

Neonatal Cerebral Abscess



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NICG
22/01/2014

Baby P



- Maternal Hist – primigravida
uneventful till 8 months of gestation.
Diagnosed with Hepatitis A at 8th month.
- 35+3/40 Gestation , Emergency LSCS (Ind: foetal distress and meconium stained liquor).
- B Wt 2.6 Kg.
- APGAR's were 8/10 & 8^{/10} at 1 and 5 minutes age.



- Day 3 -> poor feeding, seizures.
- Seizures treated with IV phenobarb.
- Investigations revealed sepsis (increased CRP and Leucopenia).
- Started on IV meropenem.

Transfer to ACH NICU



- Baby was irritable, lethargic, increased tone in left side, bulging AF.
- Respiratory – initial CPAP for few hrs and then weaned to nasal cannula oxygen.



- LP on day 4 (CSF – WCC → 3045 cells/cu.mm; elevated proteins).
- Ophthalmological examination was normal.
- CVS-short systolic murmur was present. ECHO-PFO



- CSF cultures were negative.
- Meropenem was continued.
- USG cranium was done on day 5 of life.

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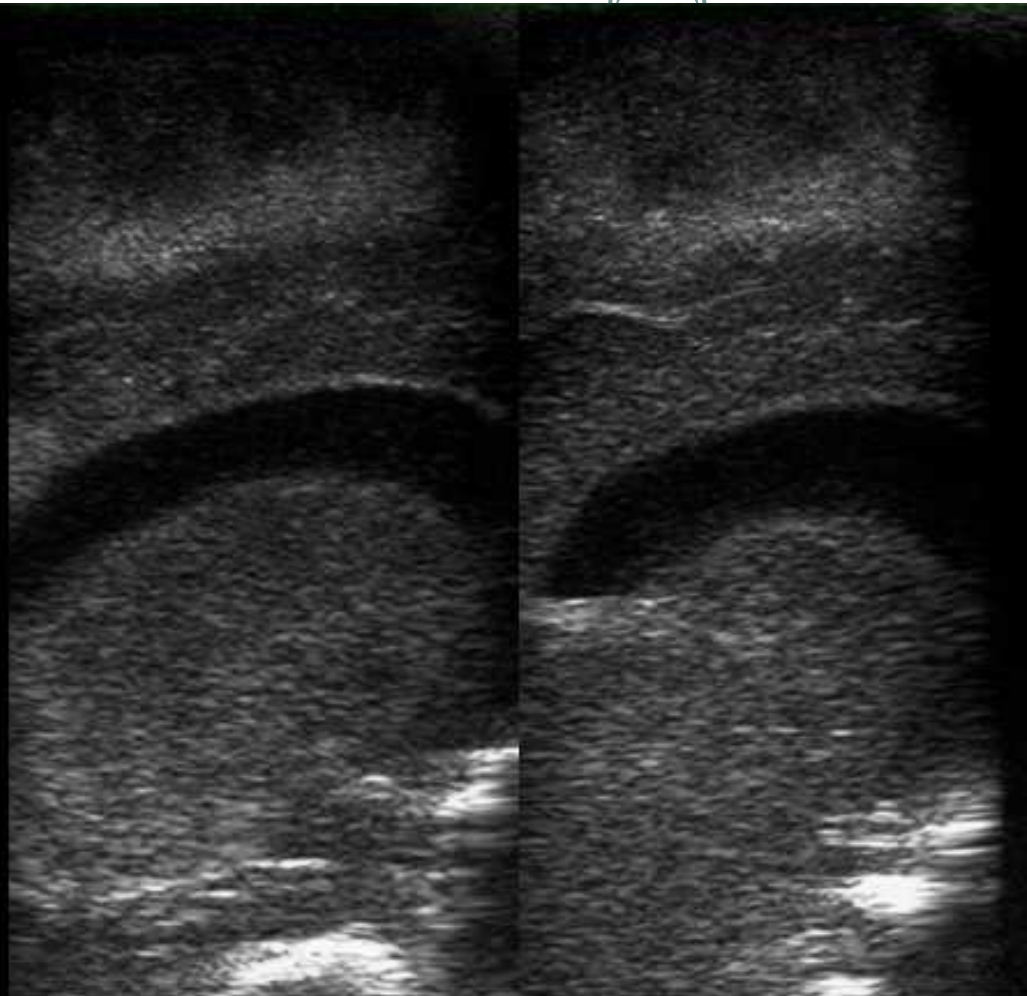
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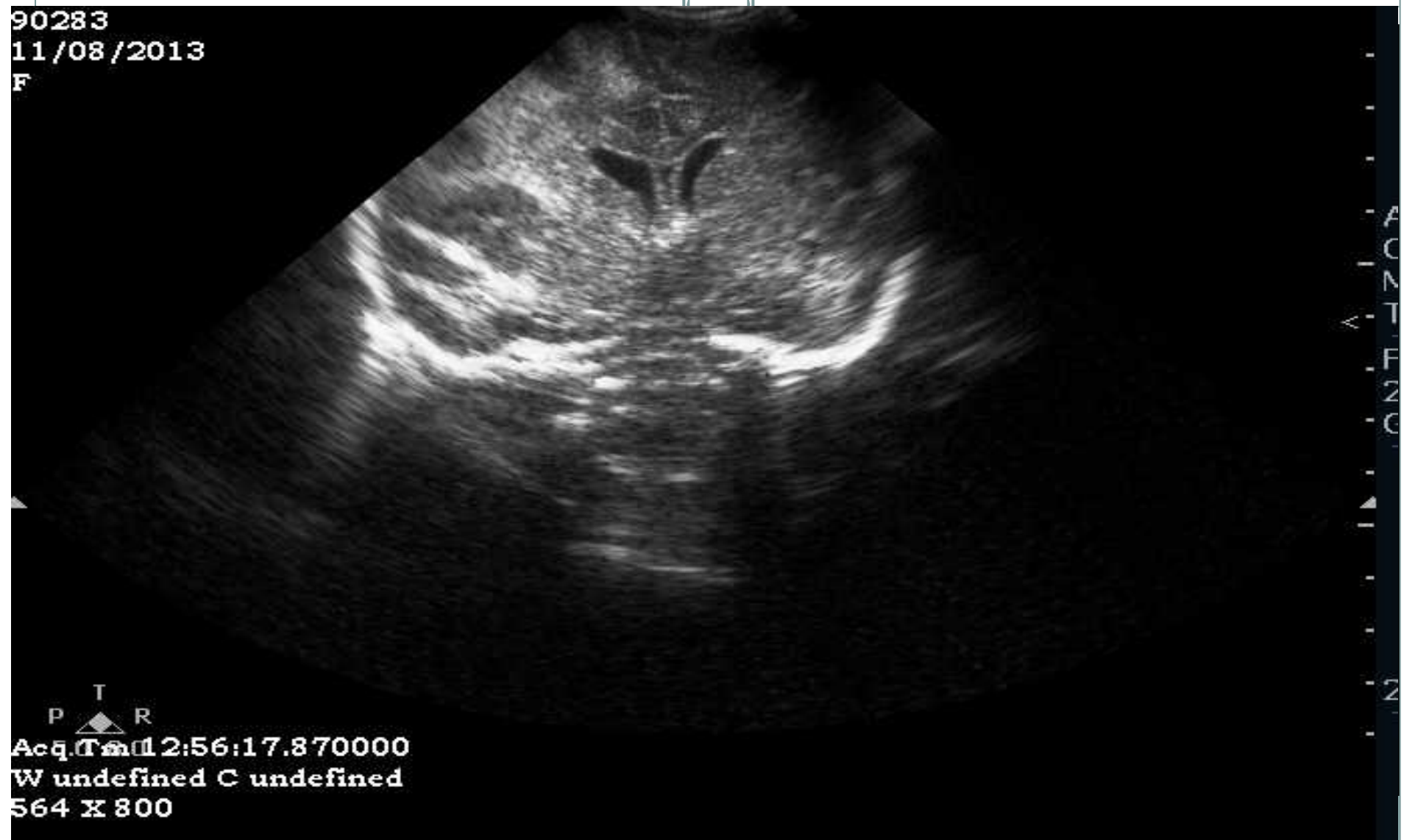
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- CLINICAL PROGRESS:
- Baby had irritability and also had increasing head circumference.



- A repeat CSF was obtained on day 11, showed persisting meningitis (WCC – 3170 cells/cu.mm).
- Correspondingly peripheral WCC showed a rising trend (39,900 on day10 and 54100 on day11).



- IV Colisitin added as per ID advice.
- Neurosonogram was repeated on day 11 of life.

