

# Case presentation of Congenital Pneumonia

**By**

Dr Rami Reddy

2<sup>nd</sup> yr PG in Paediatrics

**Moderator**

Dr k sailaja

(Associate professor in Dept of Paediatrics)

## B/O xxx case - 1

- A live term male neonate born to G2P1L1 mother through LSCS, indication previous LSCS, born at 1:22 pm on 05-03-15.
- Baby cried immediately after birth.

APGAR = 1st min -8 & 5<sup>th</sup> min- 10

# Antenatal

- u Baby was product of non consanguinous marriage
- u 2<sup>nd</sup> in birth order
- u Mother was on regular antenatal checkups during pregnancy
- u Received iron and folic acid tabs and immunized with 2 doses of inj TT
- u No H/O DM/HTN/BA/TB/Epilepsy
- u No c/o vaginal bleeding/leaking/discharge
- u No c/o fever with rash, arthralgia during pregnancy

## History of past pregnancy

• 1st child, 3yr old, born out of LSCS, term, male, birth weight-3.2 kg, cried immediately after birth and healthy.

## O/Examination:

Pink, euthermic, all peripheral pulses felt

vitals: Temp : Afebrile H/r:156bpm

Resp:40/min CRT: <3secs

uSkin, spine, Skull, Limbs, genitalia :Normal

uMoros, Suckling, Rooting Reflex's: Normal.

## O/Examination:

No gross congenital anomalies

CVS: S1S2 heard, no murmurs

R/S: B/l air entry present, nvbs heard.

P/A: soft

CNS: AF level, no focal neurological deficits.

∪ Eyes , Nose, Ears, Throat : Normal

∪ Gestational age (new ballard score);38 weeks.

## HOL- 2

- ∪ Baby developed respiratory distress and grunting
- ∪ Baby shifted to NICU in view of Tachypnea and grunting
- ∪ o/e :- euthermic, all peripheral pulses felt  
Resp:70/min, with sub costal and intercostal retractions.  
H/r:170bpm  
Temp : Afebrile                      CRT: <3secs

## HOL- 2

uO/E CVS: S1S2 heard, no murmurs

R/S: B/l air entry present, normal breath sounds heard,  
sub costal and intercostal retractions present.

P/A: soft, no organomegaly

CNS: AF level



## Provisional diagnosis

- ⋮ In view of respiratory distress with subcostal and intercostal retractions developing by 2<sup>nd</sup> hr of life, term/AGA born by LSCS
- ⋮ Provisional diagnosis- TTNB
- ⋮ So baby was admitted in NICU.

## TREATMENT

- NBM
- IV fluids-10%D 60ml/kg/day given.
- Humidified O<sub>2</sub> inhalation @4 lt/min.
- Monitoring GRBS – 6hrly.

