CPC INTERESTING CASE PRESENTATION BY DEPARTMENT OF ANAESTHESIOLOGY ON 19/2/2025

TITLE: A 54YEAR OLD FEMALE POSTED FOR LAPAROSCOPY ASSISTED VAGINAL HYSTRECTOMY UNDER GA WENT INTO POST OPERATIVE CARDIAC ARREST IMMEDIATELY AFTER SHIFTING TO ICU FOR ELECTIVE MECHANICAL VENTILATION.

PRESENTER: Dr VASAVI (3rd YEAR PG)

MODERATOR: Dr RAGHAVA (Associate Professor), Dr SINDHU (Assistant Professor)

CHIEF DISCUSSANT: Dr DURGA PRASAD (former Professor & HOD, GGH, SMC/VJA)

CASE 1

A 58year multiparous postmenopausal women came to OPD with complaints of 3-4 episodes of recurrent postmenopausal bleeding P/V since 3months.

HISTORY OF PRESENT ILLNESS: Bleeding P/V of 3-4 episodes since 3rd november 2024 for which she changes 1 pad/day. No H/O lower abdomen pain/ WDPV /burning micturition/ Dyspareunia/ postcoital bleeding/Stress incontinence /urge incontinence/ mass per abdomen/ mass per vaginum /Fever/vomitings /constipation.

Obstetric history: P4L4, Marital life: 43 years, Menstrual History: Age of menarche -13years, reached menopause 12 years ago. No H/O menstrual irregularities/ intermenstrual spotting.

Past History: K/C/O HYPERTENSION since 10years. She uses Tab. MET-XL 25mg BD, Tab. TELMA-H(40/12.5) OD.

Family History: Nil significance.

Personal History: Mixed Diet, Sleep & Appetite are Normal, Bowel & Bladder habits are Regular

GENERAL EXAMINATION: No Pallor/Icterus/Cyanosis /Clubbing/ lymphadenopathy/Edema;Thyroid: No Abnormality Detected.Breast: Bilateral soft, Spine: No Abnormality Detected.

VITALS AT THE TIME OF ADMISSION: Pulse rate: 86/min, BP : 130/80 mmHg, Respiratory Rate-14/min, SpO2-100% on room air, Temperature : Afebrile

SYSTEMIC EXAMINATION: CVS: S1 S2 Sounds heard, no murmurs heard, RS: Bilateral Normal Vesicular Breath sounds heard, CNS: No focal neurological deficits.

LOCAL EXAMINATION: on inspection: abdomen flat, all quadrants moving equally with inspiration, tubectomy scar present, no visible sinuses pulsations, engorged veins, palpation: soft, no tenderness noted, no organomegaly noted, percussion: tymapnic note noted, ausculation: bowel sounds heard.

PER SPECULUM EXAMINATION: erosion present on anterior lip of cervix at 11 o clock. vagina- healthy.

BIMANUAL EXAMINATION: uterus anteverted, 8-10 weeks size, mobile, bilateral forinces free, non-tender.

PROVISIONAL DIAGNOSIS: A 58year old P4L4 (NVD) tubectomised postmenopausal women with recurrent postmenopausal bleeding came for evaluation with k/c/o Hypertension

A 54year old female case of P4L4 (NVD) tubectomised with postmenopausal bleeding and multiple endometrial polyps is posted for Laparoscopy assisted vaginal hysterectomy with bilateral salpingo oophorectomy under GA.

PRE-ANAESTHETIC EVALUATION: Patient is a known hypertensive since 10 years and uses Tab.Metoprolol 25 mg BD and Tab.Telma-H 40+12.5 mg OD.She has undergone tubectomy under LA, 30 years ago – uneventful and had H/O COVID 4 years ago – home treated, uneventful.She has no other comorbidities and allergies.

GENERAL EXAMINATION: Height -154cms, Weight -63 kg, BMI- 26.6kg/m2, Pulse- 72/min, Bp - 150/70 mmHg, RR- 18/min, SpO2 - 100% on room air. Spine examination and airway are normal.

SYSTEMIC EXAMINATION:CVS: S1S2 present, RS: B/L NVBS, CNS & GIT: NAD

No pallor/icterus/clubbing/cyanosis/edema

LAB INVESTIGATIONS: CBP - Hb 15.6 gm/dL, PCV 48.7%, Platelet count 2.13Lakh, TWBC -10,700 cells/ µL.

Na -144meq/L, K- 3.8meq/L, Cl- 105meq/L, ECG and Chest-X ray are WNL.Blood urea: 19mg/dL, S.Creatinine: 1.1 mg/dL, RBS: 92 mg/dL, CT: 4:30 min,BT: 2:30 min, S.TSH: 2.98uIU / ml

2D ECHO: EF -60%, RVSP-20mmHg, No LV RWMA, Good LV systolic function, Decreased diastolic compliance Grade-1, No MR/AR/TR, IVC normal and collapsing,No PE/CLOT/Vegetations.