IMA,

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PORTABLE NEURO

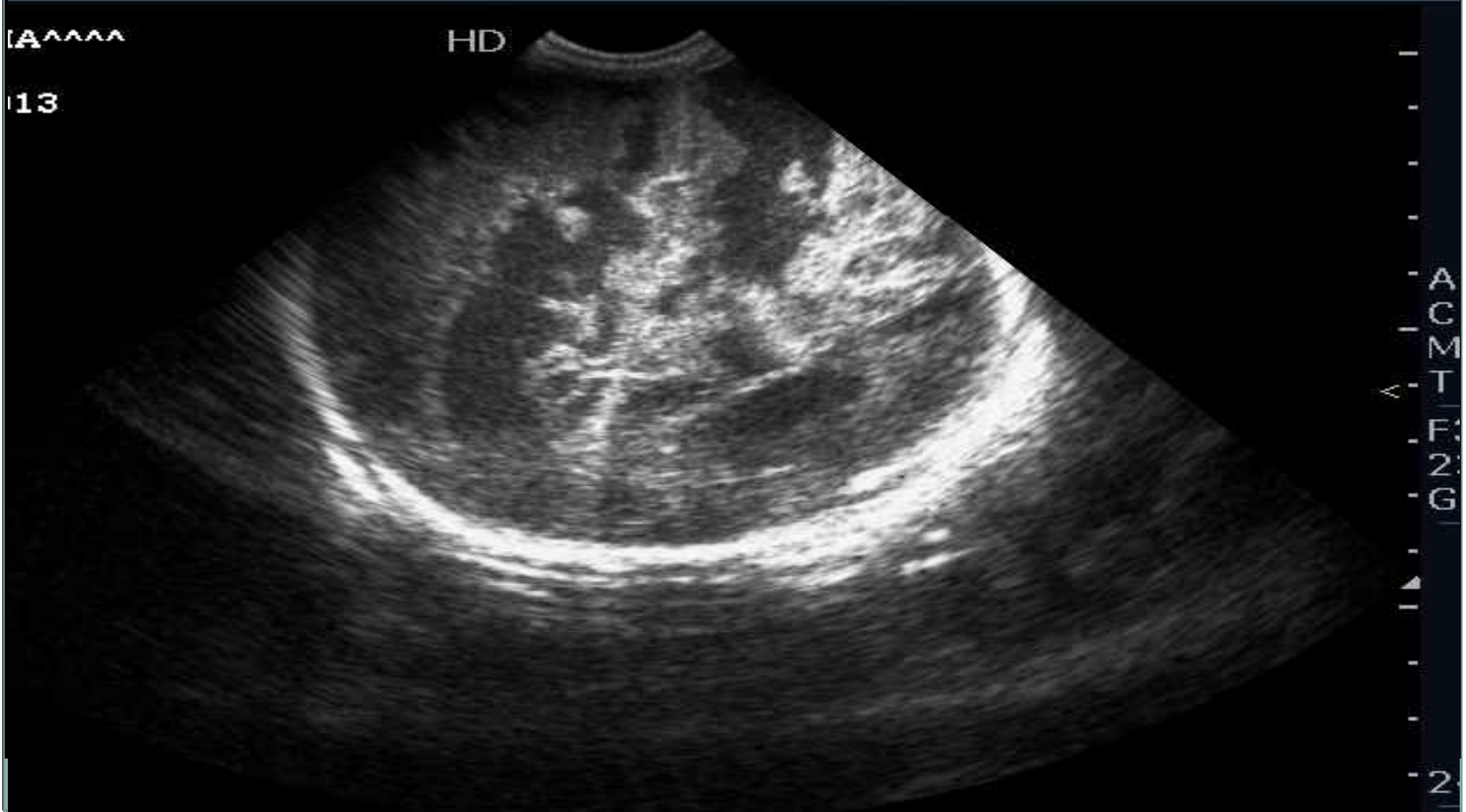
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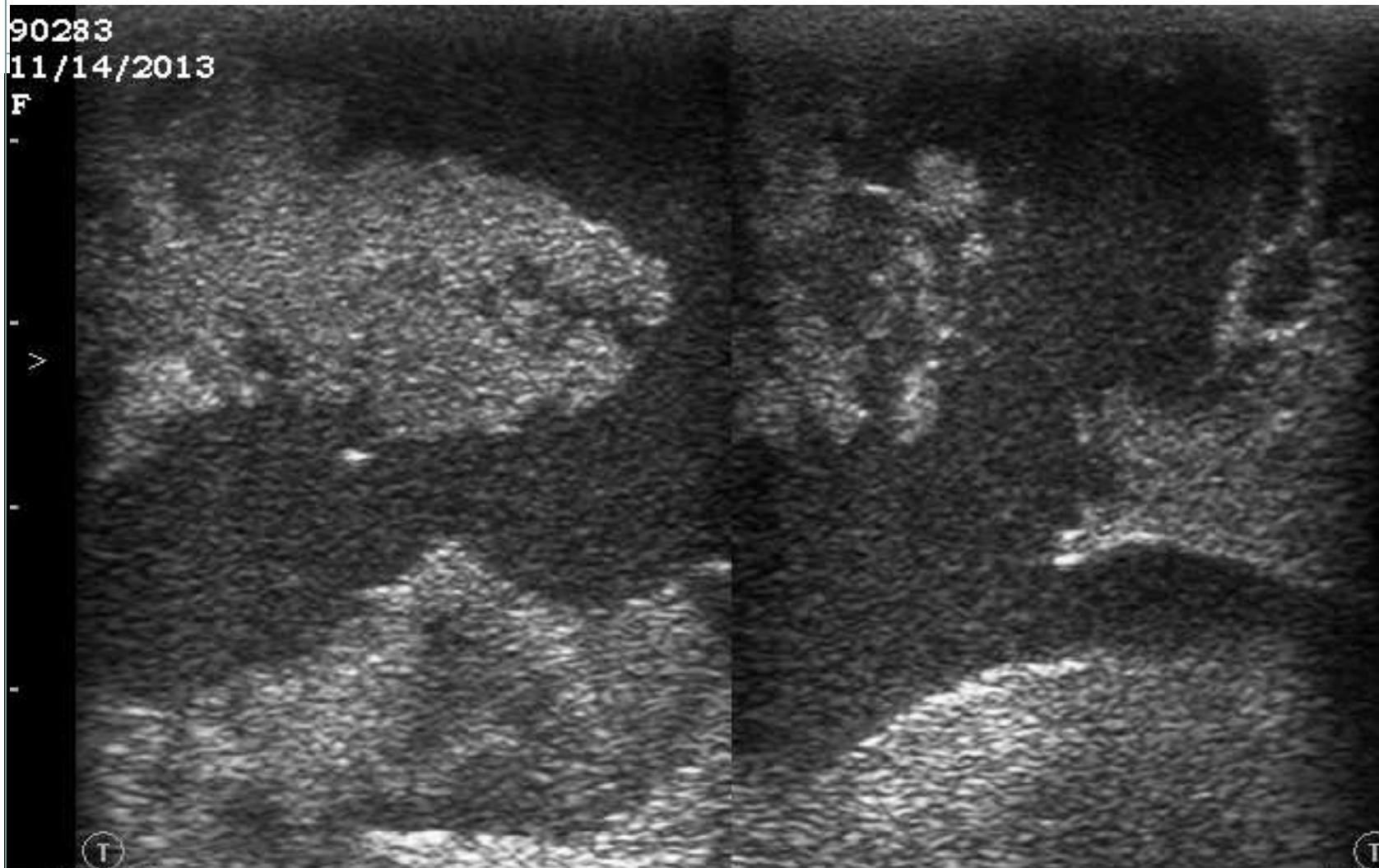