## investigations

### uCBP

Hb – 15.4gm%

Tlc – 20,000/mm<sup>3</sup>

N75 L20 E02 M02 B0

Platelet count – 1.8 lakh/cu.mm

P/s – normocytic/normochromic

PCV – 46.3 %

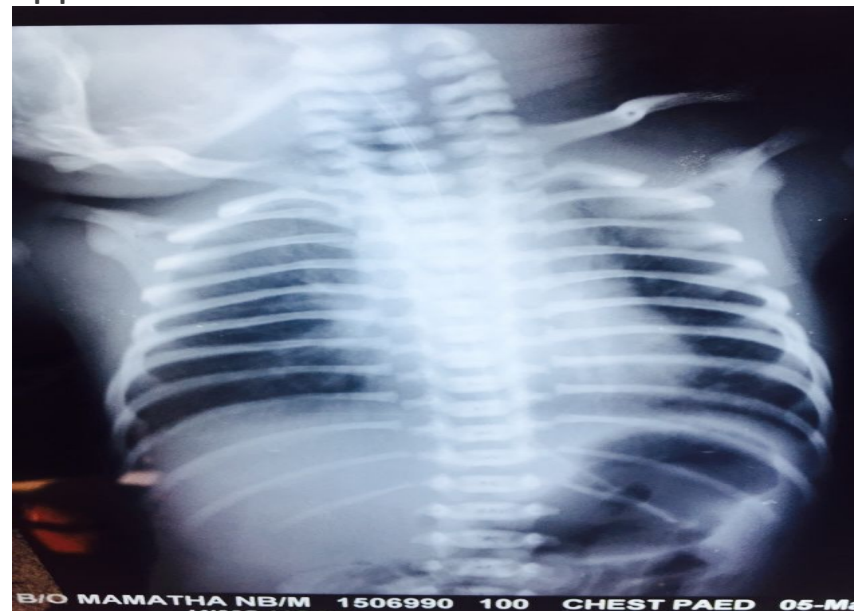
Retic count – 2%

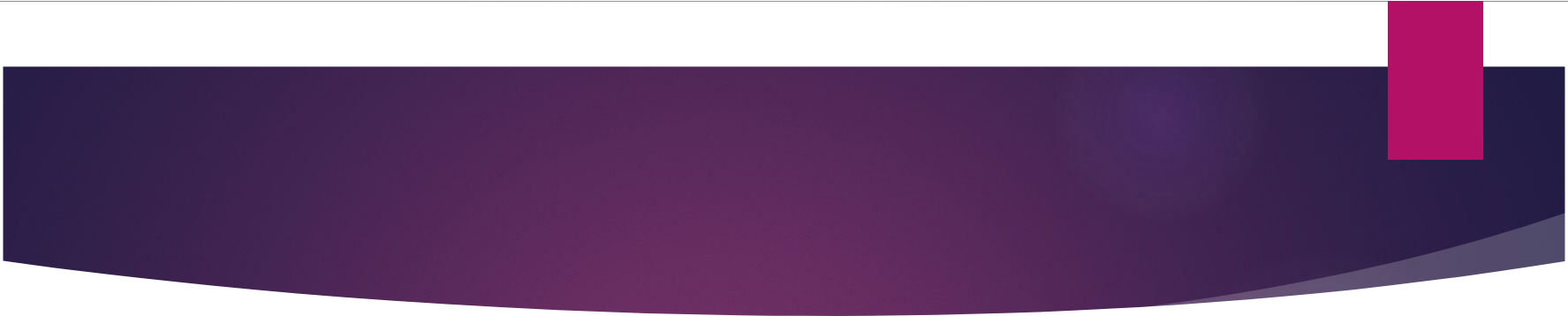
uRFT – WNL

uCRP – Negative

# CXR

- u CXR - irregular patchy opacities in the rt upper and lower zone
- Congenital pneumonia



- 
- ∪ Gastric aspirate sent for cytology examination and culture
  - ∪ Blood culture sent.

## HOL 4

### ∪ VITALS:-

Temp:36.5c

HR :170bpm

RR:76/min

CRT:<3sec

Spo2:95%

### ∪ O/e: All pulses felt, euthermic

CVS: S1S2 heard, no murmurs

R/S: B/l air entry present, sub coastal retractions present

P/A: soft

CNS: AF level

## HOL – 4

∪ In view of grunting and increased tachypnea, baby connected to CPAP with settings

Flow-5lt/min

PEEP-5 cm

FiO<sub>2</sub>-50%

∪ Maintaining saturation with above settings.

# ABG

uABG: pH;7.42

po<sub>2</sub> :127

pco<sub>2</sub> :45

H<sub>2</sub>CO<sub>3</sub> :19.9

SO<sub>2</sub> :93.3



## Treatment

- ∪ IV fluids-10%D 60ml/kg/day given.
- ∪ Inj cefotaxim started IV
- ∪ Inj amikacin started IV

## HOL --10

- ∪ Continued CPAP with same settings
- ∪ Tachypnea was decreasing & maintaining saturation

### ∪ VITALS:-

Temp:36.5c      HR :140bpm

RR:60/min      CRT:<3sec

Spo2:98%

## DOL- 2, HOL 30

∪As there was increased tachypnea, CPAP settings were changed to

Flow-6lt/min

PEEP-6 cm

FiO2-60%

∪Maintaining saturation, maintaining sugar levels

∪Passing urine adequately

∪no desaturation/convulsions

## Examination findings

- VITALS:- Temp:36.5c      HR : 164bpm  
RR:80/min, mild sub coastal retractions  
CRT:<3secs      Spo2:96%
- O/e: All pulses felt, euthermic  
CVS:S1S2 heard, no murmurs  
R/S:B/l air entry present, nvbs heard.  
P/A: soft  
CNS:AF level
- GRBS : 104mg/dl

