

# **Death After Appendectomy**

Presented By:

**Dr. Hazem Sharaf (M.D.)**

Anesthesia Consultant

KFH Al-Baha

# Objectives

- ▶ To ensure that team working has a great impact in reaching to the diagnosis.
- ▶ Emphasize the importance of patient education to clarify when to seek for medical advice.
- ▶ Not all intra & post-operative mishaps are due to anesthetic complications.

# Patient History

- ▶ Male child of 9 years old booked to my emergency schedule on Wed 17<sup>th</sup> Dec 2008 for emergency appendectomy @ 12:30 p.m.
- ▶ The child reported to KFH emergency department @ 11.00 a.m. complaining of abdominal pain, fever & once vomiting.

# Patient History

- ▶ The on-call pediatric surgery consultant diagnosed the child as acute appendicitis with query local peritonitis.
- ▶ The routine lab work done for the patient which did not reveal any significant abnormality of anesthetic concern.

# Patient History

Child was well till 1 day prior to Admission when he started to Complain of Abdominal pain , colicky in nature , allover the Abdomen , then localized to the right side of the abdomen.

No hx. Of Urinary or respiratory Symptoms.

Patient NPO last night

# Patient History

## Past History

Medical history: negative

Surgical history : negative

Family History : irrelevant

Family did not mention any chronic illness.

# Patient History

- ▶ Examination On Admission

Patient was conscious, alert , calm in the bed, not pale not dyspnic.

Oriented GCS 15/15 he looked ill , in Sever Pain , Not Dehydrated , not in Respiratory distress.

# Patient History

- ▶ Vital Signs : T 38.7 °C, P 132/min
- ▶ Weight 22 Kg
- ▶ BP 101 /65 mmhg RR 29/min
- ▶ Chest (NAD)
- ▶ CVS (NAD)

# Patient History

- ▶ CNS (NAD)
- ▶ Local Examination:

Abdomen: not distended, mobile with respiration, guarding, tenderness and rebound tenderness in right inguinal fossa.

# On arrival to O.R

- ▶ On arrival to O.R. holding area, the child looks ill, feverish and exhausted.

# On arrival to O.R

- ▶ The child's father did not report any positive past history of chronic illness and he confirmed that the child is NPO since yesterday night.
- ▶ On arrival from the **7B** ward; there was a good I.V. cannula with normal saline infusion running.

# Children can remember pain



# ANESTHETIC MANAGEMENT

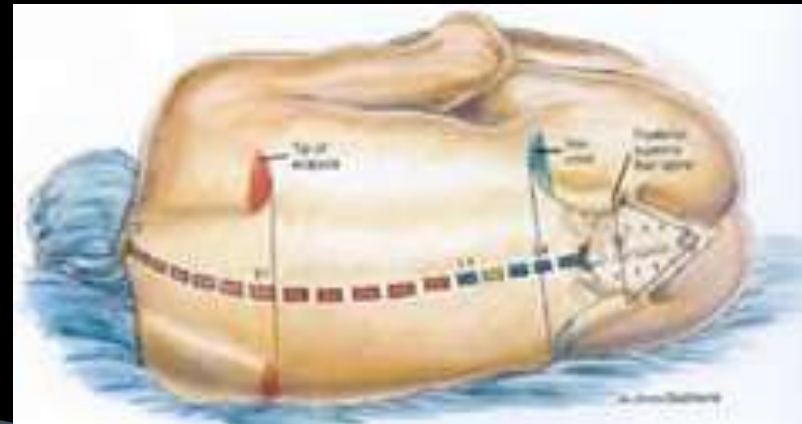
- ▶ The child had been sedated in the holding area using 2 mg midazolam to facilitate separation from the parents.
- ▶ Patient taken to inside the theater (asleep).
- ▶ Standard monitors applied ( Spo2, NIBP, ECG, ETCO2, ....etc)

