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### Case Report

## SPINAL ANESTHETIC DEATH....THORNY TO PROVE –A CASE REPORT

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### ABSTRACT

A 10 years Hindu male child was brought by police for postmortem with history of death due to spinal anesthesia and asked for In-camera (video shooting) postmortem. He was being operated for appendicitis which was an elective surgery. Before starting the operation, on table spinal anesthesia was given. Later on did not get sufficient anesthesia, hence next dose given, suddenly collapse from their referred to higher centre where he was declared brought dead. When the body came to us inquired about why postmortem was not done their? Police officials replied that relatives required expertise opinion, suspicion on medical officers/doctors (Conducting postmortem) for giving opinion in favor of doctors and requires detailed and thorough autopsy.

**Keywords:** Spinal anesthesia, Elective Surgery, Postmortem, Appendicitis, Expert opinion.

### INTRODUCTION

The death that occur inside the operation theatre often evoke considerable distress to the relatives of the patient and the subsequent misgivings on the team of doctors that performed the surgery<sup>1</sup> Lunn and Mushin estimated mortality directly related to anesthesia to be 1 in 166 (0.6%)<sup>2</sup> Following ten years study from 1967-1976, Harrison found that anesthesia contributed in some degree of mortality in 2.2 per 10,000 anesthetics that represented 2.2 per cent of total mortality from surgery, which was 10.15 per 1000<sup>3</sup>.

Though the findings of autopsy will vary according to cause of death and there are no diagnostic findings at autopsy in most of instances of anesthesia related death because no pathognomic changes found during autopsy as there is no evidence of sudden fall of blood pressure, cardiac irregularities which may be responsible for causing sudden death<sup>4</sup>.

### CASE REPORT

#### External examination

Face was congested, with eyes closed and mouth was partially opened with intubated tube of No. 7 Portex cuffed. Rigor mortis was fully developed all over the body and postmortem lividity was present over back and fixed. No drug sensitivity was observed but macula-papular rashes were present all over the abdomen and chest. Body weight was 30 kg and wash of

betadine was given upto thigh with no external injuries were found over found over body and no such injury over spinal anesthetic site was seen.

#### Internal examination

When opened the thoracic cavity, lungs were cyanosed and on cauliflower dissection, mucus plugs were found in bronchi with esophageal, epiglottic and laryngeal edema was present respectively. Brain showing lenticular edema with glistening surface all over brain. No intracerebral haemorrhage seen. All other organs were congested and weighed according to age of the patient. Appendix was inflamed and at four o'clock position for which patient was shifted for operation.

When dissected the spinal site, contusion were seen on paraspinal muscles and tried for cerebrospinal fluid but not withdrawn. when whole of the spinal cord was taken out showing only small blood clots near L3-L4 and no other significant injury seen. Then we have preserved Blood for Grouping (To rule out transfusion mismatch), Blood for Creatinine Phosphokinase (malignant Hypothermia), Viscera for Chemical Analysis (Gas Chromatography to rule out gases concentration), Skin from suspected site for anesthetic agent dose and Heart for histopathology (Congenital anomaly) and after that asked for Records from Investigation officer as -Pre-anesthetic checkup/fitness report, Lab. Investigation done, Have Treating surgeon inquired for history of sickle cell/Bleeding disorder/Hb pathies. Which are the anaesthetic drugs are given to him? and Treatment records Upto that

Opinion pending till reports from Investigation officer and investigation reports made available.

After 3 days later.....

Investigation officer produced documents as- Consent from the patient's father. Pre-anaesthetic fitness record, USG-abdomen and pelvis reveals? Acute appendicitis, as probe tenderness present with tubular blind ended, non-compressible structure seen in right iliac region

Haematological reports-

- HB- 12.8gm%,TLC- 17,900 (raised),Blood group- AB negative,Bleeding time- 2.09,Clotting time- 5.11
- Urine examination-Physical and microscopic Albumin/Sugar/Bile salt/Pigment/bacteria/crystals/epithelial cells Not significant

#### Case paper study-

0.5% Bupivacaine 2.2ml at L3-L4 position level achieved at T6 then again given

- Inj. Ceftriaxone test dose given after 5 min 1gm ceftriaxone given
- C/O itching over flexor aspect of arm
- Rash over body
- Breathlessness
- Irritable
- R/S examination- B/L Ronchi with wheeze +++

#### Reviewing case Papers, Post mortem findings and reports available from lab:-

Informed to the police-As per section 45 IEA-Prima fascia evidence shows that death is due to anaesthetic drug induced anaphylaxis.

### DISCUSSION

Lacunae of the case:

- Consent was taken from patient's Uncle not from father, in spite of having elective surgery.
- Drug sensitivity was not tested.
- Preferred spinal anesthesia inspite of general anesthesia.(rapid recovery, Pharmacologic crutches).
- Dose of bupivacaine also not calculated.

Approximate Pediatric dose=  $\frac{\text{Weight of child (Kg)} \times \text{adult dose}}{70}$

Dose of Bupivacaine is 2.5mg to 10mg (adult dose)  
Spinal needle used or not b'coz spinal needle have steallte, ( Might have used No. 22 or 23needle) Portex cuffed tube No. 7 intubated, when No.6 or 6.5 tube should be used for 10 years male child.(Not prepared emergency Trolley)

Size of the tube =  $\frac{\text{Age of the patient (yrs)} + 4.0}{4}$

(Children's- Laryngeal spasm, can the intubation occurs successfully???????)

### CONCLUSION

There were two things in this case report, first is negligence of the doctor on part of reasonable skill and care and second thing is that very difficult to prove the cause of death. All deaths occurring during the course of anaesthesia and surgery or within reasonable time afterwards should be reported to the

police (sec. 39 1973 CrPC).<sup>5</sup> They cannot be regarded as natural death. Second thing of proving death due to anaesthesia, on autopsy findings like laryngeal spasm, hypotension very difficult to prove.

The doctor patient relationship is an interpersonal relationship called empathy i.e ability to share another's feeling and interest. Failure of empathy and communication often acts as precipitating factors for negligence suits<sup>6</sup>.

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5. and 6 Krishan Vij Textbook of Forensic medicine and Toxicology principles and practice 4<sup>th</sup> edition Chapter 13 Deaths associated with surgery and anesthesia page no.246-247.

#### On giving incision



#### Anesthetic site