# ABG

uABG: pH:7.33

pO<sub>2</sub>:121

pCO<sub>2</sub>:38

H<sub>2</sub>CO<sub>3</sub>:20

SO<sub>2</sub>:98.5

## Treatment

- IV fluids-10%D 70ml/kg/day given
- Inj Cefotaxime given
- Inj amikacin given

## DOL 2, HOL-42

- ↳ Later part of 2<sup>nd</sup> day, as there was increased tachypnea and sub coastal retractions
- ↳ Baby was on CPAP with changed settings
  - FR-6lt/min
  - PEEP-6 cm h<sub>2</sub>o
  - FiO<sub>2</sub>-70%
- ↳ Maintaining saturation, maintaining sugar levels
- ↳ Passing urine adequately
- ↳ no desaturation/convulsions



## Examination findings

↳ VITALS:- Temp:36.5c HR :138bpm  
RR:84/min, mild sub coastal retractions  
CRT:<3secs Spo2:98%

↳ O/e: All pulses felt, euthermic

CVS:S1S2 heard, no murmurs

R/S:B/l air entry present, nvbs heard.

P/A:soft

CNS:AF level

↳ GRBS : 116mg/dl



# ABG

uABG:-

Ph - 7.27

Po<sub>2</sub> - 108

Pco<sub>2</sub> - 44

st H<sub>2</sub>co<sub>3</sub> - 19

So<sub>2</sub> - 97%

# CXR

↳ Repeated chest x-ray done

- it shows non homogenous opacities in the rt lower lobe



## Gastric aspirate for PMN

- Microscopy:- sent multiple smear studied are moderately cellular composed of numerous squamous epithelial cells, inflammatory cells predominantly neutrophils (80%).
  - background shows histiocytes, bacterial colonies and proteinacious material

## Treatment

- ∪ IV fluids-10%D 70ml/kg/day given
- ∪ Antibiotic upgraded to Inj piptaz
- ∪ Inj amikacin

## DOL 3, HOL 70

▫ In view of decreasing tachypnea & sub costal retractions, c-PAP with settings were changed to

FR-5lt/min

PEEP-5 cm

FiO<sub>2</sub>-50%

▫ Maintaining saturation, maintaining sugar levels

▫ VITALS:-      Temp:36.5c                      HR :160bpm  
                    RR:64/min, mild sub costal retractions  
                    CRT:<3secs                      Spo<sub>2</sub>:98%

## Investigations

- ↳ NSG was done, which shows normal study.
- ↳ Blood culture – no growth

## Treatment

- IV fluids- Isolyte-P 90ml/kg/day given
- Inj piptaz (100mg/kg/dose)
- Inj amikacin (15mg/kg/dose)

## DOL 4

- Baby weaned off from CPAP, as tachypnea decreased and no retractions.
- Maintaining saturation under hood oxygen @ 4 ltr/min
- maintaining sugar levels

