

Placental Abruption

A plain-English guide for you and your family

WHAT IS HAPPENING

Normally, the placenta stays firmly attached to the inside wall of the uterus all through pregnancy, trading oxygen and food from mom's blood to baby's blood through thousands of tiny finger-like branches called villi. Think of it like Velcro pressed against a wall—it holds tight so blood can flow steadily through the space between them. In placental abruption, something goes wrong and the placenta peels away early. The most common triggers are high blood pressure or preeclampsia (dangerously high pressure during pregnancy), a hit to the belly from a car crash or fall, cocaine (which makes blood vessels squeeze tight and burst), smoking (which weakens the placenta over time), or a sudden gush of fluid when the water breaks in a pregnancy with too much amniotic fluid—the uterus shrinks so fast it shears the placenta off the wall. Once it starts to peel, a blood clot forms behind the placenta and keeps pushing it farther away. You see dark red or maroon vaginal bleeding that comes with constant, knife-like belly pain—not the on-and-off cramps of labor, but pain that does not let up. The uterus becomes rock-hard and tender because blood leaks into the muscle wall and makes it clench tight. The baby's heart rate drops or shows a worrying flat pattern because the placenta can no longer deliver enough oxygen. If the bleeding is severe, mom's blood pressure falls and her pulse races as she goes into shock. Sometimes the abruption also triggers DIC—a dangerous chain reaction where the body's clotting system fires everywhere at once, uses up all the clotting proteins and platelets, and then the blood can't clot at all, so the mother bleeds from her gums, IVs, and inside her organs. Every piece of this—the pain, the hard uterus, the baby's distress, the shock, the DIC—flows directly from that first peel of the placenta. The only way to stop the cascade is to deliver the baby quickly and replace the mother's lost blood and clotting factors. This is why placental abruption is always treated as a race against time.

What you might feel

- Sudden, constant belly pain that does not go away
- Vaginal bleeding (dark red or bright red)
- The uterus feels hard as a board and very tender when you press on it

- The baby's heart rate tracing shows worrying patterns (late decelerations, loss of variability, or a slow heart rate (bradycardia))
- The mother's heart beats fast (tachycardia over 100 beats per minute)
- The mother's blood pressure drops (hypotension, systolic below 90 mmHg)
- Back pain that feels deep and achy
- Contractions that come very close together or feel continuous

Call the doctor right away if...

- Heavy vaginal bleeding that soaks through a pad in less than an hour
- The baby's heart rate stays dangerously low (below 110 beats per minute) or shows late drops after every contraction
- The mother feels dizzy, sweaty, or confused—signs that her brain is not getting enough blood
- Blood pressure falls below 90/60 mmHg or the mother's pulse climbs above 120 beats per minute
- The mother's uterus stays rock-hard and does not soften at all between contractions

What the care team will do

- Place the patient on continuous electronic fetal heart rate monitoring immediately and watch for late decelerations, minimal variability, or a slow heart rate (bradycardia)
- Start two large-bore IV lines, 18-gauge or bigger, and infuse normal saline or lactated Ringer's wide open while you wait for the doctor
- Draw blood immediately for type and crossmatch, complete blood count, PT, PTT, fibrinogen, and a clot test where you put her blood in a red-top tube and watch if a clot forms in 6 minutes then stays solid
- Measure blood pressure and heart rate every 5 to 15 minutes, knowing that her heart will beat fast first to compensate before her blood pressure finally drops
- Keep the patient on her left side and give oxygen by face mask at 10 liters per minute to keep her oxygen saturation above 95 percent
- Measure and record all vaginal bleeding by weighing pads and underpads, knowing that 1 gram of weight equals 1 milliliter of blood, and watch for blood that will not clot
- Keep the patient NPO (nothing by mouth, not even water or ice chips) and notify anesthesia immediately
- Monitor urine output every hour with a Foley catheter and report if it drops below 30 milliliters per hour

Medicines you may be given — and why

Intravenous crystalloid fluids (normal saline or lactated Ringer's)

These fluids are poured directly into a vein to quickly refill the blood vessels. When the placenta tears away, the mother loses a lot of blood fast. The body needs enough liquid volume to keep blood pressure up and deliver oxygen to the brain, heart, and kidneys. Crystalloids are salt-water solutions that match the body's own fluid, so they spread through the bloodstream and prop up blood pressure while the medical team figures out how much blood has been lost.