# ANESTHETIC MANAGEMENT

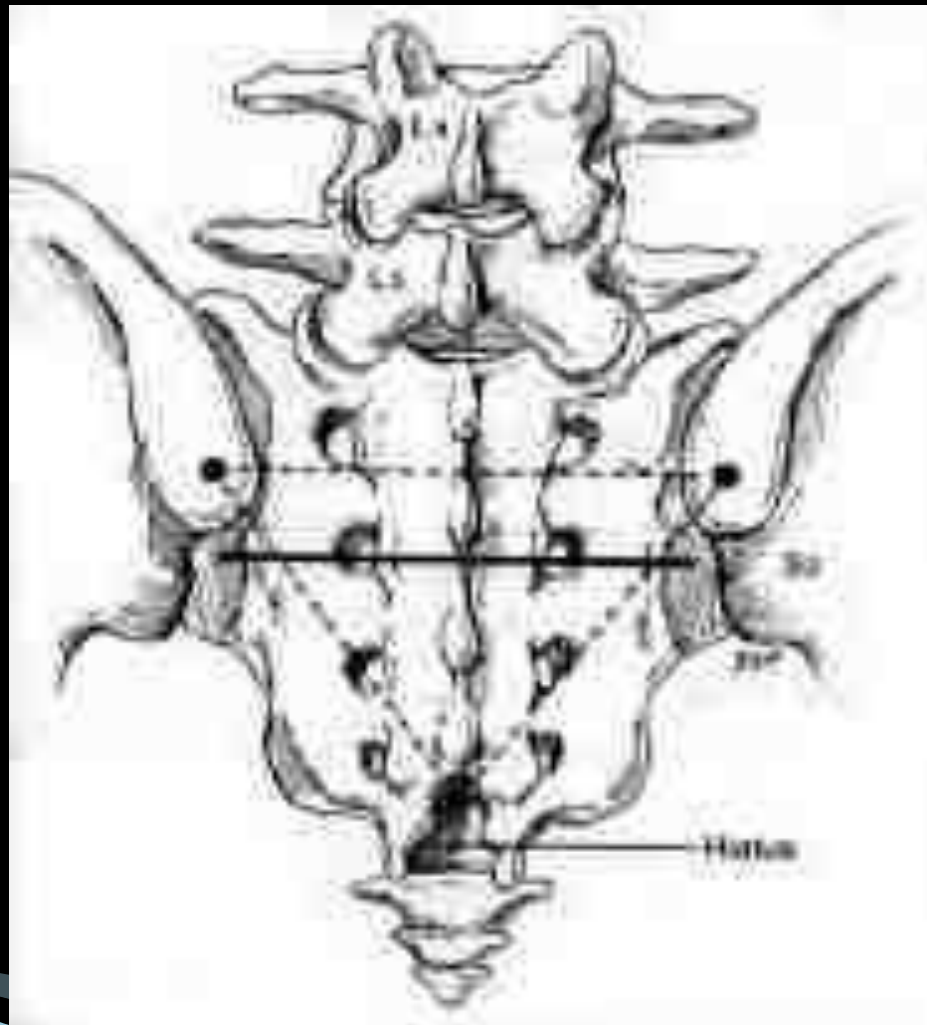
- ▶ Oxygen mask 100% started then sevoflurane 8% introduced while 20 micrograms fentanyl given I.V.
- ▶ Laryngeal mask size # 2 had been easily applied.
- ▶ Patient turned to the left lateral position.

# ANESTHETIC MANAGEMENT

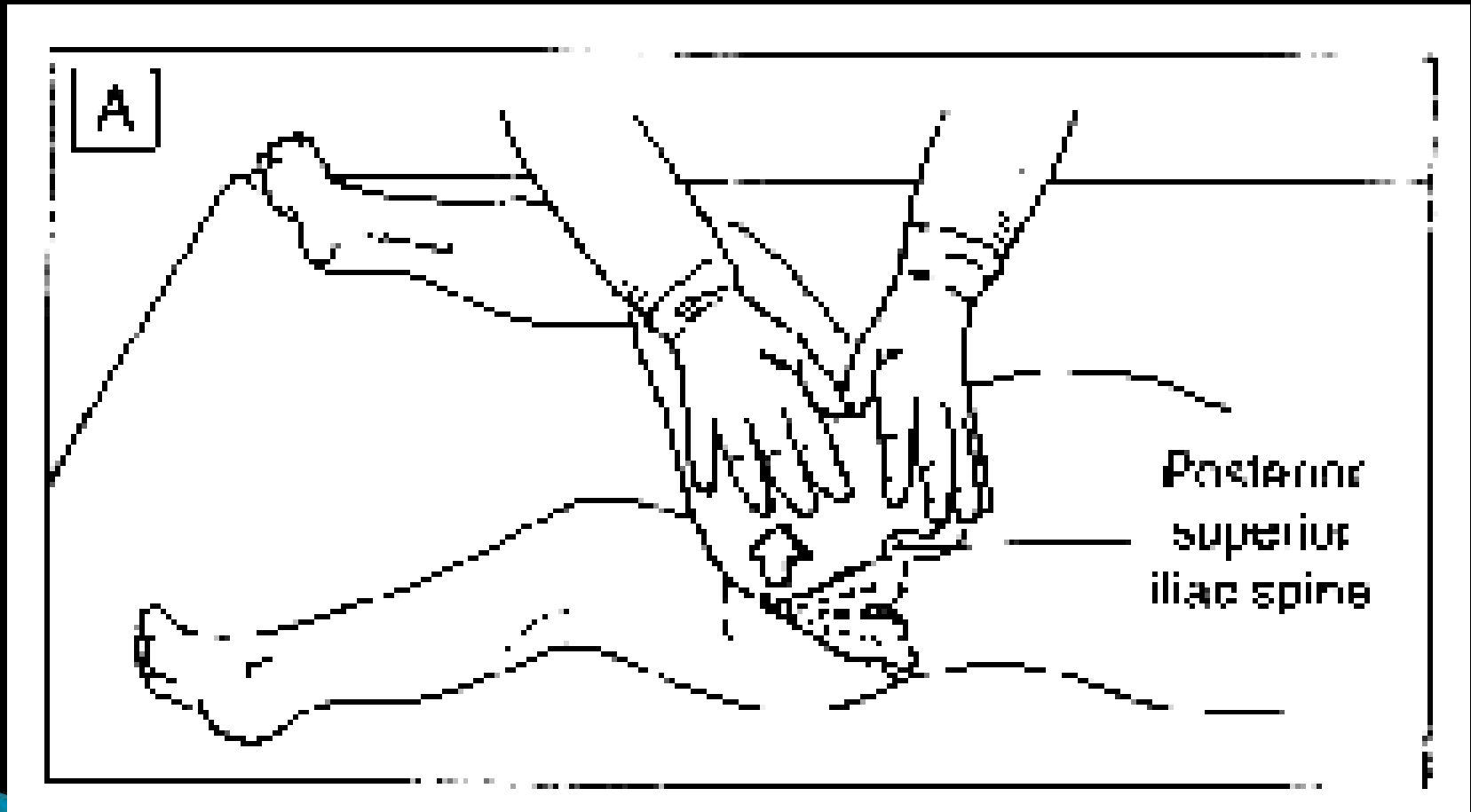
- ▶ The sacral area scrubbed and draped.
- ▶ Under complete aseptic technique, standard single shot caudal anesthesia was given using 9 ml 0.5% bupivacaine plus 9 ml 1% lidocaine.