### ▫ VITALS:-

Temp:36.5c

HR :130bpm

RR:56/min

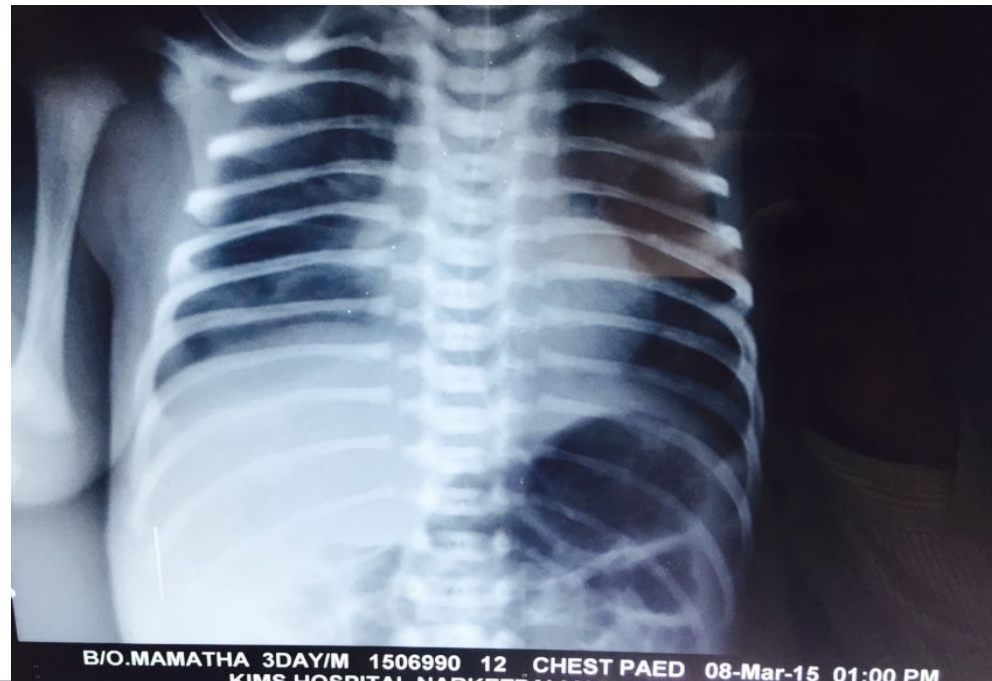
CRT:<3sec

Spo2:98%



## CXR

- ⋮ Chest x ray repeated, where it shows decreased haziness in rt lower lobe.



## TREATMENT

- u Started OG feeds with graded amounts 6<sup>th</sup> hrly
- u IVF Isolyte-P 100ml/kg/day given
- u Inj piptaz (100mg/kg/dose)
- u Inj amikacin (15mg/kg/day)

## DOL 5-6

- ∪ Maintaining saturation under hood oxygen @ 2 ltrs/min
- ∪ Accepting full spoon feeds
- ∪ maintaining sugar levels
- ∪ VITALS:-

Temp:36.5c	HR :132bpm
RR:56/min	Spo2:98%
CRT:<3sec	

## Treatment

- u Accepting full spoon feeds
- u Inj piptaz (100mg/kg/dose)
- u Inj amikacin (15mg/kg/dose)

## DOL 7

- u Baby active and accepting direct feeds
- u Maintaining saturation @ room air
- u maintaining sugar levels
- u Vitals stable
- u VITALS:-

Temp:36.5c	HR :134bpm
RR:48/min	
CRT:<3secs	Spo2:98%

# Investigations

▫ CBP, CRP, RFT and LFT repeated

▫ CBP

Hb – 13.4

TLC – 6400

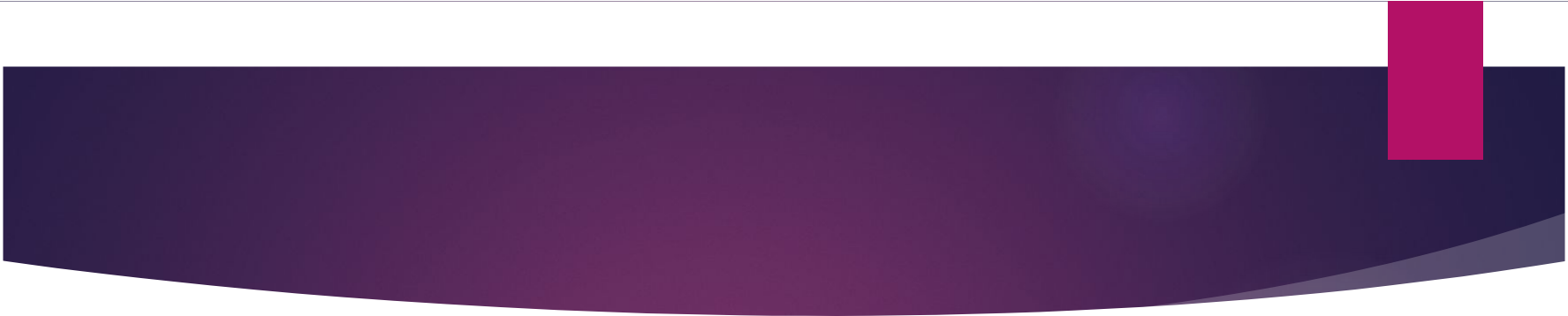
N50 L41 E05 M04 B0

Pl count – 4.77 lakhs/cu.mm

P/s – normocytic/normochromic

▫ CRP - +ve 0.6 mg/dl

▫ RFT & LFT – Normal study

- 
- u Direct breast feeding with burping every 2<sup>nd</sup> hrly
  - u Inj amikacin continued for 10 days
  - u Inj piptaz, continued for 14 days
  - u Baby was clinically stable and discharged after 14 days.

