IN BRIEF A Summary of the Evidence

Umbilical Vein Injection of Misoprostol for Retained Placenta: A Review

Key Messages

• Misoprostol tablets are currently available in Canada to prevent and treat gastrointestinal ulcers. Taking misoprostol by mouth or by injection into the umbilical vein to manage retained placenta is an off-label use of the medication.

• Umbilical vein injection of misoprostol does not appear to be more effective than oxytocin, ergometrine, or placebo to increase the chance of placental separation so that manual removal of the placenta is not required, but evidence is limited.

• It is unclear whether umbilical vein injection of misoprostol decreases the potential wait time before placental separation.

• More evidence is needed to determine whether there are benefits to managing retained placentas with misoprostol, or to using umbilical vein injections compared with oral formulations.

• A 2014 guideline does not recommend injecting umbilical vein medications in cases of retained placentas due to a lack of evidence.

Context

Delivery of the placenta is the third and final stage of childbirth. Usually, the placenta separates from the walls of the uterus and is pushed out through the birth canal. If this process is delayed or does not occur, the retained placenta interferes with the shrinking of the uterus after childbirth. Retained placentas only occur in approximately 2% to 3% of pregnancies, but can cause hemorrhage, infection in the uterus (endometritis) or in the body (sepsis), or even death if not treated properly.

Placentas are typically considered retained when they are not pushed out within 30 minutes of delivering the baby. This wait time can vary if the baby is born prematurely, or if a medication to induce contractions (uterotonic) is used in the third stage of labour. A Canadian guideline from 2009 recommends that the third stage of labour be actively managed by injecting oxytocin, a uterotonic, into veins or muscle before performing controlled cord traction (pulling on the umbilical cord while pressure is applied to the mother’s abdomen). This can reduce blood loss and the risk of hemorrhage after childbirth.

Technology

Retained placentas are initially managed using oxytocin and controlled cord traction. If this does not result in the delivery of the placenta, general anesthesia or conscious sedation may be required for the placenta to be manually removed. This is a painful procedure that may cause further complications, including hemorrhage or injury to the blood vessels surrounding the uterus.

Ergometrine and prostaglandins are medications that cause sustained contractions in uterine muscles. They have been proposed as potential treatments for managing retained placentas, and injection into the umbilical vein has been proposed as a way to deliver them directly to the walls of the uterus. They can also be used whether oxytocin was given during the third stage of labour (active management) or not (expectant management). Misoprostol is a synthetic version of prostaglandin E1, and is currently available as a pill in Canada to prevent and treat ulcers.

Issue

With the potential advantages of XR-NTX compared with oral naltrexone in patients with opioid use disorder, there is a need to determine whether XR-NTX is a viable treatment option. A review of the clinical effectiveness, cost-effectiveness, and guidelines for injectable and oral naltrexone to treat opioid use disorder will help inform decisions regarding treatment options for managing opioid dependence.

Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).
Results

The literature search identified 270 citations, with 1 additional article identified from other sources. Of these, 12 potentially relevant reports were selected for full-text review, and 4 met the criteria for inclusion in this report—1 randomized controlled trial, 1 non-randomized controlled trial, and 2 evidence-based guidelines.

Read more about CADTH and its review of umbilical vein injection of misoprostol for retained placenta at:

cadth.ca/umbilical-vein-injection-misoprostol-management-retained-placenta-review-clinical-effectiveness-0.

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