

An African-American boy is in the newborn nursery with a bulge on his abdomen that was identified immediately after birth and is most pronounced during crying. The patient was born to an 18-year-old woman who did not receive prenatal care or take prenatal vitamins. Vitals are normal. Examination shows a soft swelling at the umbilical region that is 1 cm in diameter and covered by skin. It is easily reducible through the umbilical ring. Which of the following is the most likely diagnosis and best course of action for this patient?

- ☐ A. Gastroschisis, refer for surgical management
- ☐ B. Omphalocele, observe for spontaneous resolution
- ☐ C. Omphalocele, refer for operative management
- ☐ D. Umbilical granuloma, apply silver nitrate
- ☐ E. Umbilical hernia, observe for spontaneous resolution
- ☐ F. Umbilical hernia, refer for operative management

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- ☐ A. Gastroschisis, refer for surgical management [1%]
- ☐ B. Omphalocele, observe for spontaneous resolution [3%]
- ☐ C. Omphalocele, refer for operative management [4%]
- ☐ D. Umbilical granuloma, apply silver nitrate [0%]
- ☒ E. Umbilical hernia, observe for spontaneous resolution [87%]
- ☐ F. Umbilical hernia, refer for operative management [6%]

Proceed to Next Item

Explanation:

User Id:

Pediatric abdominal wall defects	
Diagnosis	Clinical features
Umbilical hernia	<ul style="list-style-type: none">Defect at linea alba covered by skinSometimes contains bowelUmbilical cord inserts at apex of defect
Gastroschisis	<ul style="list-style-type: none">Defect to the right of the cord insertion not covered by membrane or skinContains bowelUmbilical cord inserts next to defect
	<ul style="list-style-type: none">Midline abdominal wall defect covered by peritoneum

Explanation:

User Id: [REDACTED]

Pediatric abdominal wall defects	
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Umbilical hernia	<ul style="list-style-type: none"> Defect at linea alba covered by skin Sometimes contains bowel Umbilical cord inserts at apex of defect
Gastroschisis	<ul style="list-style-type: none"> Defect to the right of the cord insertion not covered by membrane or skin Contains bowel Umbilical cord inserts next to defect
Omphalocele	<ul style="list-style-type: none"> Midline abdominal wall defect covered by peritoneum Contains multiple abdominal organs Umbilical cord inserts at apex of defect

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An **umbilical hernia** is due to an incomplete closure of the abdominal muscles around the umbilical ring at birth. It is most commonly associated with **African-American** race, **premature** birth, Ehlers-Danlos syndrome, **Beckwith-Wiedemann** syndrome, and **hypothyroidism**. Physical examination shows a soft, non-tender bulge covered by skin that protrudes during crying, coughing, or straining. The hernia may contain omentum or portions of the small intestine. Most umbilical hernias are reduced easily through the umbilical ring with very low risk of incarceration and strangulation.

Small umbilical hernias typically **close spontaneously** by concentric fibrosis and scar tissue formation. Spontaneous closure is less likely with **large (>1.5 cm diameter) hernias** or in patients with underlying medical problems. Surgery (**Choice F**) is recommended around age 5 for persistent hernias, or sooner if it is bothersome or causing complications.

(**Choice A**) **Gastroschisis** is characterized by protrusion of bright red intestines to the right side of a normal umbilicus. There is no membrane covering the intestines. It is a

- Umbilical cord inserts at apex of defect

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(**Choice A**) **Gastroschisis** is characterized by protrusion of bright red intestines to the right side of a normal umbilicus. There is no membrane covering the intestines. It is a surgical emergency.

(**Choices B and C**) An **omphalocele** is a protrusion of abdominal contents into the base of the umbilical cord. The omphalocele sac is covered with peritoneum without overlying skin. Immediate surgical repair is essential for survival.

(**Choice D**) An umbilical granuloma is a common cause of an umbilical mass in a newborn. It usually appears after the umbilical cord has separated and presents as a soft, moist, pink, pedunculated, friable lesion. Silver nitrate is the treatment of choice.

Educational objective:

