

與大師對談

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規則

- 依照臨床時序，請大師模擬一線放射科醫師；於未知診斷，或者有限度臨床線索之情形下，進行閱片及解讀。
- 鑑別診斷為主要，確定診斷為次要。
 - 目的在於學習大師之影像判讀邏輯思考。
- 主題：小兒影像
- 大師評論本院影像品質建議及改進。
 - Protocols, techniques, etc.

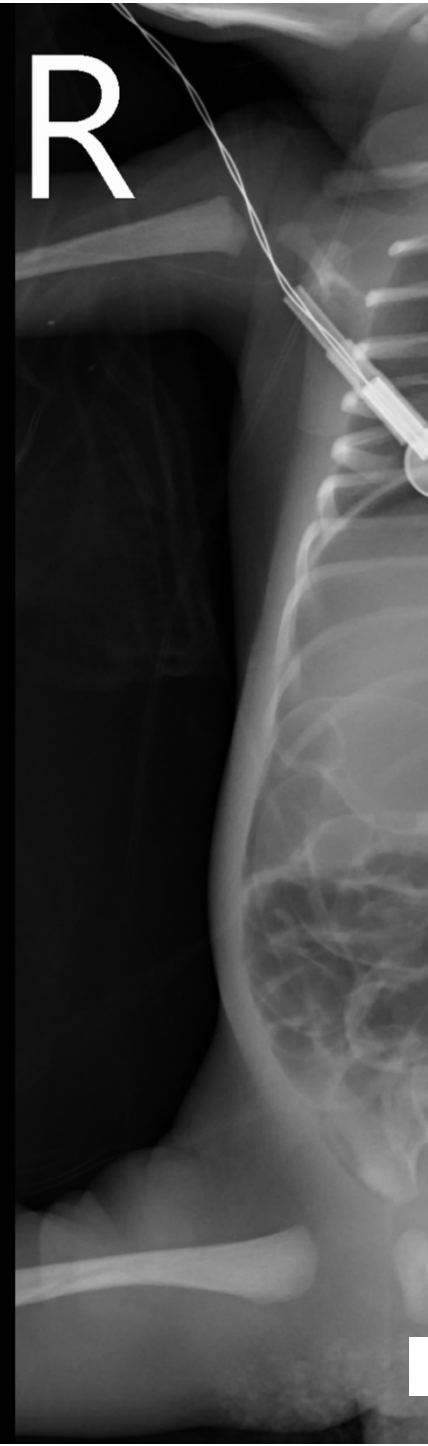
Case 1

Patient Profile

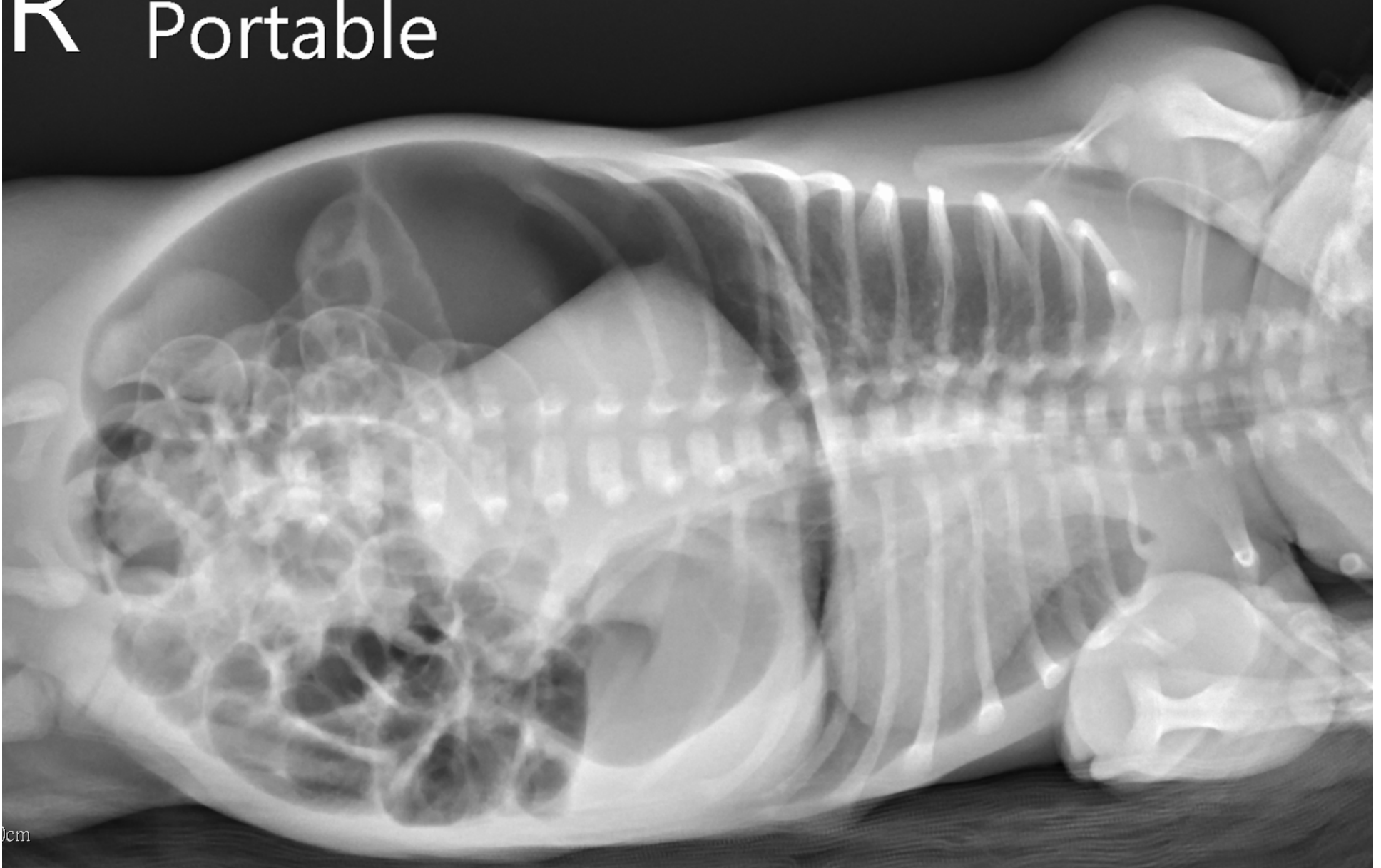
- Preterm male, 31+3 weeks
- Underline condition
 - G1P0
 - Apgars score 8 to 9
 - BW: 1542g, BL: 42.5cm
