

Management of Uterine Atony

Anesthetic Pearls: Management and Treatment of Uterine Atony

Uterine atony describes a soft / boggy post-partum uterus and concomitant vaginal bleeding. The most cause is from over-distention of the uterus. Initial treatment is bimanual uterine compression, uterine massage, and IV oxytocin. Management also indicates supplemental oxygen, evaluate for adequate IV access, and initiate appropriate crystalloid resuscitation.

Pharmacologic treatment of uterine atony:

I. Oxytocin (Pitocin) – first line drug therapy

- May cause vasodilation in bolus administration
- Recommendation is to place 20-30 units of oxytocin in a liter of crystalloid as an infusion.

II. Prostaglandin E-2 (only available in suppository form in US)

- May cause bronchodilation and decreased SVR (hypotension)
- Recommended dose 20 mg rectally

III. Prostaglandin F-2-alpha

- Increases cardiac output, systemic and pulmonary artery pressures, pulmonary vascular resistance, and can lead to severe bronchospasm
- Recommended dose 1 mg IM or intramyometrially

IV. 15-Methyl Prostaglandin F-2-alpha (Hemabate / Carboprost) – secondary treatment

- Increases myometrial intracellular free calcium concentration and enhanced oxytocin activity
- Associated with bronchospasm, V/Q mismatch, increased intrapulmonary shunt fraction, and hypoxemia
- Dose 250 mcg IM or intramyometrially
- May be repeated in 15 to 30 minutes (do **NOT** exceed 2 mg).

V. Ergot alkaloids (Ergonovine / Methylergonovine) – tertiary treatment

- Produce tetanic uterine contraction (possible action due to alpha-adrenergic receptors)
- Avoid in patients with chronic hypertension, pre-eclampsia, peripheral vascular disease, and ischemic heart disease
- May cause increased pulmonary artery pressures, pulmonary edema, coronary vasoconstriction, and coronary vasospasm
- Recommended dose 0.2 mg IM
- Monitor blood pressure and EKG closely

VI. Invasive techniques:

- Embolization of arteries supplying the uterus
- Surgical ligation of uterine arteries
- Hysterectomy (if previous drug therapies fail)