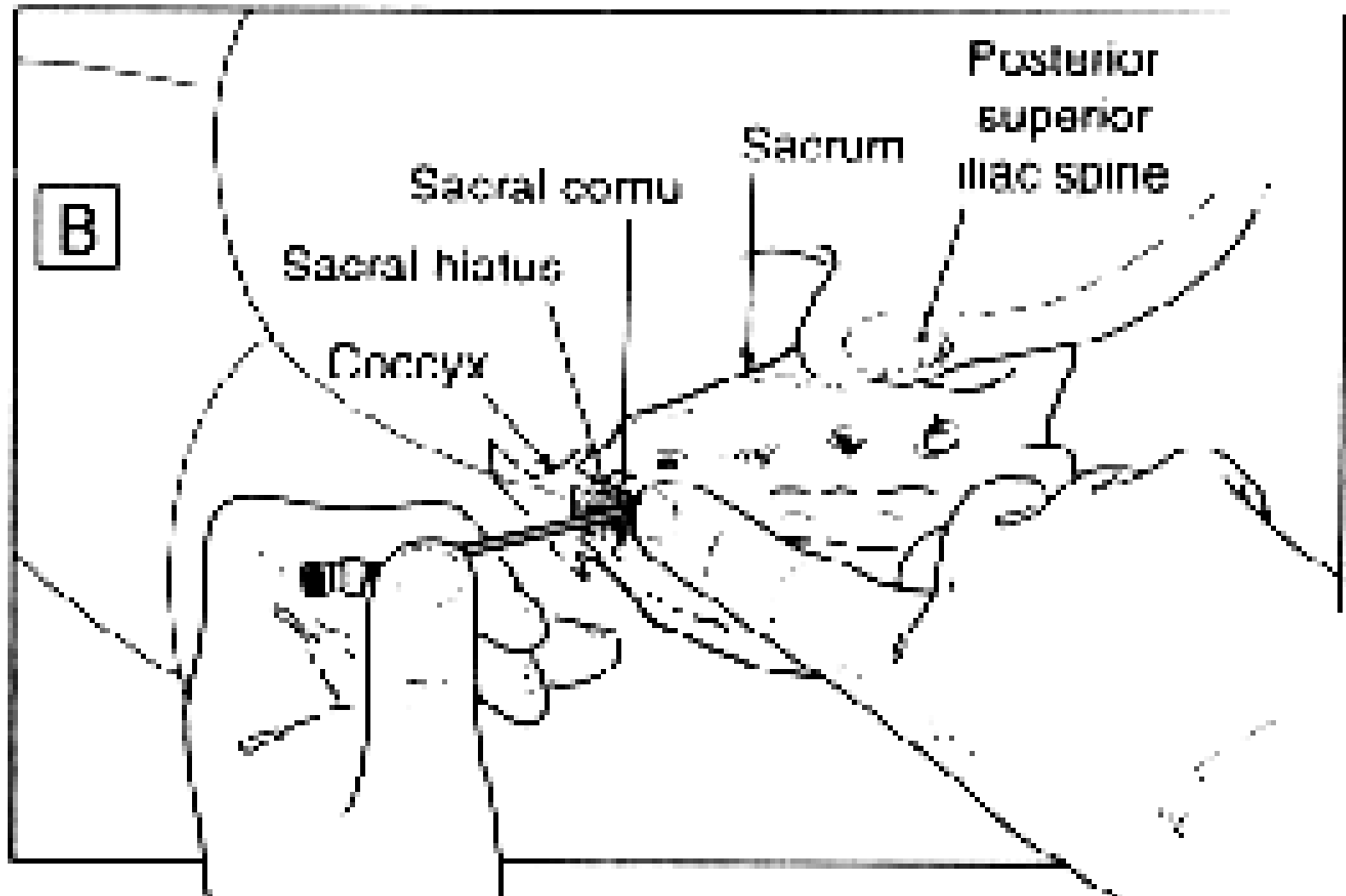
# Caudal Anesthesia - Technique



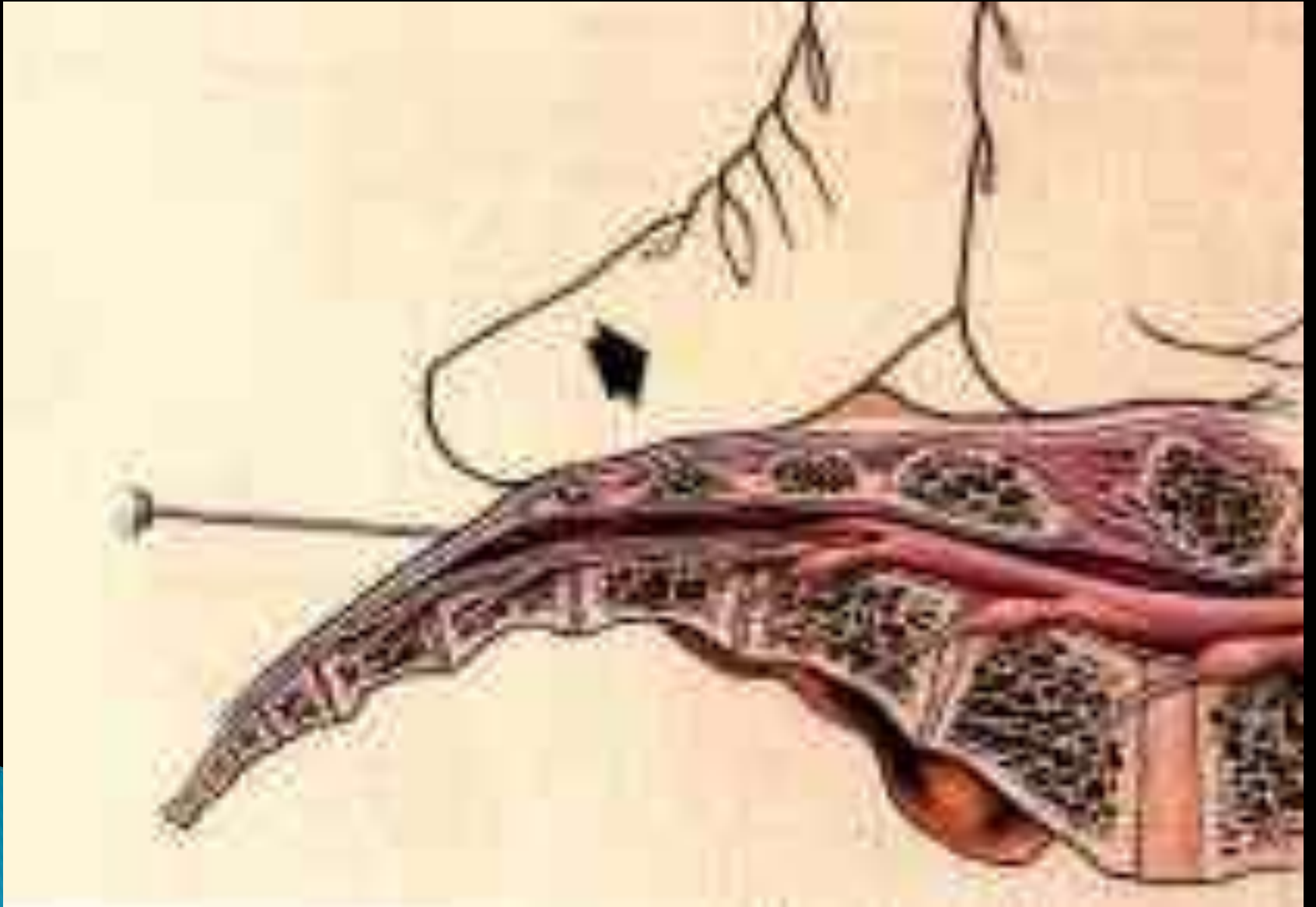
# Caudal Anesthesia



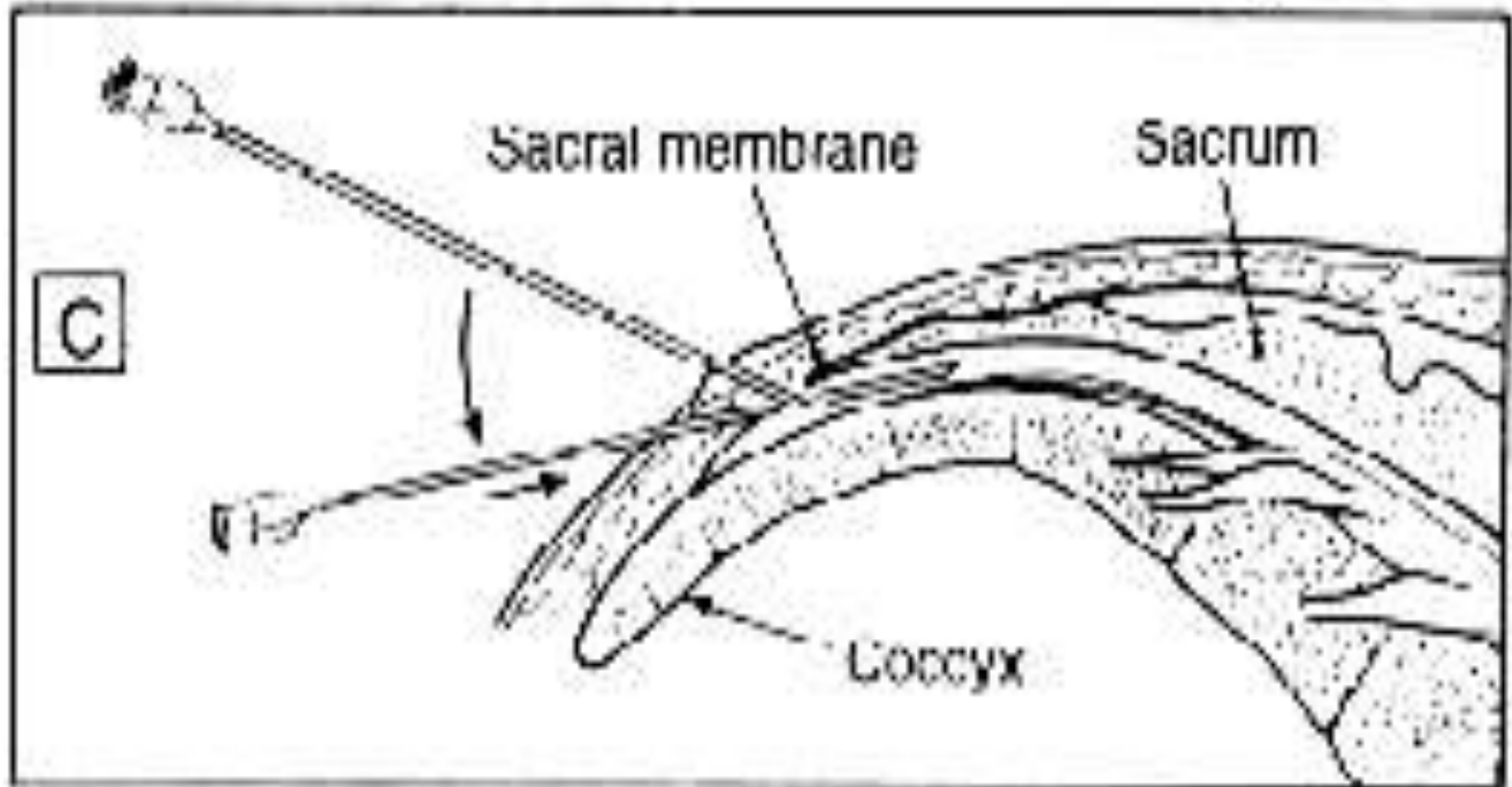
# Caudal Anesthesia



# Caudal Anesthesia

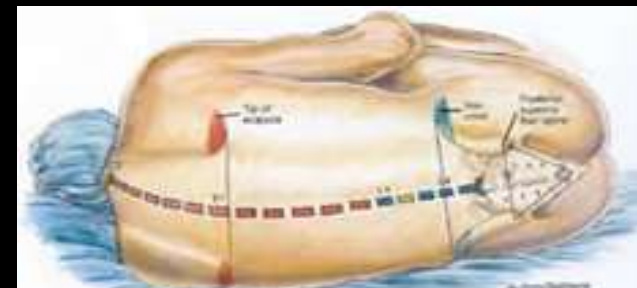


# Caudal Anesthesia



# ANESTHETIC MANAGEMENT


- ▶ Patient turned supine, airway patency and LMA placement re-evaluated.
- ▶ Anesthesia maintained by 0.6% sevoflurane in 100% O<sub>2</sub> in addition to the caudal block given.




**GA alone carries more risk than  
combined GA, and LA + Pain relief**



**I strongly believe that pain relief is of prime importance irrespective of the age of the child.**



# ANESTHETIC MANAGEMENT

- ▶ Abdominal surgical scrubbing, and draping started.
  - ▶ Within a reasonable time skin incision commenced.
- 

# ANESTHETIC MANAGEMENT

- ▶ Appendix was gangrenous , perforated, forming mass and pocket of abscess.
- ▶ Surgeons used saline with 80 mg gentamycine for peritoneal irrigation and advised 40 mg gentamycine I.V. which were given before closure of the wound.

# ANESTHETIC MANAGEMENT

- ▶ After finishing surgery and stopping sevoflurane, the child started to move and the LMA removed.
- ▶ Patient opened his eyes spontaneously and was vitally stable while shifted to the recovery unit.