 - Short of breath after birth

Image

- CXR after birth



R Portable

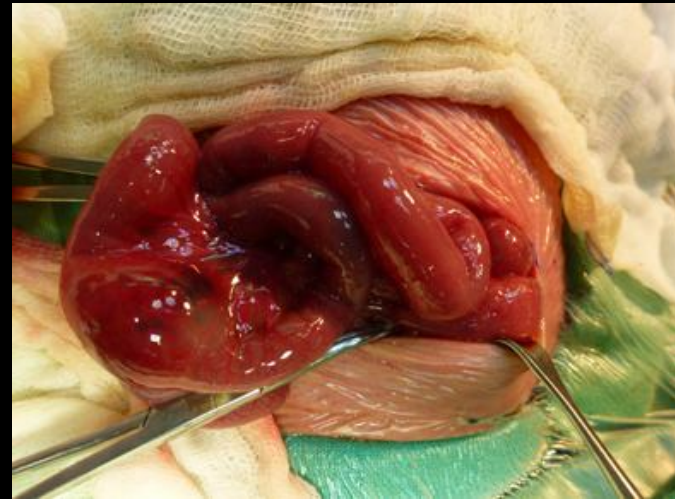


L't Decubitus

0cm

Clinical Course

- Initial diagnosis: pneumoperitoneum, r/o necrotizing enterocolitis
- Underwent emergent operation
 - Findings: One perforation hole found below Treitz ligament 60cm and another 2cm of bowel dilation and impending perforation
 - Segmental resection of ileum with anastomosis