PRE- OPERATIVE VITALS:HR – 78/min, BP – 170/100mmHg, SpO2- 100% on room air

CVS – S1S2 heard, RS- B/L normal vesicular breath sounds, no added sounds heard.

AT 10:55AM: Patient was administered injection Dexmedetomedine with a loading dose of 1mcg/kg over 15 min followed by maintenance dose: 0.25mcg/kg/hr.Patient vitals after loading dose injection Dexmedetomedine

HR-74/min, BP-148/87(100) mmHg, SpO2 100% on 4L O2, ETCO2-29mmHg.Patient was pre-medicated with Injection Glycopyrrolate 0.2mg IV, Injection Ondansetron 4mg IV, Injection Midazolam 1mg IV.Induced with injection propofol 2mg/kg IV.Muscles paralysed with depolarizing agent injection suxamethonium chloride 1.5mg/kg IV.Intubated with 7.5mm cuffed ETT and fixed at 18cm after checking for B/L equal air entry and was confirmed with ETCO2.Maintained with N2O 2L and O2 1L, Inhalational agent sevoflurane 0.8MAC .Muscle relaxation continued with a loading dose of injection vecuronium 0.08mg/kg IV and maintenace dose 0.02mg/kg IV in graded doses.Ventilator settings: Mode -VCV, TV- 400ml, RR -20/min, I:E- 1:2, PEEP 5cmH2O

At 11:30AM: Patients abdomen is inflated with CO2 with pressures 15cmH20, flow rate 20L/min.

AT 11:45AM: VITALS: HR -79/min, BP-183/110(135)mmHg, SPO2-100%, ETCO2 -35mmHg.Injection Dexmedetomedine was increased from 0.25mcg/kg/hr to 0.5mcg/kg/hr in view of elevated blood pressure.

At 4:30PM: ABG findings:PH - 7.25, PO2 - 213.2mmHg, PCO2- 54.8mmHg, CHCO3-20.4mmol/L, Lactate 2.21mmol/L

At 5:00PM: Surgery was completed. Blood loss 200ml,total input 2500ml,total output 1000ml

At 5:15PM: Spontaneous respiratory efforts of patient were noted.Injection glycopyrrolate with neostigmine 8ml was administered.Vitals: HR 140/min , BP 200/120mmHg,SPO2 100% with 8LO2,ETCO2 42mmHg.

ECG showed tachycardia with ST depression -1.6. Inj.Labetolol 5mg was given.Vitals:HR-90/min,BP- 120/90mmHg, SPO2-100% with 8LO2,ETCO2 16mmHg.

AT 6:00PM: Patient was unresponsive and respiratory efforts diminished.Vitals: HR -107/min ,BP-115/98(102)mmHg, SPO2- 100% with 8LO2, ETCO2 16mmHg.ABG findings: PH 7.24, PO2- 96.7mmHg, PCO2- 45mmHg, CHCO3-17.5mmol/L, Lactate- 4.32mmol/L.As patient did not meet extubation criteria patient was not extubated and was shifted to ICU with 10L O2.

AT 6:15PM After shifting to ICU, patient developed bradycardia (HR<34/min).Injection atropine was 0.6mg was given.Carotids – not palpable, SPO2-not recordable.Immediately CPR was initiated ,2 cycles of CPR was done and inj. adrenaline 1mg given.

AT 6:26PM: Patient has attained ROSC.Vitals: HR 120/min,SBP 90 mmHg, SPO2-90% with fio2 1, ETCO2 16,Injection noradrenaline 12.5mcg/min was started.On auscultation: CVS: S1S2 present,RS: B/L air entry present with diffuse coarse crepts present, Pink frothy sputum noted in ETT.Patient was connected to the mechanical ventilator with the following settings,MODE -CMV, TV - 375ml, RR-16/min, I:E -1:2,PEEP- 5cmH2o, fio2 1.Sedation provided with injection fentanyl 100mcg/hour.

Cardiology opinion was taken.2D ECHO:EF 55%,AF during study,Inferoseptum hypokinetic,Fair LV function,Mild MR/TR/PAH (RVSP 30mmHg),IVC dilated > 50% and collapsing,No PE/Clot/vegetations,Patient was started on

injection Amiodarone 150mg IV stat dose f/b,60mg for 6 hours f/b 30mg for 18 hours,Vasopressin 2units/hour is started as cardiologist advised.

Chest X-ray showed right lung opacification probably aspiration pneumonia.

