura	
Pathogenesis	<ul style="list-style-type: none"> IgA-mediated leukocytoclastic vasculitis
Clinical manifestations	<ul style="list-style-type: none"> Palpable purpura Arthritis/arthralgia Abdominal pain, intussusceptions Renal disease similar to IgA nephropathy
Laboratory findings	<ul style="list-style-type: none"> Normal platelet count & coagulation studies Normal to ↑ creatinine Hematuria +/- RBC casts +/- proteinuria
Treatment	<ul style="list-style-type: none"> Supportive (hydration & NSAIDs) for most patients Hospitalization & systemic glucocorticoids in patients with severe symptoms

RBC = red blood cell; NSAIDs = nonsteroidal antiinflammatory drugs.

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Henoch-Schönlein purpura (HSP) is an immune-mediated vasculitis of childhood that often occurs after mild illnesses such as upper respiratory tract infections. HSP is more common in boys and occurs more frequently in the fall and winter months. Classic manifestations include abdominal pain, palpable purpura on the lower extremities, arthralgias, and renal disease. In rare cases, patients can have scrotal pain and swelling as the initial presenting symptoms.

Although the majority of patients with HSP develop abdominal pain, the presence of severe abdominal pain should prompt further workup for gastrointestinal hemorrhage or intussusception, both of which are known complications. **Intussusception**, which occurs in up to 4% of cases, presents with severe episodic abdominal pain and "currant jelly" or **bloody stools**. The increased risk for intussusception is due to bowel wall edema and localized hemorrhage, which can act as lead-points for the intussusception.

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Unlike most cases of intussusception in children, which are ileo-colic, intussusceptions in HSP are more likely to be small-bowel or ileo-ileal (60% of cases). Because of their location, small-bowel intussusceptions cannot be seen on contrast enema and are diagnosed by the presence of a **"target" sign on ultrasound**. Ileocolic intussusceptions can be treated with air or contrast enema, but ileo-ileal intussusceptions that do not reduce spontaneously often require surgical management.

(Choice A) Appendicitis is no more common in HSP than in normal children. Appendicitis typically presents with fever, anorexia, vomiting, and right lower-quadrant pain.

(Choice B) Cholecystitis is rare in otherwise healthy children and is not associated with HSP. Risk factors for cholecystitis in children include sickle cell anemia, hereditary spherocytosis, and obesity.

(Choice C) Diverticulitis, which is caused by inflammation of colonic divertula, is exceedingly rare in children and typically presents with left lower-quadrant pain. An increased incidence of colonic diverticula and abdominal wall/inguinal hernias is seen with autosomal dominant polycystic kidney disease.

(Choice E) Meckel diverticulum usually presents with painless rectal bleeding in young children. It is not associated with HSP. The presence of Meckel diverticulum, however, is associated with an increased risk of recurrent intussusception.

(Choice F) Malrotation with midgut volvulus is a very common cause of intestinal obstruction in the neonatal period, and it can also occur later in childhood or adolescence. Over 90% of patients with midgut volvulus present with vomiting (often

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Educational objective:

Henoch-Schönlein purpura (HSP) is an immune-mediated vasculitis that is most common in children age <15. Typical features include palpable purpura, hematuria, abdominal pain, arthralgias and occasionally scrotal swelling. Children with HSP are at increased risk for ileo-ileal intussusception.

References:

1. [Intra-abdominal manifestations of Henoch-Schönlein purpura.](#)
2. [Henoch Schönlein purpura in childhood: epidemiological and clinical analysis of 150 cases over a 5-year period and review of literature.](#)
3. [Henoch Schönlein purpura in childhood: clinical analysis of 254 cases over a 3-year period.](#)

Media Exhibit

stools in intussusception



Media Exhibit

c intussusception