## case- 2

- A live post term male neonate born to primi mother through em LSCS, indication fetal distress and post date, born at 12;56 pm on 13/3/15, weighing 2.75 kgs.
- Baby cried immediately after birth.

APGAR = 1st min -8 & 5<sup>th</sup> min- 10



# Antenatal

- u Baby was the product of non-consanguineous marriage
- u 1<sup>st</sup> in birth order
- u Mother was on regular antenatal checkups during pregnancy
- u Received iron and folic acid tabs and immunized with 2 doses of inj TT
- u No H/O DM/HTN/BA/TB/Epilepsy
- u c/o leaking PV for 1 day.
- u No c/o vaginal bleeding
- u No c/o fever with rash, arthralgia during pregnancy

## Examination findings:

∪ O/E;- Pink, euthermic, all peripheral pulses felt

vitals: Temp : Afebrile H/r:160 bpm

Resp:60/min CRT: <3sec

∪ Eyes , Nose, Ears, Throat : Normal

∪ Skin, spine, Skull, Limbs, genitalia :Normal

## Examination findings:

CVS: S1S2 heard, no murmurs

R/S: B/l air entry present, nvbs heard.

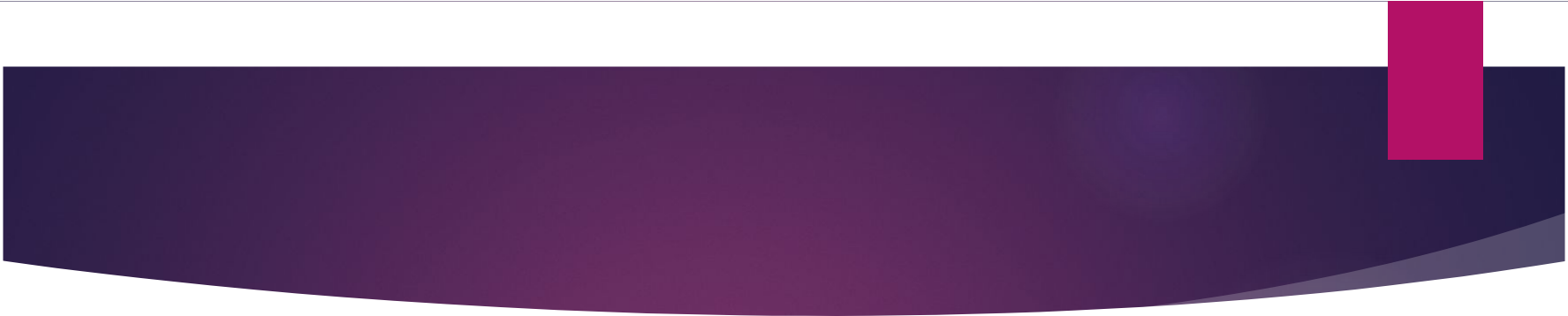
P/A: soft

CNS: AF level, no focal neurological deficits.

- Moro's, Suckling, Rooting Reflex's: Normal.
- No gross congenital anomalies
- Gestational age (new ballard score); 42 weeks.

# HOL 1

- Baby developed respiratory distress and grunting
- Baby shifted to NICU in view of Tachypnea and grunting
- o/e :- euthermic, all peripheral pulses felt
  - Resp:64/min      H/r:150bpm
  - Temp : Afebrile      CRT: <3secs
  - CVS: S1S2 heard, no murmurs
  - R/S: B/l air entry present, normal breath sounds heard
  - P/A: soft, no organomegaly
  - CNS: AF level

- 
- ∪ In view of respiratory distress, developing by 2<sup>nd</sup> hr of life, term/AGA born by LSCS
  - ∪ Provisional diagnosis- TTNB
  - ∪ So baby was admitted in NICU.

