SNIPPETS OF CRMD MEETING ON 17/09/2023 AT SAT HOSPITAL TRIVANDRUM

A total of 10 cases of 2022-2023 and 19 cases of 2023/2024 were discussed in a confidential manner. The causes were as follows:

PPH at Caesarean	4
Atonic PPH	2
Traumatic PPH	2
Cardiac causes	2
AFLP	1
Intracranial haemorrhage Hypertension	1
Sepsis	2
Ruptured ectopic	1
Acute collapse	1
Fecal peritonitis ,Crohn,s disease	1
Dissection of aorta	1
Covid Pneumonia	1
Rupture uterus	1
Urosepsis	1
Unknown	6
Suicide	2

We analysed each of these deaths and subcategorised into the following :

TYPE OF DELAY	**NUMBER**
1.Delay from the part of patient and family	2
2.Delay in reaching the institution	2
3.Delay after reaching the institution	1
4.No delay identified	18
5.Cannot comment	6

AVOIDABLE OR NOT	**NUMBER**
1.Unavoidable	3
2.Avoidable in an average medical setting	12
3.Avoidable only in the best settings	8
4.Cannot comment	6

There were 4 deaths following PPH at Caesarean section

Observation: 35 year old G3 P2 previous 2 caesarean underwent electice CS at peripheral hospital and developed PPH and hypotension and referred to a higher

centre. On admission, patient was in shock requiring ionotropic support. Bleeding from the incision site. Fresh bleeding from the vagina. Lab parameters suggestive of DIC.She was resuscitated, massive transfusion protocol activated and emergency hysterectomy done. She developed severe hypotension and cardiac arrest towards the end of the procedure. Expired on the same day in ICU

Recommendations: Soon after the delivery of the baby the angles should be clamped using Green Amytage or Allis forceps, especially if there has been an extension of the incision, before delivering the placenta which will take some time. This can minimise bleeding at CS. Uterine artery clamp may be used to clamp th uterine vessels which will immediately arrest the bleeding. Make sure AMTSL is followed. Secure the Right angle separately. Make sure of complete haemostasis at the bladder base and beneath the rectus sheath. Soon after the CS, see that the internal os is open during the vaginal toileting and remove all the clots. In case uterus is atonic, suction cannula may be used to make the uterus contract. Meticulous post operative monitoring can identify complications early enabling early interventions.

Please note that suction cannula and TVUAC is useful during a caesarean for PPH.

Observation: A 27 year old gravida 2 , 1st FTND, induced with PgE1 and Oxytocin at 38 weeks and delivered at 11.58 AM. 3.5 kg baby. Developed atonic PPH. Medical management and Condom tamponade tried. 1 unit PRBC transfused and referred to MCH with NASG. She reached in shock; profuse bleeding per vaginum. Developed cardiac arrest. Resuscitated and shifted to theatre. Developed cardiac arrest again. At laparotomy 6 cm rent on the left uterine wall involving uterine vessels extending to the cervix and vagina. Subtotal hysterectomy and suturing of tear done. Internal artery ligation done. Right external iliac vein got injured CTVS called in and repair done. Massive transfusion given. Post operatively was on ventilator and ionotropic supports. Developed ARDS, AKI and expired on the 7th day

Recommendations:.We have witnessed the efficacy and propagated the paradigm shift in management of PPH to **arrest of bleeding.** The advent of TVUAC and Suction cannula have brought about significant difference in maternal morbidity and mortality due to PPH. EVERY DELIVERY POINT SHOULD HAVE TVUAC AND SUCTION CANNULA which is the FIRST AID (to be use along with medical management if not earlier) in PPH. Condom

tamponade is not recommended. The tear was missed. The traumatic PPH later on makes uterus atonic. Aggressive management in the same centre can save life. Referral if not in an ICU ambulance can lead to ongoing bleeding . shock and death on the way.

Observation: 30 year old G2A1 had LSCS for Meconium stained liquor. Discharged on day 4. Presented to FRU with dyspnea, tiredness. BP 170/110mmHg on the 10th day of CS.Referred to MCH while waiting for ambulance patient had I episode of seizure. Reached MCH with no signs of life.

Recommendations: Hypertension leading to cerebral haemorrhage has caused the death. IV Labetalol and loading dose of magsulf at FRU before referral could prevent the convulsions. In patients with gestational hypertension antihypertensives should be continued with advice to check BP at home or nearby hospital till the BP is normal.

Observation: 26 year old primi gravida presented with pain abdomen and vomiting at 38 weeks. As LFT was deranged referred to a higher centre. With a diagnosis of AFLP emergency CS done under GA. Post operatively developed abdominal distension and fall in Hb. Relaparotomy done. Large haematoma evacuated. Abdomen closed with drain. She developed DIC. Massive transfusion given. Thrombocytopenia persisted. She was planned for extubation. She developed a bout of haemoptysis with severe hypoxaemia. Bronchoscopy revealed diffuse alveolar haemorrhage. Prone ventillation given. Developed AKI, fungal sepsis and expired on 20 th day after CS.

Recommendation: In AFLP, immediate termination is recommended. As cervix will be unfavourable, often CS has to be done. In such a situation, a midline vertical incision is ideal as it is associated with less bleeding. Complete haemostasis should be attained before closure. If bleeding is expected an abdominal drain ay be put. It is DIC which is the killer and should be managed by ROTEM based correction of coagulation factors. A haematologist may also be involved.

There was a death due to diphtheria myocarditis. Patient had presentedwith fever, shortness of breath, generalised skin lesions and membrane like lesion in

the throat. She hade gone into septic shock. Early treatment with Penicillin could have saved the patient.

A 36 year old gravida 3 previous 2 caesarean , LCB 7 years presented with pain abdomen and history of fall in the bathroom at 35 weeks . She became unresponsive and resuscitation failed. Bedside USG showed evidence of haemoperitoneum and fetus in the peritoneal cavity.

Another death was due to urosepsis ,suspected acute pyelonephritis where the patient refused admission for parenteral antibiotics.

In 6 cases , cause of death could not be assigned due to lack of details or documents.

Other Recommendations:

The Golden Hour after delivery is replaced by the Golden 3-4 minutes where we have to identify the bleeding and take steps immediately to arrest bleeding and correct hypovolemia because blood lost will be massive.

TVUAC and Suction cannula should be used while transferring an atonic PPH patient who continues to bleed.

Use Tranexamic acid early in the course of PPH.

Proper volume replacement is also crucial to prevent hypovolaemia in a bleeding patient.

Elective induction is recommended only at 39 completed weeks.