Packed red blood cells (PRBCs)

These are bags of donated red blood cells—the cells that carry oxygen. When the placenta pulls away, the mother bleeds into her belly or out through the vagina. If she loses too much blood, her red cell count drops and her organs start to starve for oxygen. Giving her packed red cells replaces what was lost, so her blood can once again carry enough oxygen to the brain, heart, and baby.

Fresh frozen plasma (FFP)

Fresh frozen plasma is the liquid part of blood that contains all the clotting factors—the proteins that help blood form a solid clot. When a large abruption happens, the body uses up clotting factors faster than it can make them, and DIC (disseminated intravascular coagulation—tiny clots forming everywhere, which then uses up all the clotting supplies) can start. Giving FFP refills the tank of clotting factors so the blood can clot properly again and stop the bleeding.

Cryoprecipitate

Cryoprecipitate is a concentrated dose of fibrinogen (the protein that forms the meshwork of a clot) and factor VIII (another clotting protein). When an abruption causes heavy bleeding and DIC, fibrinogen levels can drop very low—sometimes below 100 mg/dL. Without enough fibrinogen, the blood cannot form a solid clot even if other factors are present. Cryoprecipitate quickly raises fibrinogen back into the safe zone so clots can form and bleeding can stop.

Platelets (platelet concentrate)

Platelets are tiny cell fragments that plug holes in torn blood vessels. When the placenta tears away, bleeding uses up platelets faster than the bone marrow can make them. If the platelet count drops below 50,000 per microliter (and especially below 20,000), the blood loses its ability to form the initial plug that starts a clot. Giving a transfusion of donor platelets raises the count back up so clotting can happen.

Betamethasone or dexamethasone (antenatal corticosteroids)

These steroids are hormones that speed up the baby's lung development. Normally, a baby's lungs are not fully ready to breathe air until late in pregnancy. If an abruption happens before 34 weeks and the mother is stable enough to wait 24–48 hours, giving her a shot of betamethasone or dexamethasone crosses the placenta and tells the baby's lungs to start making surfactant (the slippery coating that keeps the air sacs from collapsing). This greatly lowers the baby's risk of respiratory distress syndrome (trouble breathing) and bleeding in the brain after birth.

Anti-with high blood pressure (hypertensive) medications (labetalol, hydralazine, or nifedipine)

High blood pressure is a major trigger for placental abruption, especially in women with preeclampsia. Very high pressures (systolic ≥ 160 or diastolic ≥ 110 mmHg) can cause blood vessels in the placenta to burst or tear further. These medicines lower blood pressure by relaxing the walls of arteries, which makes it easier for blood to flow and takes stress off the placenta. Labetalol blocks adrenaline receptors (the body's gas pedal for heart rate and vessel squeeze). Hydralazine directly relaxes the muscle in artery walls. Nifedipine blocks calcium from entering muscle cells in artery walls, so they cannot squeeze tight. All three reduce the force slamming against vessel walls.

Magnesium sulfate

Magnesium sulfate is given for two reasons in the setting of abruption. First, if the mother has preeclampsia with severe features (very high blood pressure, headache, vision changes), magnesium prevents seizures (eclampsia) by calming overexcited nerve cells in the brain. It works by blocking calcium from entering neurons, which keeps them from firing out of control. Second, if the baby is less than 32 weeks and delivery is imminent, magnesium crosses the placenta and protects the baby's developing brain from bleeding and cerebral palsy by stabilizing fragile blood vessels and reducing inflammation.

Where this information comes from

- ACOG Practice Bulletin No. 207, 2019 (Placental Abruption)
- American Journal of Obstetrics & Gynecology (AJOG) systematic reviews on abruption
- Williams Obstetrics, 26th edition
- Society for Maternal-Fetal Medicine (SMFM) clinical guidelines

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