

PNEUMOPERICARDIUM associated with air embolism in TTN Baby a Rare cases presentation

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Key words: - TTN=Transient Tachypnea of Newborn, Pneumopericardium, systemic air embolism, MCA= Middle cerebral artery, Cyanosis, Respiratory distress.

20 hours old female baby delivered through LSCS (failure to Progress). Cried immediately after birth needing only suction and stimulation at the time of birth. APGAR 1st = 8, 5th = 9 BWT = 2.5kgs. Noted mild indrawing, grunting, respiratory distress admitted in NICU. Given oxygen by headbox, IVF, empirical antibiotics given, taken chest X ray shows severe TTN. Gradually Respiratory Rate increased from 60 – 80/m indrawing increasing grunting persisted, needing increment of O₂ from 3L – 5L/min.

After 12 hours condition is same. Taken CX-Ray shows same features suddenly SPO₂ started fluctuating from 95% to 90-85% at 19 hours of life. Once again taken CX-Ray shows mild pneumopericardium shifted to us for further treatment (during 19 hours to 20 hours of life SPO₂ fluctuation increased)

On examination

Full term baby wt=2.5kg, cry –weak, in sever distress.

Central cyanosis, peripherals are blue. Vitals =HR = clinically difficult to monitor shows 186/m with low voltage graph.. RR=99/m with indrawing SPO₂ = 25-30% BP=not recordable. CX-Ray = Pneumopericardium with PIE.

Immediately started head box O₂ 10l/min. Prepared for pericardialcentesis, drained the pneumopericardium by needle aspiration within 30seconds SPO₂ improved to 100% cyanosis gradually disappeared.

Removed the needle taken serial chest X-ray over days, shows gradual decrement in pneumopericardium but SPO₂ maintained with in normal limits. Gradually Respiratory Distress settled down. Indrawing, grunting disappeared .CX-Ray completely became normal

Clinically from 1st day right half of body movements are decreased, next day it is very evident and third day movements are very less. Done U/S brain shows Hyperechogenic area on left hemisphere. On Doppler study left MCA (middle cerebral artery) pulsations not seen. Immediately suspected Air embolism. To confirm done MRI brain shows the same pathology.

Baby completely recovered from respiratory distress and pneumo pericardium over 2-4 days septic work ups were normal discharged with advice about physiotherapy.

Followed up every 15days with US brain, first one and half month baby had hemi paresis of RT side of body and regarding this explained about spontaneous recovery. Since parents are very anxious about the baby, I explained about my personal experience of Piracetam syrup usage, taken consent before giving medicine. After starting that medicine within 15days noted mild collateral pulsations on left hemisphere of brain.

Next 15days complete pulsations in left MCA and good improvement in the movements of Right half of body (tone, reflex).Continued the medicine for total 12 months and followed all developmental milestones and hearing test –all are within normal limit.

Conclusion: - Pnenmopericardium with air embolism together is very rare entity, together occurs only if baby needs vigorous, CPR, high ventilator pressure. But in our case report baby had simple TTN. Probably some mucous or fluid might have acted as ball valve mechanism and it ruptured into perivascular sheaths migrated towards hilum to pericardium at the same time some of pulmonary vessels ruptured and air might have entered into systemic circulation.

Regarding using of piracetam it is purely personal experience, Improvement in Air embolism is spontaneous.

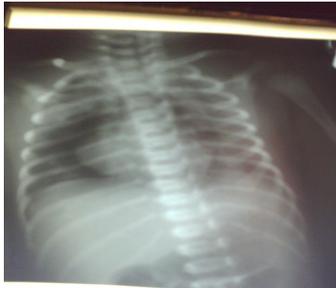
It would have been coincidental or piracetam might have increased microcirculation in the infractioned brain tissue (further studies needs in this regard).

This is 1st case PNEUMOPERICARDIUM associated with Air embolism in TTN Baby, reported with this complication and with out any CPR or on ventilator support, in any available neonatal article, web or journal.

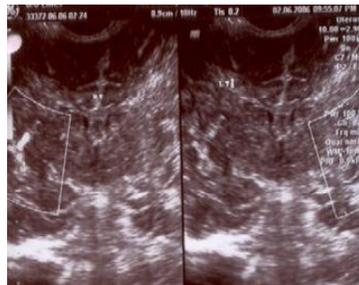
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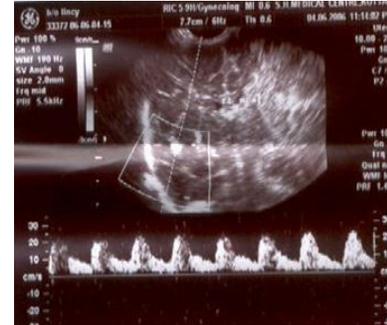
Pneumopericardium with air embolism case report photos



Pneumopericardium



Right MCA pulsation seen

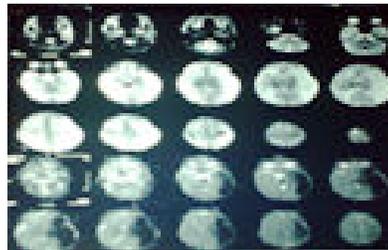


Left MCA pulsation not seen

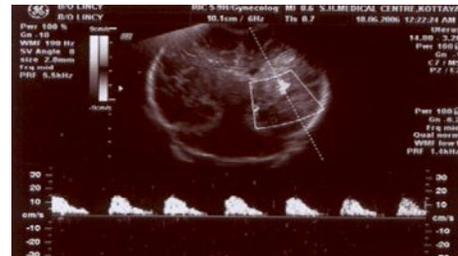
Hyper echogenicity on left hemisphere noted



After pericardialcentesis



MRI brain shows left hemisphere
Infarction



Left MCA pulsation seen
(Recovered)