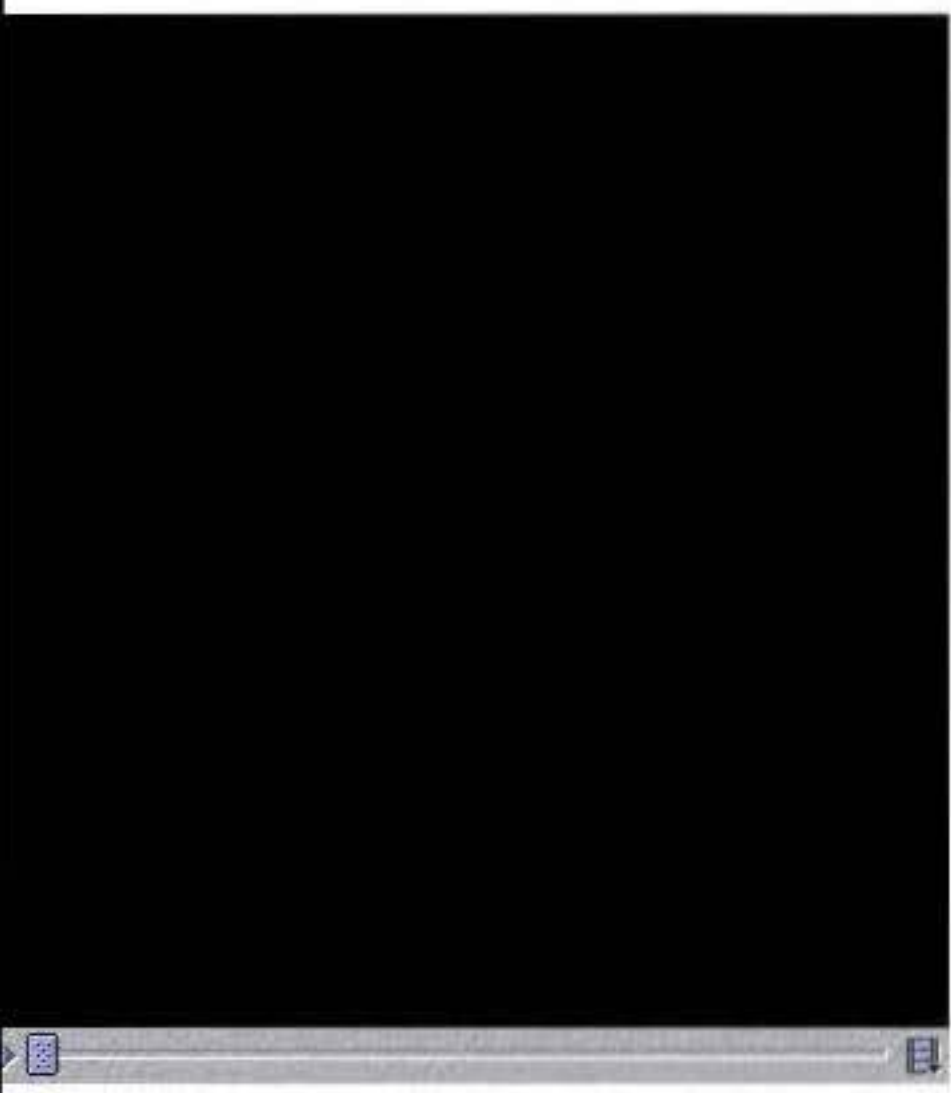
An umbilical hernia is a common finding in African-American infants. Umbilical hernias are generally reducible and close spontaneously before age 5. Surgery is not usually required.

References:

1. **Low risk, but not no risk, of umbilical hernia complications requiring acute surgery in childhood.**
2. **Profile of paediatric umbilical hernias managed at Federal Medical Centre Umuahia.**

