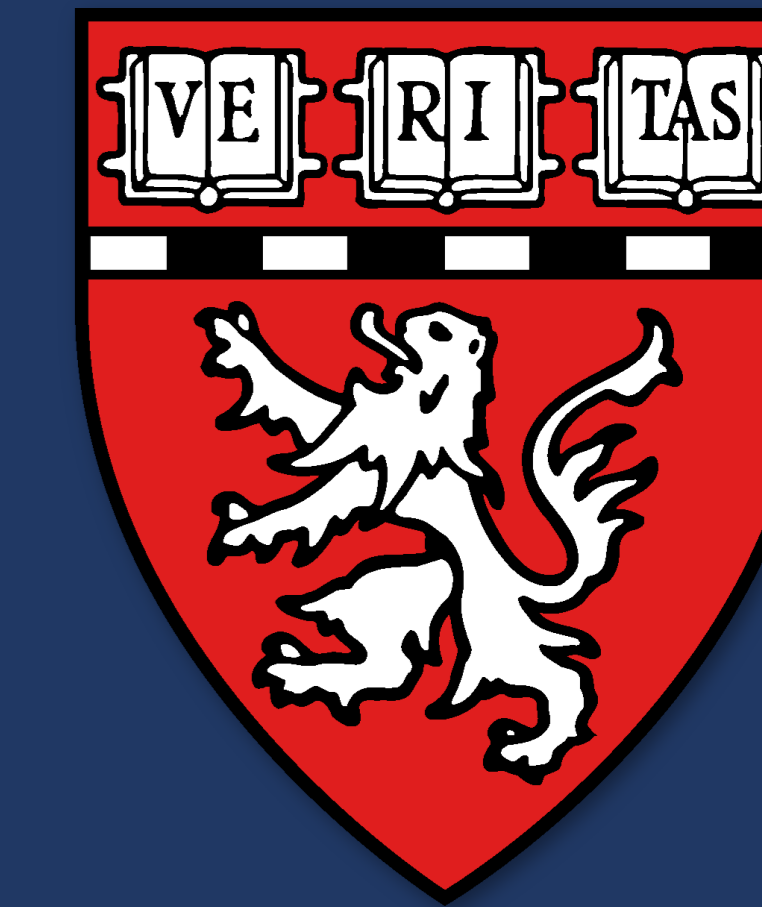




Incidence of Postpartum Hemorrhage in Parturients Evaluated by an Antenatal Anesthesiology Consultation

Domenic J. Pedulla, MD; Arthur E. Hale, MS; Jean M. Carabuena, MD;
Ayana Watkins; Vesela Kovacheva, MD, PhD

Department of Anesthesiology, Perioperative and Pain Medicine, Brigham and Women's Hospital, Boston, MA



Postpartum Hemorrhage (PPH):