# ANESTHETIC MANAGEMENT

- ▶ During the **recovery** period, he developed mild shivering, which was effectively managed by 20 mg pethedine.

# ANESTHETIC MANAGEMENT

- ▶ Patient spent around 25 minutes in the recovery unit, then shifted to the 7B ward while he was quite and pain free, O2Sat 97% on room air and O2 face mask plus SpO2 monitoring postop. Ordered by the **anesthesiologist**.

# ANESTHETIC MANAGEMENT

- ▶ Child's parents accompanied him from RR to the ward.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ About three hours later the mother noticed that the child became more sleepy and his respiration is not O.K.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ The nurse came and checked the V/S it was:  
O2 sat 75%, BP 129/69, pulse 140.
- ▶ Surgeon on call informed. code blue announced by 7B ward.
- ▶ On arrival of the code team the child was de-saturated in respiratory arrest only, deeply comatosed, with good volume peripheral radial pulse.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ Bag-Valve-Mask ventilation kept patients O<sub>2</sub> Sat 100%, but he maintained deep coma with dilated (grade 4) fixed pupils.
- ▶ Patient intubated and shifted to the ICU @ 16:45 hr.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ In the ICU patient maintained the same course on mechanical ventilation, 100% O<sub>2</sub>, fluids infusion while he was still unconscious , G.C.S 3/15, BP 72/28 and pulse 140.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ No spontaneous respiration. Brain stem reflexes were absent.
- ▶ ABGs was :PH 7.32, pCo<sub>2</sub> 34.4, pO<sub>2</sub> 118,1 , HCo<sub>3</sub> 17.3 , BE -7.8.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ Naloxon given but no response .
- ▶ **NO CLEAR** MEDICAL EXPLANATION AT THAT MOMENT.

# HOSPITAL POST-OPERATIVE COURSE

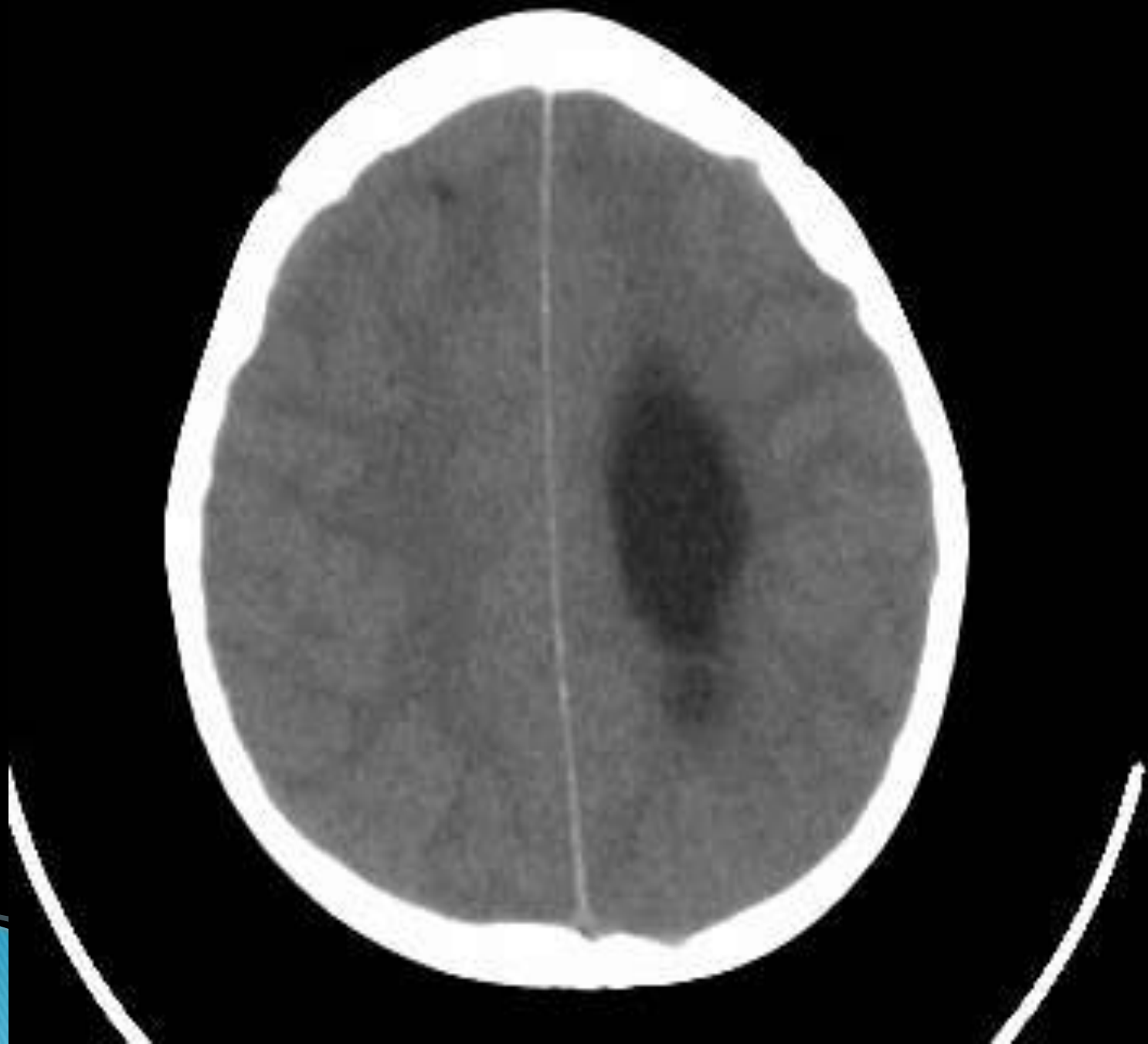
- ▶ Again the child's father was asked by the ICU doctors about any positive past history for the child illness, while he did not remember any!