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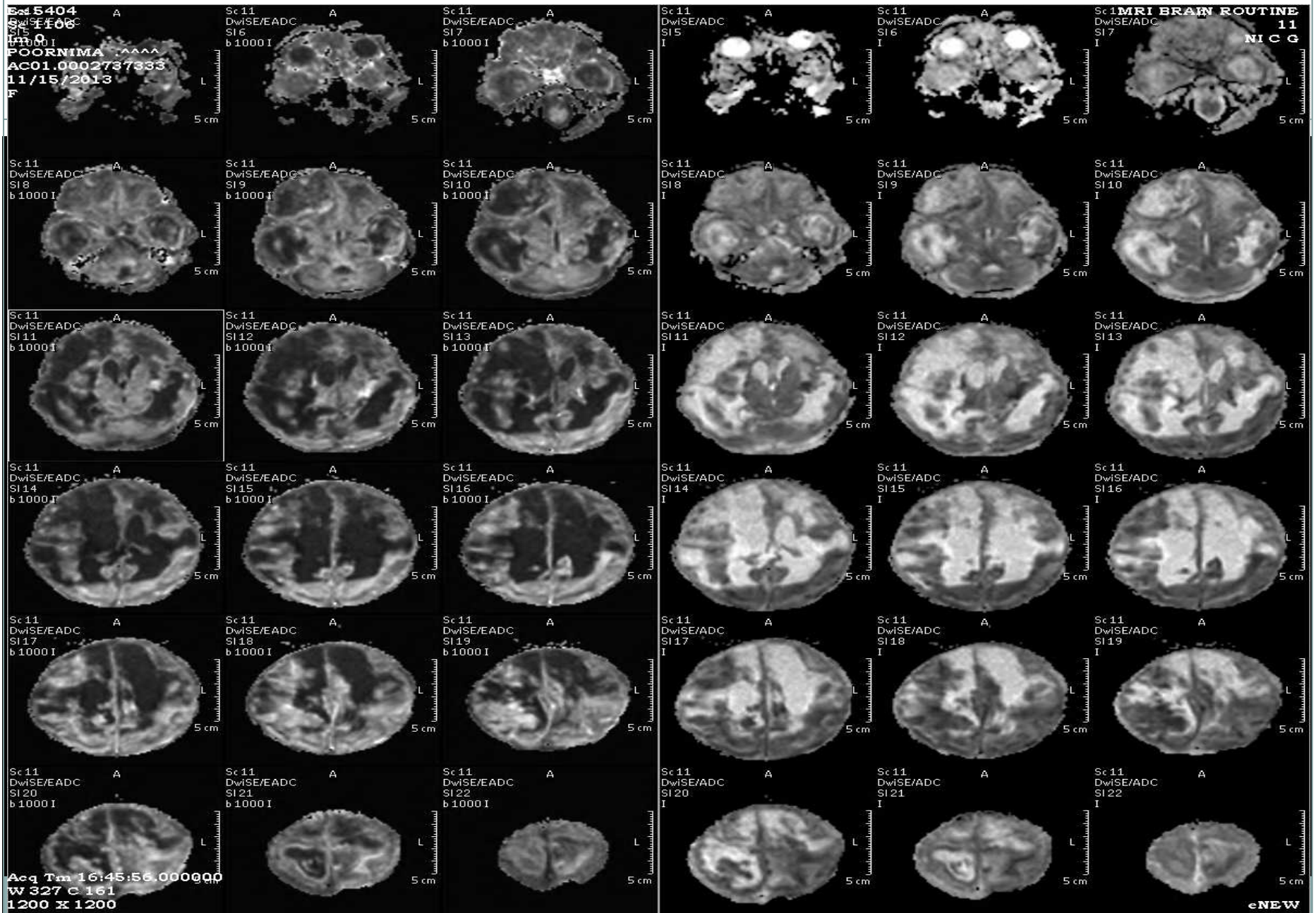
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- USG cranium showed areas of necrosis and infected debris.
- MRI brain was done.