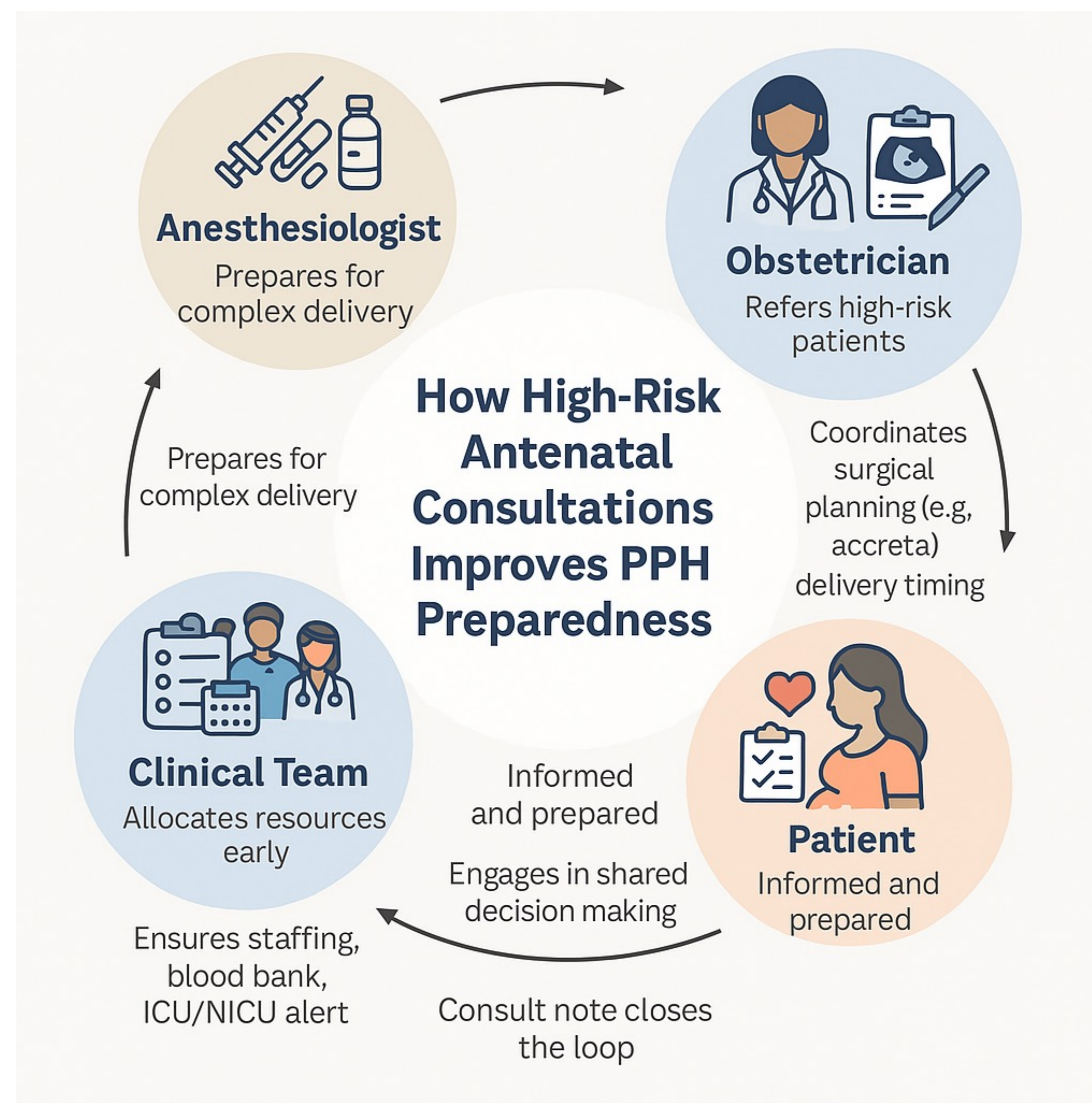
- A leading cause of morbidity and mortality in pregnancy
- Many deliveries complicated by PPH have no clear risk factors

Predictive Modelling:

- Electronic medical record data have been used to develop models to more accurately predict PPH risk

Antenatal Anesthesiology Consultation:

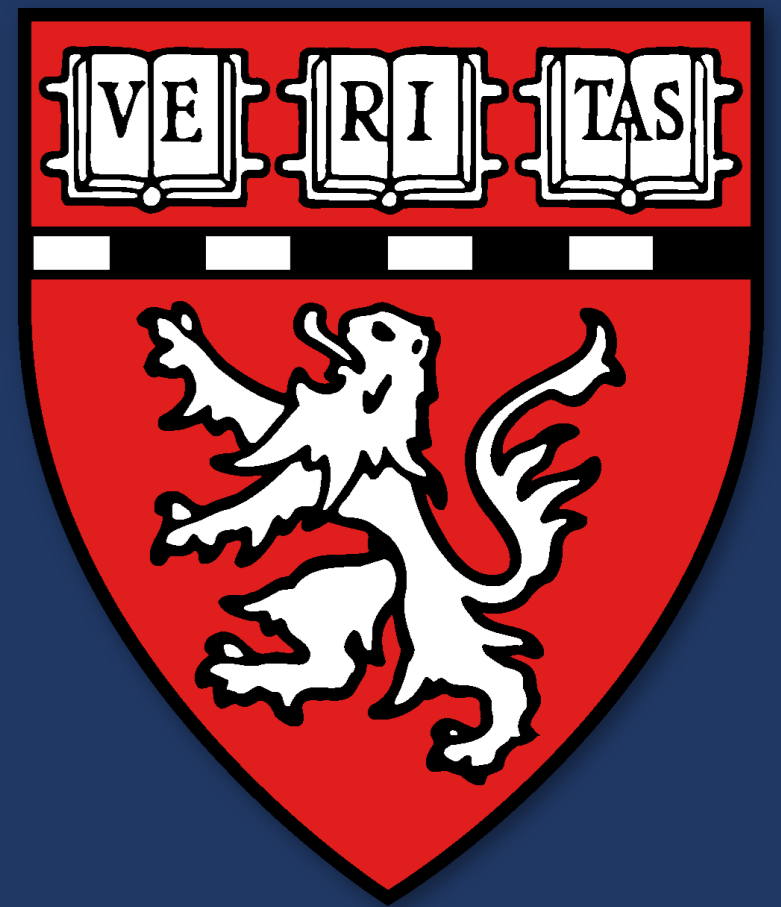
- OB anesthesiologists can play a key role in antenatal planning for high-risk patients
- Inconsistent role in the antepartum period based on referral from obstetrician



