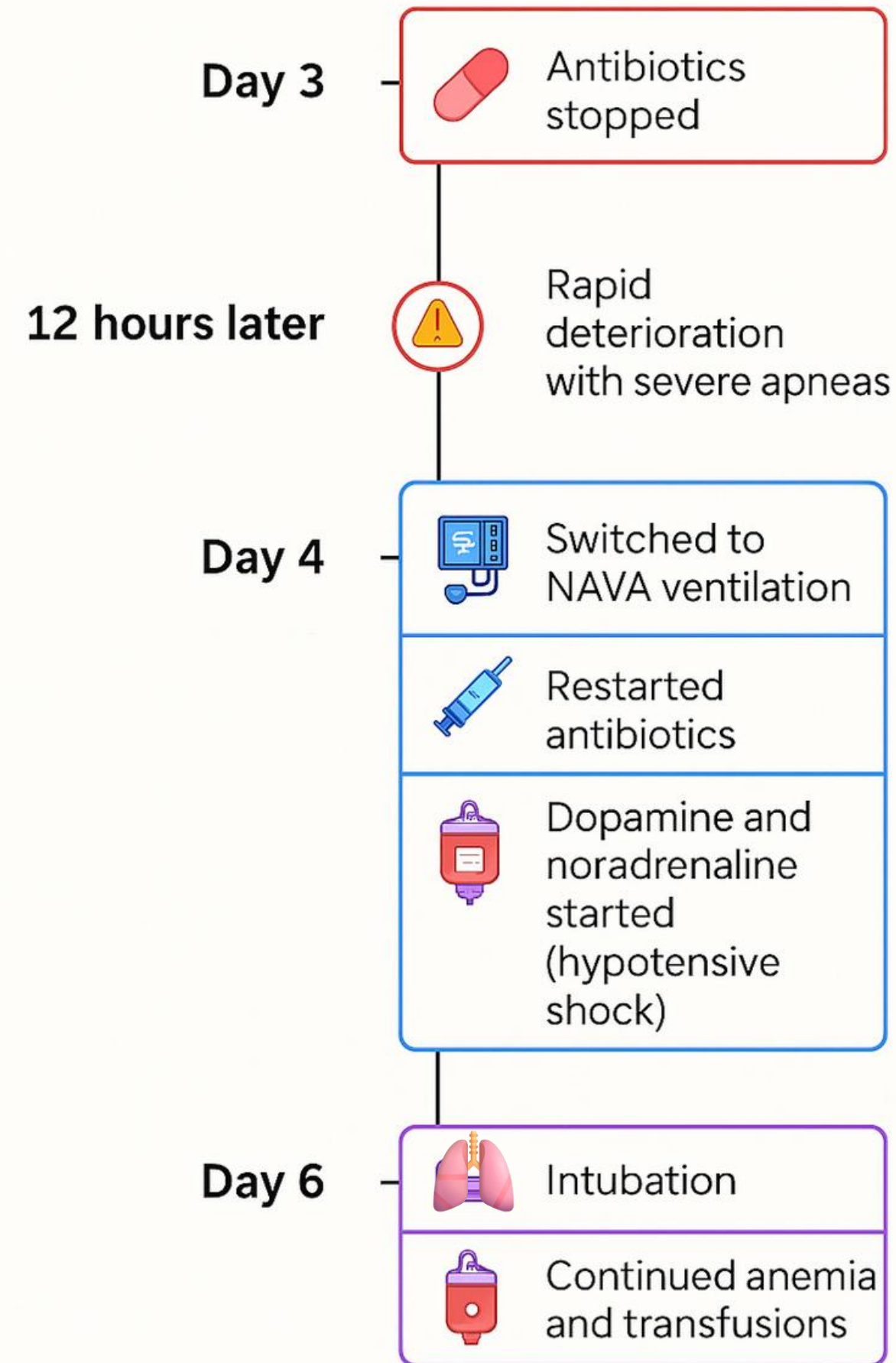


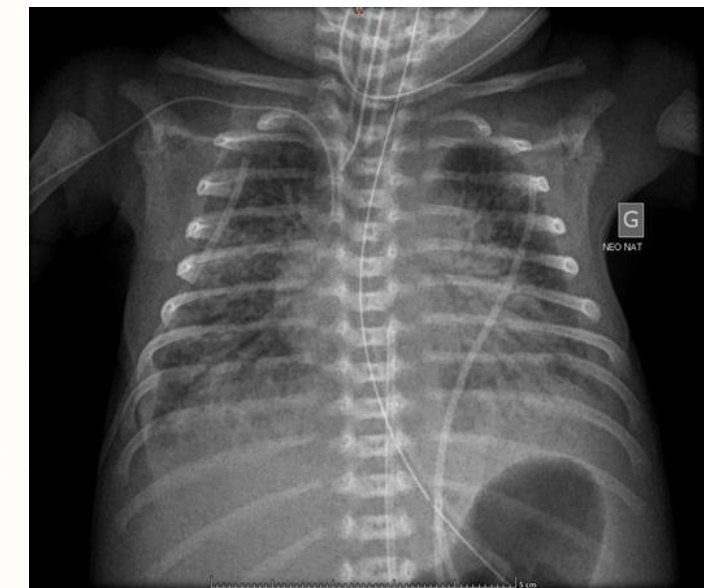
SEVERE ENTEROVIRUS INFECTION IN AN EXTREMELY PREMATURE NEONATE: CHALLENGES IN MANAGEMENT AND OUTCOME