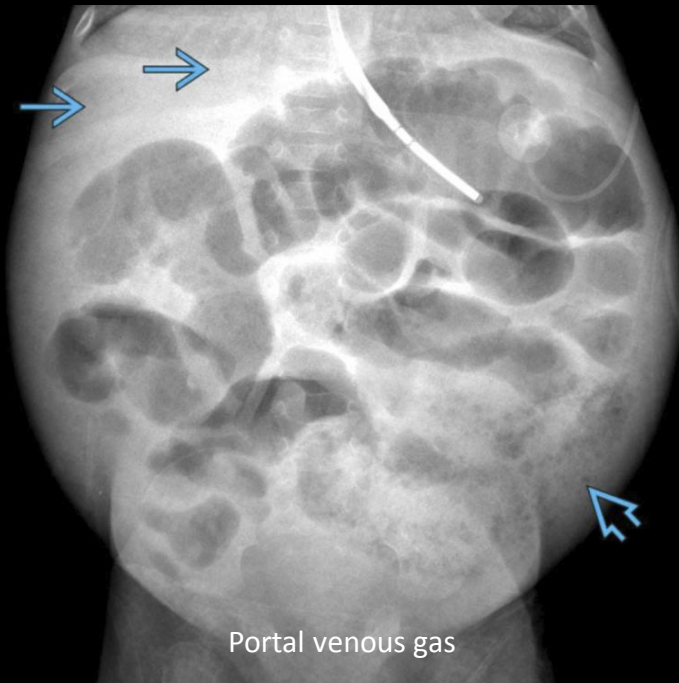


Necrotizing Enterocolitis (NEC)

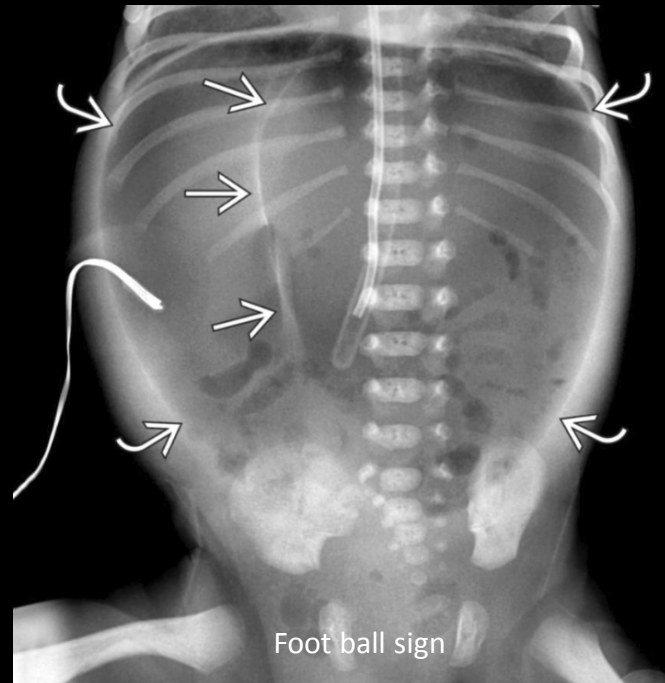
- Life-threatening condition of neonatal GI tract characterized by **inflammation, ischemia, & translocation of bacteria** into bowel wall
- Most common in very low birth weight (< 1,500 g) premature infants 2-3 weeks after delivery
- Typical history
 - Feeding intolerance with emesis, ↑ gastric residuals, bloody stools
- Other frequent clinical findings
 - Abdominal distention &/or discoloration, apnea & bradycardia, lethargy, temperature instability

Image Findings

- Nonspecific findings
 - Paucity of bowel gas
 - Loss of normal mosaic pattern of polygon-shaped bowel loops throughout abdomen
- Suggestive findings
 - Asymmetric bowel dilation
 - Fixed, "unfolded" bowel loops on serial radiographs
 - Separation of bowel loops (bowel wall / fluid-filled bowel / free fluid)
- Definitive findings
 - Pneumatosis (50-75% of patients)
 - Portal venous gas
 - Free intraperitoneal air



