Carboprost (Hemabate)

Carboprost (Hemabate) is a synthetic prostaglandin used to treat postpartum hemorrhage by inducing uterine contractions. Typically, after a woman gives birth, the uterus continues to contract and bleeding stops. Postpartum hemorrhage can occur when this doesn't happen, however. Carboprost can also be used to induce abortion in the second trimester of pregnancy. Side effects of carboprost (Hemabate) include: hypertension, fever, bronchoconstriction, nausea, vomiting, and diarrhea. If the patient develops a fever, the cause of the fever must be identified to determine whether the fever is drug-induced or due to another condition, such as endometritis.



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MECHANISM OF ACTION

Prostaglandin F2-alpha Analog
Frost-the-landin and Fox in (2) Tutu with Afro On-a-log
Carboprost (Hemabate) is a synthetic analog of prostaglandin F2-alpha (PGF2?). It mimics the actions of the naturally occurring PGF2? by binding to the same receptors, which is why it is referred to as a prostaglandin analog.

Smooth Muscle Contraction
Smoothie Muscle Flexing
Prostaglandins stimulate smooth muscle contraction, including in the uterus. Carboprost (Hemabate), a prostaglandin F2? analog, promotes intense uterine contractions, which help control postpartum hemorrhage by compressing uterine blood vessels and reducing bleeding.

Indications

Postpartum Hemorrhage
Post-baby with Hemorrhage-hammer
After delivery of the infant and placenta, the uterus normally contracts to compress blood vessels and minimize bleeding. When uterine contractions are inadequate, postpartum hemorrhage can occur. In such cases, carboprost (Hemabate) is administered to induce strong uterine contractions, helping to reduce bleeding and restore hemostasis.

Termination of Pregnancy
Aborting Fetus
Carboprost (Hemabate) may also be used to induce abortion during the second trimester, particularly in cases of intrauterine fetal demise or missed abortion, by stimulating strong uterine contractions.

Side Effects

GI Distress
GI shooting Flare-gun
Nausea, vomiting, and diarrhea are common side effects of carboprost, as prostaglandins stimulate smooth muscle contraction in the gastrointestinal tract, leading to increased motility and cramping.

Fever and Chills
Fever-beaver and Ice
Fever is a common side effect of carboprost, likely due to its prostaglandin activity on the hypothalamic thermoregulatory center. However, if a fever occurs postpartum, it's essential to evaluate the underlying cause to determine whether it's drug-induced or a sign of an underlying infection, such as endometritis.

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Hypertension

Hiker-BP

The effects of prostaglandins on blood vessels vary by type and tissue, with some leading to vasodilation and others causing vasoconstriction. Carboprost can induce transient increases in blood pressure, possibly due to increased systemic vascular resistance or a stress response to pain or uterine contractions. It is generally moderate and does not require treatment

Cramping

Clamps

As a uterotonic agent, it causes strong uterine contractions, which may be painful or uncomfortable, especially in non-laboring patients.

Bronchospasm

Broccoli-spaceship

Carboprost is a prostaglandin F2? analog, which stimulates smooth muscle contraction, including bronchial smooth muscle. This can lead to bronchospasm, making it dangerous for patients with asthma or other reactive airway diseases.

Considerations

Identify Cause of Fever

ID Fever-beaver

Fever is a common side effect of carboprost. If a fever develops, the cause of the fever must be identified to determine whether it is drug-induced or due to another condition/infection, such as endometritis. Failure to recognize postpartum or post-abortion endometritis may lead to sepsis and death.

Asthma

Asthma-inhaler

Carboprost is a prostaglandin F2? analog that can stimulate bronchial smooth muscle contraction, potentially triggering severe bronchospasm in patients with asthma or other reactive airway diseases.

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