# HOSPITAL POST-OPERATIVE COURSE

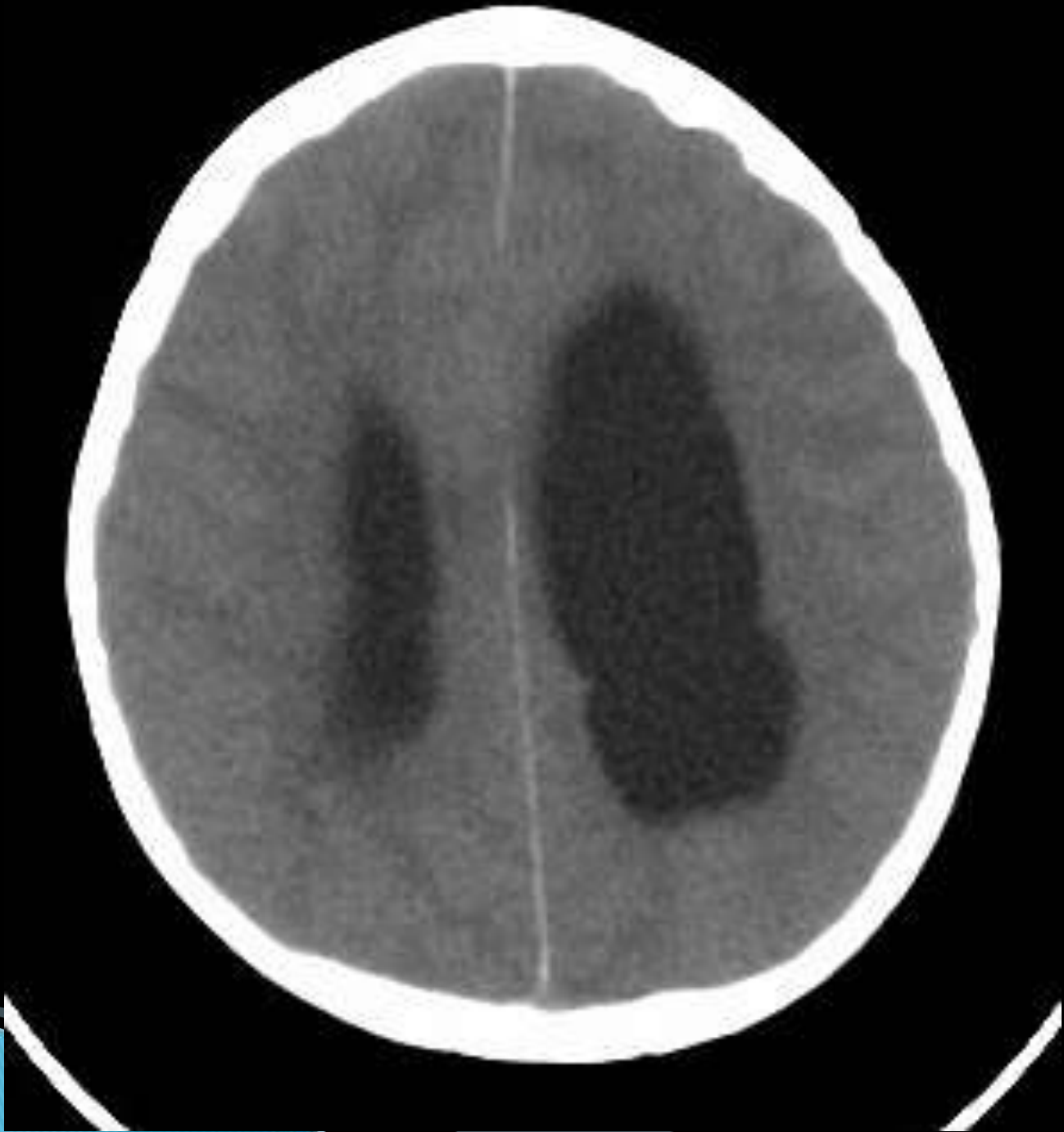
- ▶ After a while the father called the ICU doctor and told him that the child complained 2-3 times of attacks of headache. The family explained those attacks by sun exposure or over-exhaustion.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ In a trial to have any explanation to the child's deep coma, ICU doctors ordered urgent brain C.T. scan to the child after consultation and discussion with the neurologist.

