Generated Using GPT

Questions:

- What is the incidence of PPH in patients referred for an antenatal anesthesiology consultation for elevated PPH risk?
- Which risk factors were most common in this cohort?
- Were these risk factors identified in the anesthesiology consultation?



Methods

Cohort: All patients referred for a high risk obstetric anesthesiology consult (HROAC) for elevated PPH risk between August 2021 and June 2024

Risk Factors: Patient History

- History of PPH
- History of Cesarean Section
- History of Other Uterine Surgeries
- Fibroids

Risk Factors: Current Pregnancy

- Placenta Previa
- Placenta Accreta Spectrum Concern
- Multiple Gestation
- Polyhydramnios

Anesthetic Interventions

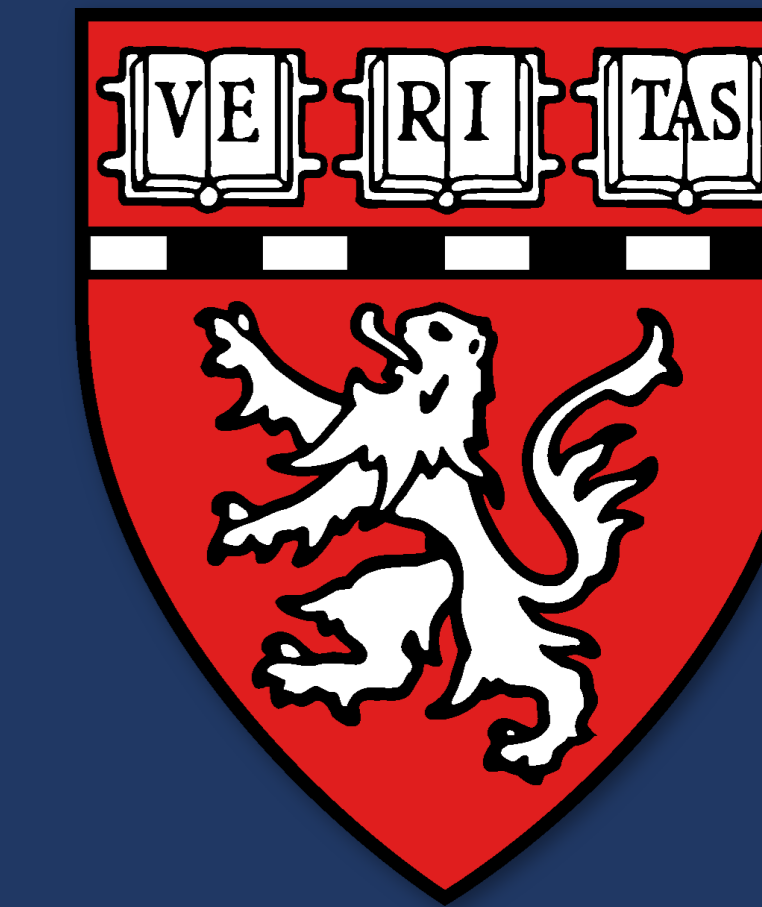
- Second IV
- Arterial Line
- General Anesthesia
- Blood Transfusion
- Uterotonics

Obstetric Outcomes and Interventions

- PPH
- QBL/EBL
- Intrauterine Balloon or Vacuum
- IR Embolization
- Hysterectomy

Anesthesiology Consult Note:

- Which risk factors were identified?
- Which anesthetic interventions were discussed?