Media Exhibit

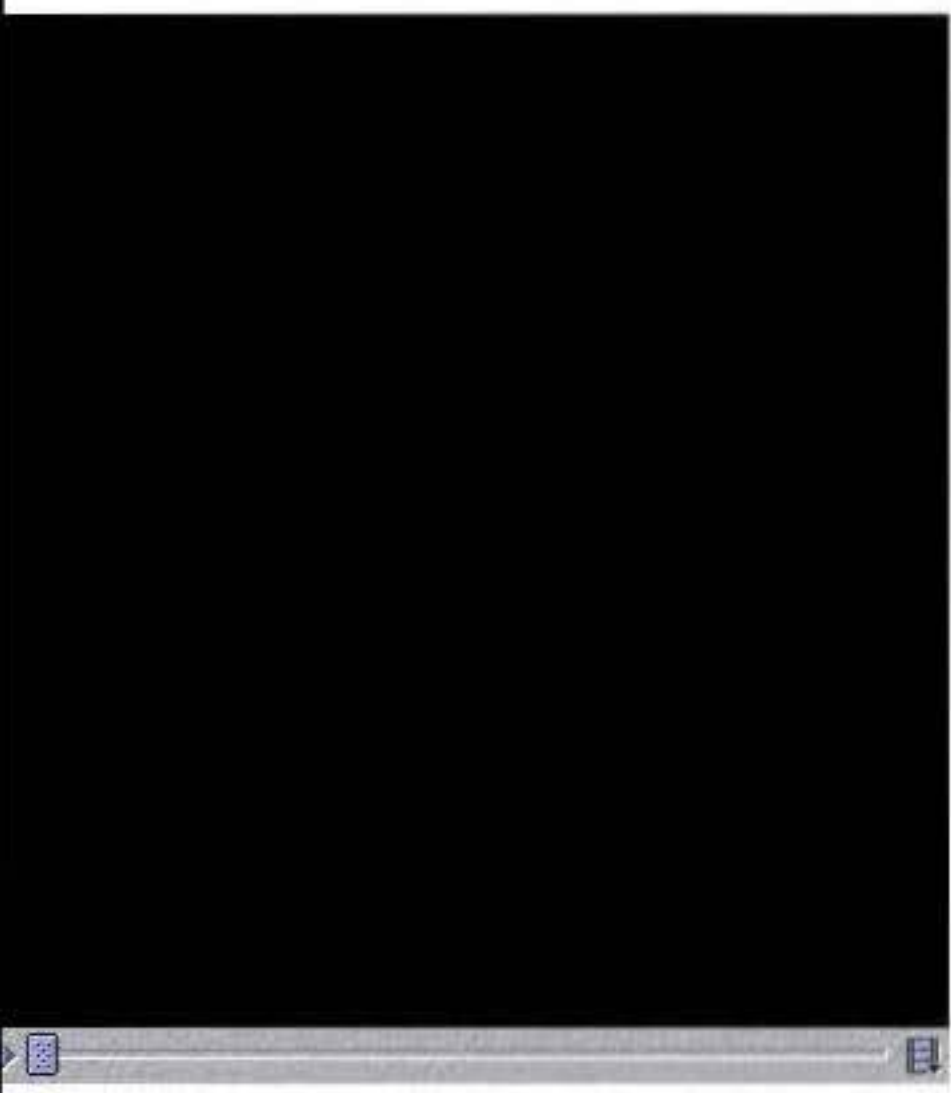
Umbilical hernia





Media Exhibit

hernia

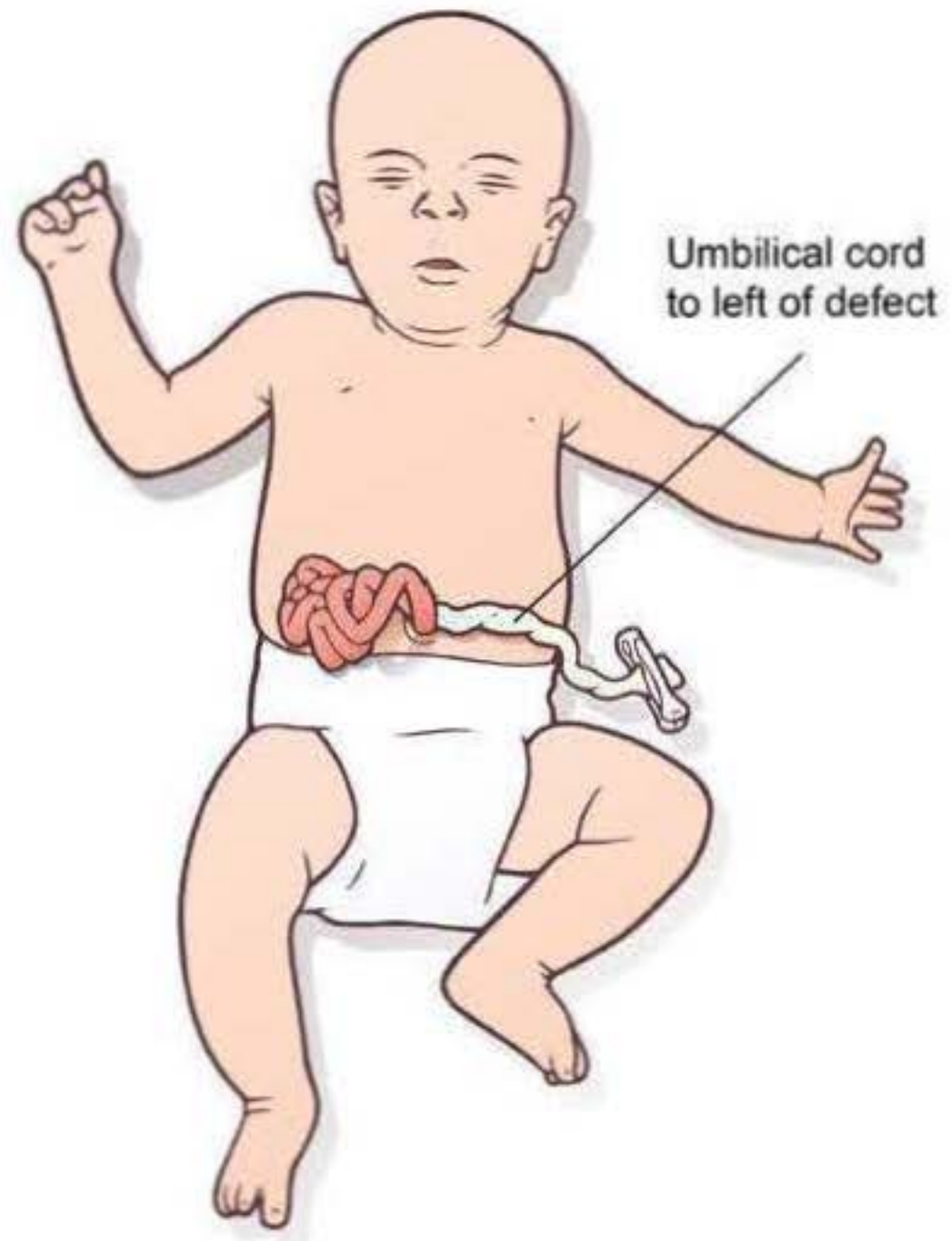




Media Exhibit

chisis versus omphalocele

Gastroschisis