- MRI brain showed features suggestive of post meningitic multiple cystic degeneration of brain parenchyma and abscesses within the supratentorial brain parenchyma.



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- Ventricular tap - very turbid and hemorrhagic.
- Repeat CSF culture - klebsiella, sensitive to Meropenem, hence Xylistin stopped.



- Neurosurgeon advised, deroofing abscess further but parents were not willing and baby was discharged against medical advice.

CONDITION AT DISCHARGE:



- On Nasal cannula 2 L/min, on OG feeds and on Meropenem.
- Irritable on handling and there is reduced anti gravity movements with increased tone in limbs.
- On maintenance phenobarbitone.

CEREBRAL ABSCESS



- Brain abscess is an infrequent complication of meningitis
- The first report of brain abscesses in neonates was published 100 years ago
- incidence of neonatal meningitis 0.3 to 0.5 cases per 1000 live births



- The abscesses are large and multiple
- complications of bacterial meningitis
- insidious onset

Causative organism



- Gram negative bacteria
 - - KLEBSIELLA
 - - CITROBACTER [enterobacteriaceae gp -propensity for abscess]

- *Vast majority of Gm neg infection do not lead to abscess*

Triad of diagnosis



- Seizures
- signs of infection
- increased head circumference with bulging fontanelles [intracranial hypertension]

Clinical features



- high-grade fever
- vomiting
- poor feeding
- Lethargy
- alteration of consciousness

Evaluation



- CSF analysis – to confirm infection and identify organism
- Serial Imaging – USG & MRI

All cases of Neonatal meningitis should have imaging

Treatment



- Medical and surgical modalities
- Nature of the abscess
- anatomic location
- number of abscesses and their size
- Clinical progress

Surgical



- abscesses > 2.5 cm require surgical intervention
- Multiple aspiration
- Irrigation
- duration of the antibiotics 6–8 weeks

Complications



- Complications are severe in preterm neonates with brain abscess
- Hydrocephalus
- Abscess recurrence [esp after aspiration]
- Shunt complications

Thank you