## TREATMENT

- NBM
- Humidified oxygen through hood @ 4 ltr/min
- IV fluids-10%D 60ml/kg/day given
- Monitoring GRBS – 6hr

# Investigations

## uCBP

Hb – 14.6gm%

Tlc – 12,000/mm<sup>3</sup>

N75 L20 E02 M03 B0

Platelet count – 2.5 lakh/cu.mm

P/s – normocytic/normochromic

PCV – 47.1 %

Retic count – 2%

## Investigations

- ∪ RFT – Normal study
- ∪ CRP – +ve 1.2 mg/dl
- ∪ TSB – 6.09 & DB – 0.18
- ∪ Blood culture sent
- ∪ Gastric aspirate for cytology examination sent



# CXR

- CXR – showing patchy opacities in the rt upper and middle lobe.  
- congenital pneumonia



# HOL – 6

- ∪ Activity moderate
- ∪ Respiratory distress present
- ∪ Maintaining saturation under hood oxygen @ 5 ltrs/min
- ∪ maintaining sugar levels

## ∪ VITALS:-

Temp:36.7°C      HR :146bpm

RR:66/min      CRT:<3sec

Spo2:95%

# ABG

uABG: pH;7.46

po<sub>2</sub>:137

pco<sub>2</sub>:42

Hco<sub>3</sub>:18

So<sub>2</sub>:93.3

## Treatment

- ∪ NBM
- ∪ IV fluids-10%D 60ml/kg/day given
- ∪ Monitoring GRBS – 6hr
- ∪ Inj cefotaxim (100mg/kg/day)
- ∪ Inj amikacin (15mg/kg/dose)

## DOL- 2, HOL 30

- Baby activity moderate
- Maintaining saturation under hood oxygen @ 4 ltr/min
- maintaining sugar levels
- Passing urine adequately
- Tachypnea Present & retractions present
- VITALS:- Temp:36.5c                      HR :136bpm  
                    RR:80/min, with mild sub coastal retractions  
                    CRT:<3sec                      Spo2:96%

# ABG

uABG: pH:7.36

PO<sub>2</sub>:130

PCO<sub>2</sub>:28

H<sub>2</sub>CO<sub>3</sub>:22

SO<sub>2</sub>:98.5

## Treatment

- ∪ NBM
- ∪ IV fluids-10%D 70ml/kg/day given
- ∪ Inj cefotaxim (100mg/kg/day)
- ∪ Inj amikacin (15mg/kg/dose)

## DOL 2, HOL-42

- ↳ maintaining sugar levels
- ↳ Passing urine adequately
- ↳ Tachypnea present, sub costal retractions present
- ↳ no desaturation/convulsions episode
- ↳ VITALS:-

Temp:36.5c	HR :138bpm
RR:74/min, with mild sub costal retractions	
CRT:<3secs	Spo2:98%



# ABG

uABG:-

Ph – 7.4

PO<sub>2</sub> – 118

Pco<sub>2</sub> - 34

H<sub>2</sub>CO<sub>3</sub> – 19

So<sub>2</sub> – 97%

## Gasric lavage aspirate

- ∪ Total count – 700/cu.mm
- ∪ Neutrophils – 84%, >10hpf
- ∪ Lymphocytes – 16%
- ∪ Eosinophils, monocytes, basophils- 0%

# Investigations

## u Gastric aspirate for PMN

Microscopy:- multiple smear studied are scanty cellular composed of few squamous epithelial cells, few inflammatory cells consisting of neutrophils and lymphocytes.

- background shows proteinacious material.



Final diagnosis :- congenital pneumonia

## Treatment

- ∪ NBM
- ∪ Humidified hood oxygen @4 ltr/min
- ∪ IV fluids-10%D 70ml/kg/day given
- ∪ Inj cefotaxim (100mg/kg/day)
- ∪ Inj amikacin (15mg/kg/dose)

## DOL 3

- Baby active
- Accepting OG feeds
- Maintaining saturation @ room air
- Respiratory distress subsided and no retractions
- maintaining sugar levels
- VITALS:-

Temp:36.5c

HR :130bpm

RR:60/min

CRT:<3sec

Spo2:98%

## Investigations

- ⋮ NSG was done, which shows normal study.
- ⋮ Blood culture – no growth
- ⋮ TSB – 6.02 mg/dl & DB – 0.17 mg/dl

## Treatment

- u Started OG feeds with graded amounts 6<sup>th</sup> hrly
- u Inj cefotaxim (100mg/kg/day)
- u Inj amikacin (15mg/kg/dose)