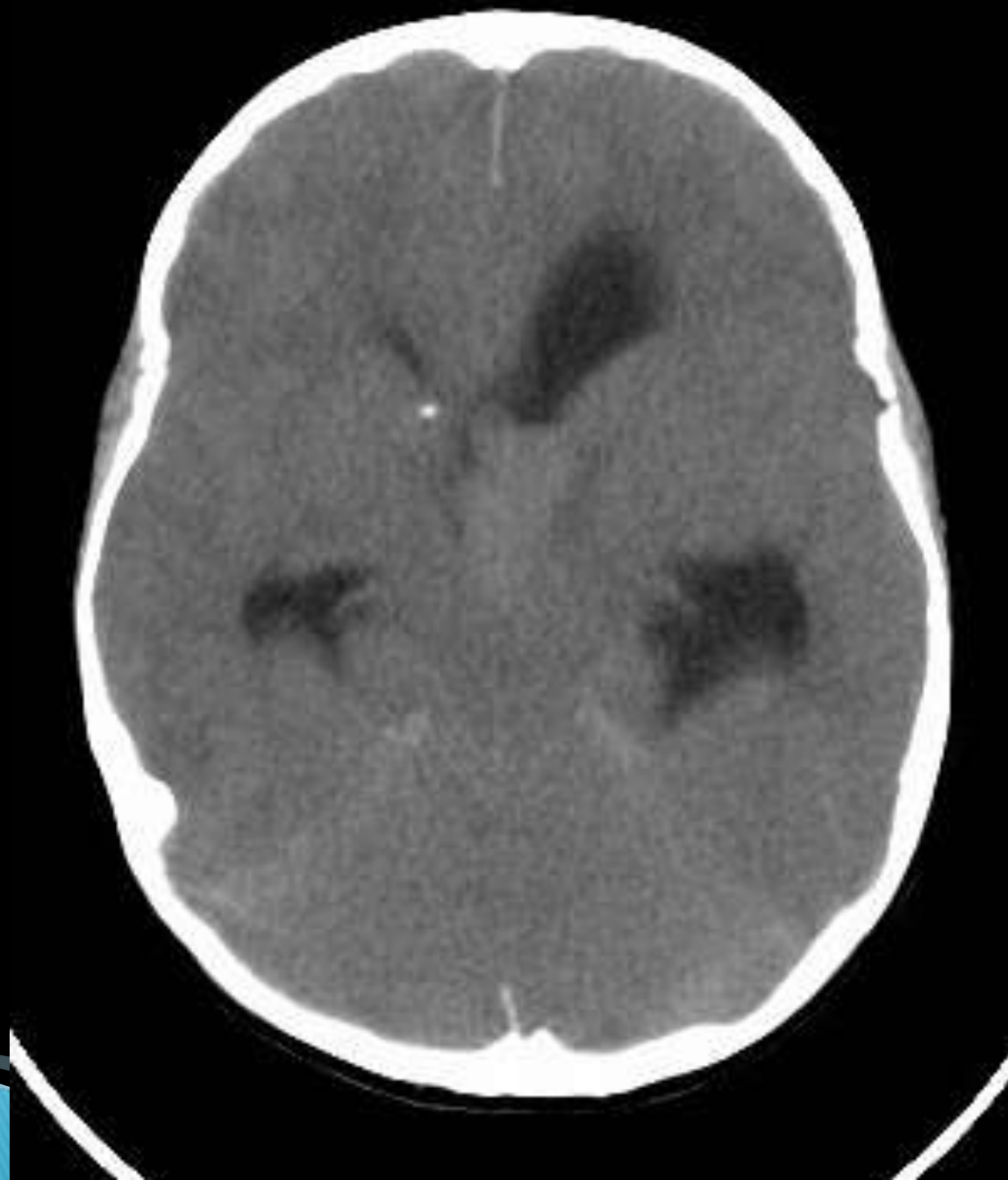












# HOSPITAL POST-OPERATIVE COURSE

- ▶ Brain C.T. revealed the surprise that there was severe ventricular dilatation (hydrocephalus) plus a big intra-ventricular brain tumor.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ Neuro-surgery consultant on-call decided to take the patient back to O.R. for External Ventricular Drainage as a life saving surgical intervention.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ While we were getting consent for the EVD from the father, he detailed the headache history, and added a history of severe neck stiffness for five days before less than one month.

# HOSPITAL POST-OPERATIVE COURSE

- ▶ Operation done & C.S.F sample sent for cytology which showed: sheets of reactive lymphocytes and RBCs.
- ▶ C.S.F analysis: increased protein, normal Glucose, -ve culture.
- ▶ Pt returned back to I.C.U. arrested three times postoperatively.

# OUTCOME

The child expired  
by around 0300  
am.

THANK  
YOU

&

Have a nice day



BabyLife 雜誌