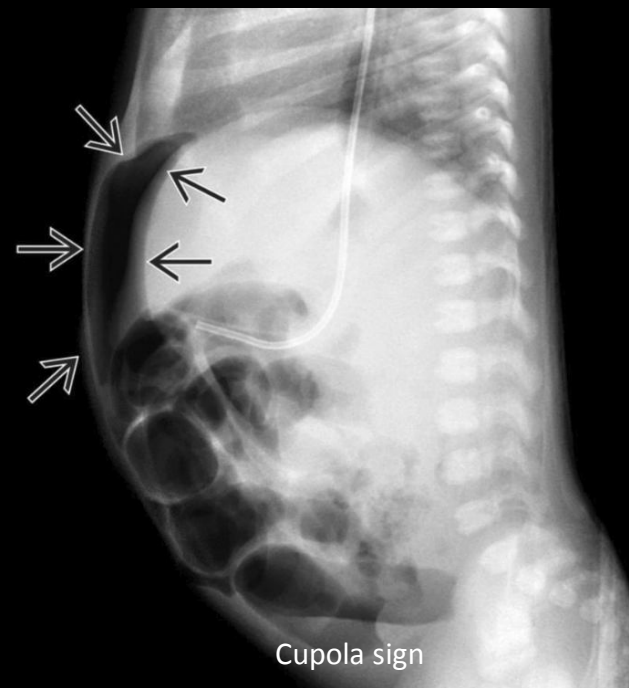
Portal venous gas



Football sign



Cupola sign



Cupola sign

Radiologists' Agreement When Using a 10-Point Scale to Report Abdominal Radiographic Findings of Necrotizing Enterocolitis in Neonates and Infants

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Ana M. Gaca¹
Charles Maxfield¹
David DeLong²
George Bisset III¹ AJR 2008

OBJECTIVE. The purpose of this study was to evaluate radiologists' agreement when using a 10-point scale of abnormal findings designed to standardize reporting of abdominal radiographs in neonates or infants with suspected necrotizing enterocolitis.

MATERIALS AND METHODS. A 10-point scale of radiographic findings was devised at our institution and was in use for approximately 18 months before the initiation of this study. After institutional review board approval, 88 abdominal radiographs (anteroposterior and cross-table lateral) were randomly selected for review, allowing for an equal distribution

Radiographic Predictors of Disease Severity in Neonates and Infants With Necrotizing Enterocolitis

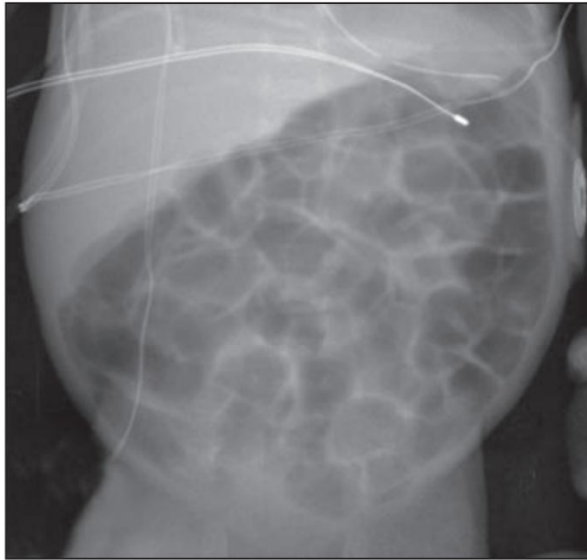
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OBJECTIVE. The objective of our study was to validate a radiographic scale, the Duke abdominal assessment scale (DAAS), as a tool for predicting the severity of disease in neonates and infants with suspected necrotizing enterocolitis (NEC).

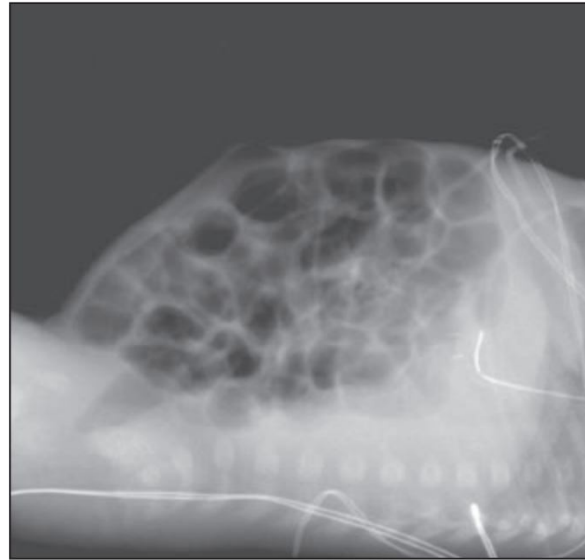
MATERIALS AND METHODS. Study group patients ($n = 43$) underwent at least two two-view abdominal radiographic series within 48 hours of surgical intervention for suspected NEC complications. Control group patients ($n = 86$) were patients with suspected NEC who did not undergo surgery for suspected NEC complications. DAAS scores were assigned by two pediatric radiologists with 20 and 6 years' experience.