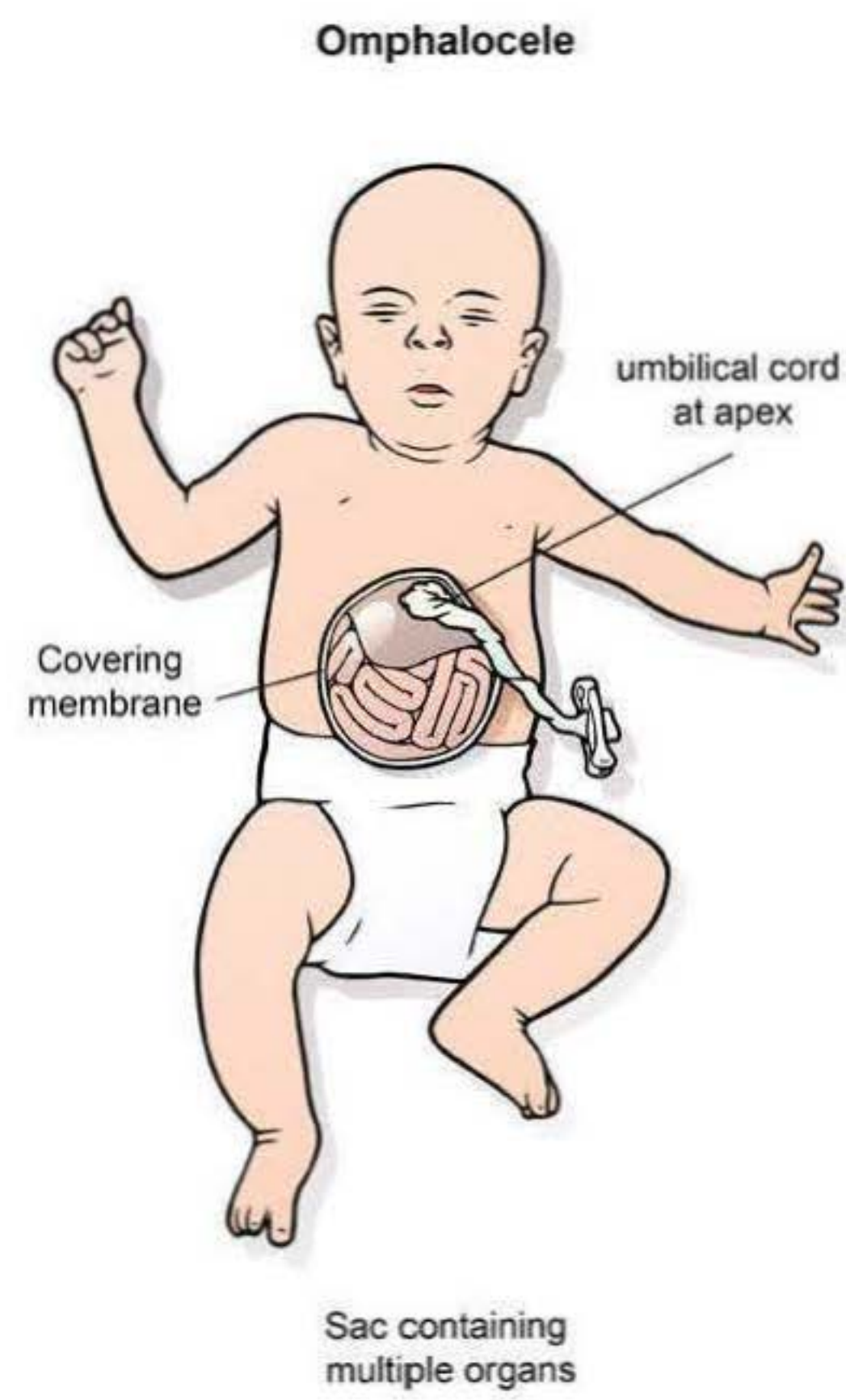


Eviscerated bowel with
no covering membrane

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Media Exhibit

chisis versus omphalocele



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