## DOL 4

- Baby active
- Accepting feeds well
- Maintaining saturation @ room air
- maintaining sugar levels
- VITALS:-

Temp:36.5c

HR :160bpm

RR:54/min

CRT:<3sec

Spo2:98%

# Investigations

## uCBP

Hb – 12.6 gm%

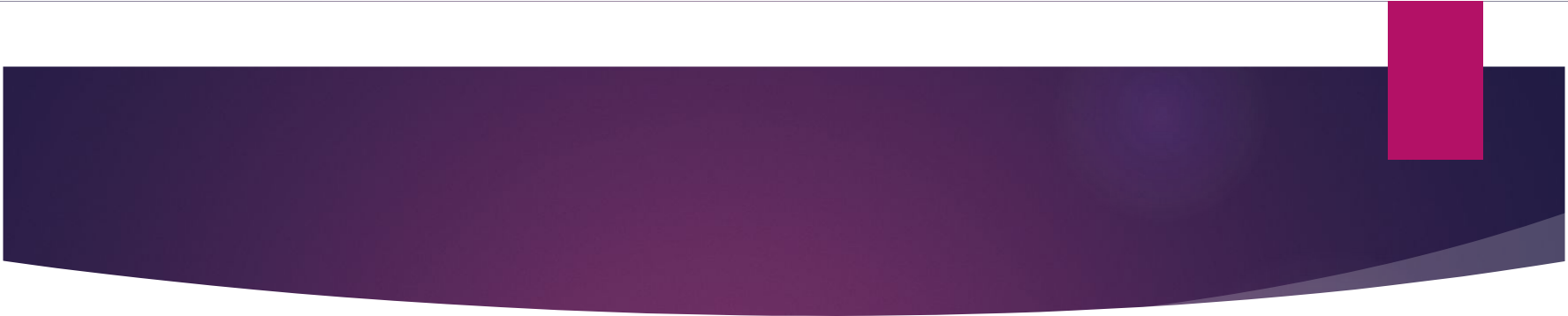
TLC – 15,000/cu.mm

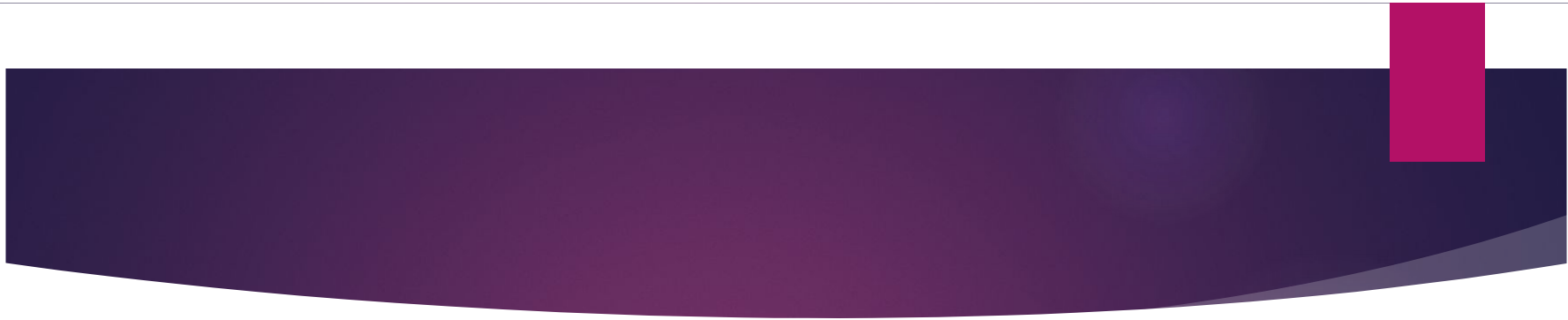
N55 L40 E3 M2

Pl count – 2.74 lakhs/cu.mm

P/s – normocytic/normochromic

## uCRP -ve

- 
- ∪ Direct breast feeding with burping every 2<sup>nd</sup> hrly
  - ∪ Inj cefotaxim, continued for 10 days
  - ∪ Inj amikacin, continued for 10 days
  - ∪ Baby was improved and discharged, after 10 days.



***THANKYOU***