TABLE 1: Duke Abdominal Assessment Scale (DAAS) of Abnormal Radiographic Findings in Neonates and Infants with Clinically Suspected Necrotizing Enterocolitis

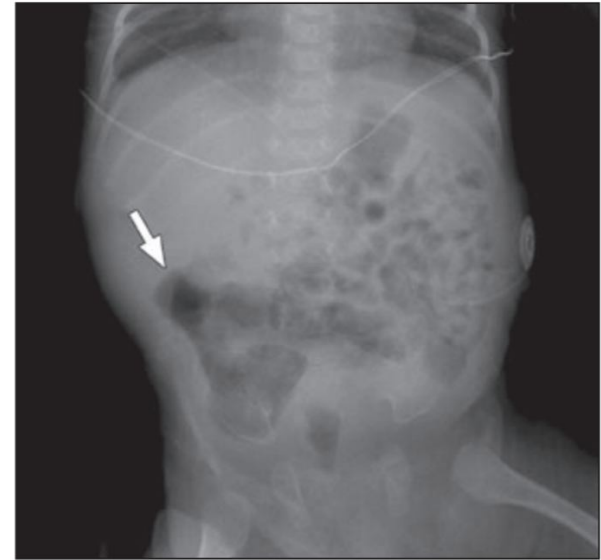
Score	Finding
0	Normal gas pattern
1	Mild diffuse distention
2	Moderate distention or normal with bubbly lucencies that are likely stool
3	Focal moderate distention of bowel loops
4	Separation or focal thickening of bowel loops
5	Featureless or multiple separated bowel loops
6	Possible pneumatosis with other abnormal findings
7	Fixed or persistent dilation of bowel loops
8	Pneumatosis highly probable or definite
9	Portal venous gas
10	Pneumoperitoneum



A



B



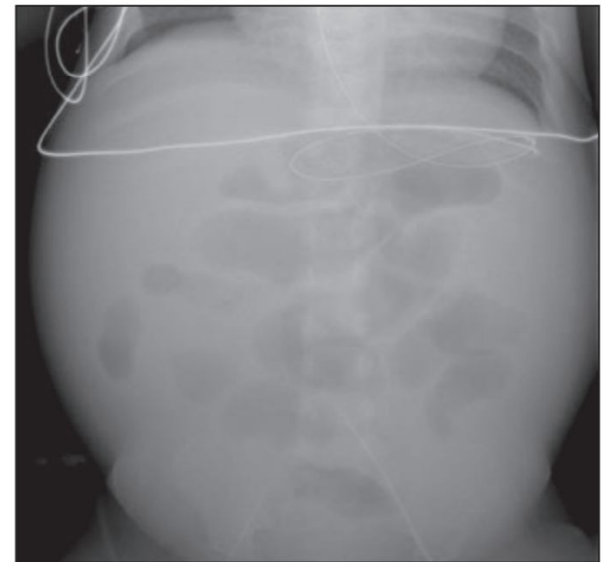
C



D



E



F

Fig. 2—Radiographs show cases to illustrate Duke abdominal assessment scale (DAAS) scores.

A and B, Moderate gaseous distention of bowel loops (DAAS 2) in 35-day-old girl.

C and D, Focal, moderate distention of bowel loops (DAAS 3) in right mid abdomen (*arrow, C*) in 16-day-old boy.

E and F, Radiographs, **E** obtained first and **F** obtained 11 hours after **E**, show fixed dilatation of bowel loops (DAAS 7) in 22-day-old boy. Note fixed loops of bowel and increased ascites in later film (**F**). ★