

A case of malpositioned Endotracheal tube with resultant left lung collapse.

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TITLE:

A case of Malpositioned Endotracheal tube with resultant left lung collapse.

CLINICAL HISTORY:

A 1 year 10 months old female child presented with the complaints of fever since 2 days, mild grade, sudden in onset, associated with running nose & cough (no sputum production), aggravated on walking & playing, relived on taking medications. Not associated with Rigors, Bowel & Bladder disturbances. 2 episodes of convulsion 1st episode at morning 2 AM GTCS type of seizures with up rolling of eyes, entire episode lasted for 2 minutes, associated with post ictal drowsiness. One more episode at 8 am, similar to previous episode. Not associated with involuntary micturition.

PAST MEDICAL HISTORY:

k/c/o global developmental delay. Previously admitted to JSS hospital with similar complaints 1 month back.

FAMILY HISTORY: nil significant

PERSONAL HISTORY: nil significant

EXAMINATION AND INVESTIGATIONS:

GENERAL PHYSICAL EXAMINATION:

1yr 10month old female child appears to be drowsy.

PR:120bpm

Spo2: 99% at RA

RR: 40cpm

Temperature: 98.9F

No pallor, icterus, cyanosis, clubbling, lymphadenopathy & edema

SYSTEMIC EXAMINATION:

CNS:

Higher mental functions: drowsy

Cranial nerves: B/L intact

Motor system: hypotonia of all 4 limbs

reflex brisk

Sensory system: not assessed

Cerebellar signs: absent

Signs of meningeal irritation: absent

Cranio - spinalaxis: normal

CVS: S1&S2 heard, no murmurs

PA: Soft, Non-Tender, Bowel Sounds- Present

RS: Normal vesicular breath sounds

CHEST X-RAY FINDINGS

Et tube noted with its tip in the right main bronchus.

Homogeneous opacity in the left hemithorax silhouetting the cardiac borders and the costophrenic angle.No obvious evidence of tracheal/ medistinal shift. No evidence of rib crowding.

Homogeneous opacity with adjacent haziness in the right upper zone and in the right perihilar region.

Rest of the visualised right lung appears normal.

Right costophrenic angle appears normal.

Visualised bones and soft tissues appear normal.



FINAL DIAGNOSIS: Malpositioned Endotracheal tube with resultant left lung collapse. Consolidation with possible collapse of right upper lobe – ? Pneumonia

TREATMENT:

Endotracheal tube repositioning

Seizure management

Fever management

Antibiotic therapy



DISCUSSION:

FOLLOW UP CHEST X-RAY FINDINGS

The ET tube tip is more proximally positioned at the level of carina with re-expansion of the left lung. Homogeneous opacity with adjacent haziness in the right upper zone and in the right perihilar region. Rest of the visualised right lung appears normal. Left lung appears normal. Right & Left costo-phrenic angle appears normal. Visualised bones and soft tissues appear

POSITION OF ENDOTRACHEAL TUBE

ETT position is usually assessed on a frontal chest radiograph. The position of the ETT is dependent on the position of the head & neck. If included in the film, the mandible can be used for assessment of whether the neck is in a neutral or flexed or extended position. In a neutral position, the lower border of the mandible should be projected over C5/C6. When flexed, the mandible projects around T1 and in extension, over C3/C4. The carina is usually projected over T5-T7 (it descends with increasing age).[1,2]

CONCLUSION:

- **POSITION OF ENDOTRACHEAL TUBE(children)The optimum position for the tip of the ETT is 1.5- 2.0 cm above the carina.**

ACKNOWLEDGEMENTS: none

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[1] Jones, J., 2022. *Neonatal respiratory distress syndrome | Radiology Case | Radiopaedia.org*. [online] Radiopaedia.org. Available at: <<https://radiopaedia.org/cases/neonatal-respiratory-distress-syndrome?lang=us>> [Accessed 30 August 2022].

[2] Jones, J., 2022. *Chest x-ray: ET tube position (summary) | Radiology Reference Article | Radiopaedia.org*. [online] Radiopaedia.org. Available at: <<https://radiopaedia.org/articles/chest-x-ray-et-tube-position-summary?lang=us>> [Accessed 30 August 2022].