Case seen by Dr Basha (INTENSIVIST).Patient was managed according to ARDS protocol and plateau pressures were maintained <30cmH2O.VENTILATOR SETTINGS:Mode: CMV, Tidal volume: 320ml (6ml/kg Body weight), Respiratory rate : 18/min, I:E 1:2, PEEP 10cmH2O, FIO2 0.8

POD-1: ABG: PH-7.04, PO2-69.1mmHg, PCO2-77.5mmHg,CHCO3-14.2mmol/L, lactate-7.06mmol/L.Injection vasopressin infusion was discontinued.**POD -2** ABG: PH-7.28, PO2-93.2mmHg, PCO2-53.4mmHg,CHCO3-21.6mmol/L, lactate-2.52mmol/L.**POD -3** ABG: PH-7.36, PO2-82.2mmHg, PCO2-36.3mmHg,CHCO3-20.6mmol/L **POD-4:**Sedation was stopped.ABG: PH-7.43, PO2-92.8mmHg, PCO2-36.4mmHg,CHCO3-24.3mmol/L, lactate-1.21mmol/L.Patient was kept on ASV mode for one hour.Ventilator settings:Mode ASV, Tv- 45Oml, Rate-14/min, I:E -1:2, FIO2 0.3.Patient was conscious, alert and responding to commands.Power of all limbs 5/5.Hence, patient has been extubated. **POD-5**:Pulmonology opinion was taken in view of tachypnea.Adviced intermittent Bi-pap and weaned off gradually on POD 7.

HRCT CHEST FINDINGS:Dense consolidation seen involving lateral basal and superior segment of right lower lobe.Patchy alveolar opacities seen involving anterior segment of right upper lobe.(?infective etiology),Mild cardiomegaly with bilateral minimal pleural effusion.,Multiple fibrotic strands seen in bilateral lung fields.

POD -7 Patient was discharged from ICU to ward.

Total number of days on ventilator:4days

Total number of days on NIV:2days

CASE 2

TITLE: Intraoperative raised end tidal carbon dioxide

PRESENTER: Dr. Chandra Gitanjali
MODERATOR: Dr. Sravanthi (Assistant Professor)
DISCUSSANT: Dr Durga Prasad (former Professor & HOD, GGH, SMC/VJA)

- A 12-year-old male, diagnosed with left ureterocele, was posted for ureteric reimplantation under general anesthesia.
- PREANESTHETIC CHECK-UP:
  - No significant medical history.
  - Patient underwent an open appendicectomy 1 month prior under subarachnoid block.
  - General physical examination: within normal limits.
  - Systemic examination – CVS, RS, GIT, CNS: No abnormalities detected.
  - Airway examination was normal.
  - Laboratory investigations: within normal limits.
    - Chest x-ray – normal study
    - ECG – normal sinus rhythm, within normal limits
    - 2D Echo – normal study
- Patient was determined to be of ASA physical status I.
- Informed consent was taken for anesthesia.
- Fasting 8 hrs for solid foods was instructed to patient.

- INTRAOPERATIVE:
  - Preoxygenation and premedication was given, followed by induction with intravenous fentanyl (2 μg/kg) and propofol (2 mg/kg).
  - Neuromuscular blockade was achieved with intravenous vecuronium (0.12 mg/kg) as patient was from vyshya community (more prone for succinylcholine sensitivity).
  - Trachea was intubated with a 6.5 mm ID cuffed PVC ETT.
  - Endotracheal tube (ETT) tube position was confirmed by chest auscultation and capnography value of 33 mmHg.
  - Anaesthesia was maintained with sevoflurane 0.4-1.5% and 70% nitrous oxide in oxygen.
  - Mechanical ventilation in volume-controlled mode using Penlon Workstation with settings of:
    i. Tidal volume = 220 mL
    ii. Respiratory rate = 16 breaths/ min
  - The end-tidal carbon dioxide (EtCO2) was 33-38 mmHg and the peak airway pressure was 14 cmH2O.
  - 90 min after the start of surgery, sudden peaking of inspiratory pressure (42–54 cm H2O), decreased exhaled tidal volume (TV: 80–120 ml), and raised ETCO2 (49–54 mm Hg) were observed.
  - On chest auscultation, bilaterally air entry was diminished but no added sounds. Bronchodilator therapy was administered but it showed no improvement. The whole breathing circuit was examined, which was patent.
  - The patient was immediately switched over to manual ventilation with a resuscitation bag on 100% fiO2, and a significant resistance was felt in the bag.
  - On performing direct laryngoscopy - ETT was found kinking intraorally near the hard palate.
  - After the readjustment of ETT, all the ventilatory parameters returned to normal limits.
- The rest of the perioperative period remained uneventful.
- Discussion: This case is being presented due to its rare occurrence. Similar case reports have documented intraoperative intraoral ETT kinking.