Results

Total: 136 patients

- Patient Age (mean): 36.4 years
- Gestational Age at Time of Consult (mean): 33w5d

Risk Factors	Present in Chart	%	Present in HROAC	%
History of PPH	43	31.6	41	30.1
Any Uterine Surgery	120	88.2	118	86.8
History Cesarean Section	79	58.1	79	58.1
Myomectomy	15	11.0	16	11.8
D&C or D&E	63	46.3	60	44.1
Fibroids	25	18.4	15	11.0
Placenta Previa	50	36.8	53	39.0
Concern for PAS	68	50	64	47.1

Table 1. PPH Risk Factors Identified in Chart vs. HROAC Note

- Incidence of PPH: 39.7%
- Average Blood Loss: 1178 mL ± 841 ml (SD)

Anesthesia Interventions	Present in Chart	%	Discussed in HROAC	%
Second peripheral IV	82	60.3	119	87.5
Arterial Line	12	8.8	86	63.2
General Endotracheal Anesthesia	3	2.2	81	59.6
Transfusion: Any Blood Product	19	14.0	110	80.9
Uterotonic Administration	47	34.6	40	29.4

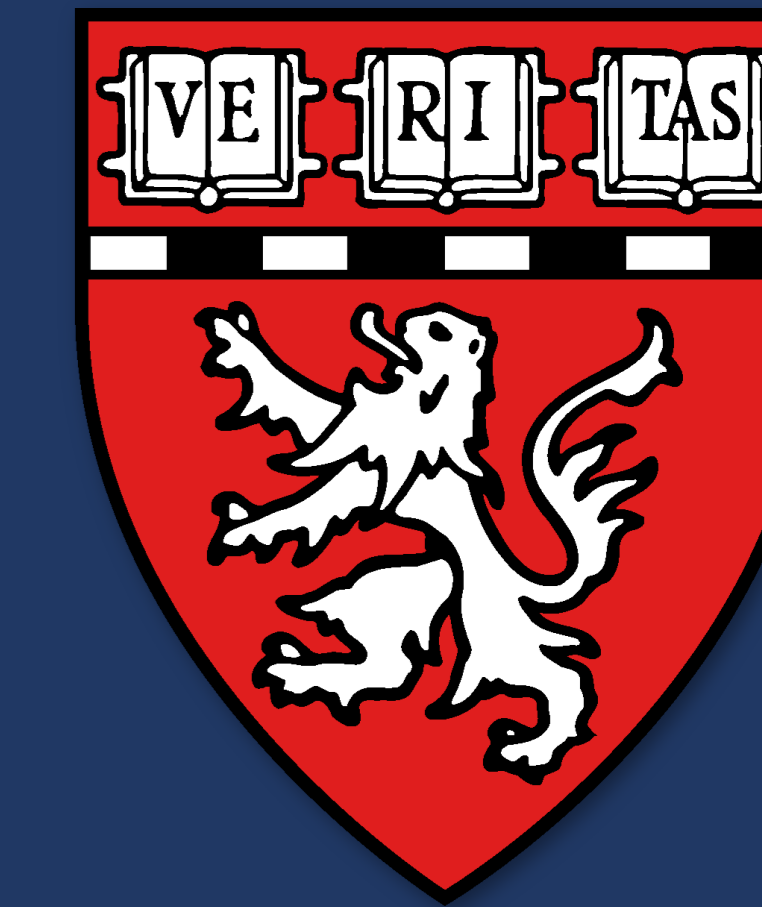
Table 2. Anesthesia Interventions Identified in Chart vs. Discussed in HROAC Note

Intrapartum Outcomes	Number	%
PPH	54	39.7
RBC Transfusion	19	14.0
Fibrinogen Concentrate	4	2.9
Uterine Artery Embolization	4	2.9
Internal Balloon Tamponade	7	5.1
Intrauterine Vacuum Device	2	1.5
Compression Suture	18	13.2
Emergent Hysterectomy	4	2.9
Elective Hysterectomy	26	19.1
D&C	4	2.9
Retained Placenta	45	33.1

Table 3. Obstetric Outcomes Identified in Chart



Conclusions



Postpartum hemorrhage continues to impact a large proportion of deliveries

- High incidence of PPH in patients referred for an antenatal anesthesiology consultation
- High risk patients can be identified[†] prior to delivery and referred for anesthesiology consultation
- Antenatal planning may optimize resource allocation, anesthesia team planning, and promote patient preparedness

Next Steps:

- Refine criteria for referral for HROAC
- Develop checklists for common HROAC indications

References

- 1- Callaghan et al. *Obstet Gynecol.* 2012.
- 2- Corbetta-Rastelli et al. *Obstet Gynecol.* 2023.
- 3- Venkatesh et al. *Obstet Gynecol.* 2020.
- 4- Ende et al. *Obstet Gynecol.* 2024.
- 5- Uwubamwen, Verma. *Anaest Intens Care M.* 2019.