Patient details

- Gestational Age: 27 weeks + 2 days
- Birth Weight: 980 g
- Spontaneous delivery due to chorioamnionitis
- Apgar 8/8/8, normal cord pH
- Initial Condition: Stable with minimal respiratory support (CPAP)



NAVA = Neurally adjusted ventilatory assist



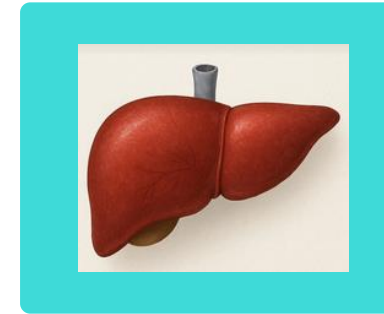
Complex Clinical Course Mimicking Bacterial Sepsis or HLH with Multiorgan Failure

Progression

- No response to antibiotics, CRP remained negative
- Hemophagocytic lymphohistiocytosis (HLH), Acute liver failure in sepsis or Gestational Alloimmune liver disease (GALD) was suspected
- **Multidisciplinary approach:**
 - Normally structured heart, myocarditis possible
 - dialysis discussed for liver failure, but patient <1kg => Immunoglobulines started for treating possible GALD or viral infection
 - HLH criteria after hematologists fulfilled
=> treatment with corticosteroids
- **Enterovirus of group A-D** found in pharyngeal secretion

Fatal outcome

- after ethical discussion, lifesupport withdrawn on DOL 7
- Postmortem Enterovirus found in all organ biopsies, GALD and HLH ruled out on autopsy
- Genetical testing showed no immune disease



LIVER FAILURE

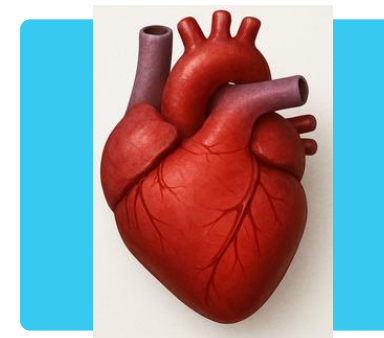
Disseminated intravascular Coagulopathy (DIC)

AST: 4'949 U/l

ALT: 1'077 U/l

Ammonia: 246 mcg/l => metabolic causes ruled out

Ferritine: >50'000 mcg/l

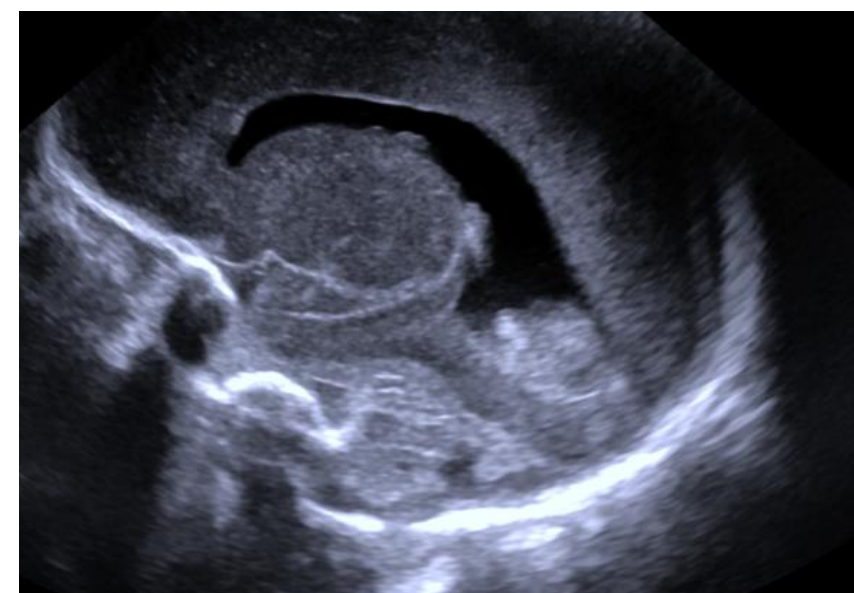


LEFT HEART FUNCTION IMPAIRED

missive heart enzyme elevation

Troponine 24'120ng/l

Pro-BNP: 11'600 ng/l



CEREBAL BLEEDING

Bilateral grad III bleeding

Discussion

- Enterovirus infections in preterm neonates can mimic bacterial sepsis or HLH
- High mortality (22-38%) associated with myocarditis and hepatic failure
- Early administration of IVIG is crucial for survival
- Higher AST levels are correlated to disease severity
- Antiviral therapy in neonates limited (pleconaril and pocapavir)
- Dialysis for liver failure (limited by patient weight for access and hemodynamic stability)

Conclusion

- This case highlights the vulnerability of extremely premature infants to enterovirus infections
- Further research into immune responses and potential genetic factors influencing disease progression is needed

Case highly suspicious for an Enterovirus group B

Typical representatives:

Coxsackievirus B1 - B6

Echoviruses (e.g. Echo 6, 9, 11, 30)

Enterovirus B69, B73, B75, B77, B88

Main clinical manifestations in preterm neonates:

Myocarditis, pericarditis

Neonatal sepsis (esp. CV-B3, echovirus 11)

Meningitis, encephalitis

Exanthema, hepatitis

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Thank you to the parents for consenting to the presentation of the case of their daughter