Problems and Hazards of Induction of Labor

A CIMS Fact Sheet

The Coalition for Improving Maternity Services (CIMS) is concerned about the dramatic increase and ongoing overuse of induction of labor. The U.S. induction rate has more than doubled since 1989; rising from one woman in ten to one woman in five in 2001.22 This may, however, grossly undercount the true incidence of labor induction. Nearly half of women in a 2002 survey reported that some effort had been made to start labor artificially.5 The World Health Organization recommends no more than a 10 percent induction rate.31 Despite modern techniques, induction of labor still introduces considerable risk compared with natural onset of labor, and many, if not most, inductions are done for reasons that are not supported by sound medical research.

HAZARDS OF LABOR INDUCTION

- **First-time mothers** have approximately **twice the likelihood of cesarean section** with induction compared with natural onset of labor. This risk is due to the procedure itself, not any reason that might have led to inducing labor.9 Inducing labor at 41 weeks in a hypothetical population of 100,000 first- time mothers will result in somewhere between 3,700 and 8,200 excess cesareans and cost an extra $29 to $39 million.17

- Women who have had **prior vaginal births** may **increase their chances of cesarean section five-fold** if the cervix is not ready for labor, and they are given cervical ripening agents.26 Inducing 100,000 hypothetical women with prior births at 41 weeks will result in between 100 and 2,300 excess cesareans and cost an extra $25 to $26 million.17

- All induction agents can cause **uterine hyperstimulation** (contractions too long, too strong, and too close together and higher baseline muscle tension).10 Uterine hyperstimulation can cause **fetal distress**.10 This means that, paradoxically, inducing labor because of concern over the baby's condition may cause the very problem the induction was intended to forestall while the baby might have tolerated natural labor.

- Induction of labor involves the **need for other interventions**—IV drip, continuous electronic fetal monitoring, usually confinement to bed—that also can have adverse effects.

- **Rupturing fetal membranes,** a routine component of labor induction, **can cause fetal distress** and **increases the likelihood of cesarean section.**2,8,11 It may also precipitate **umbilical cord prolapse** (a life-threatening emergency for the baby in which the umbilical cord slips down into the vagina).7,19 Forty percent of all full term births involving cord prolapse were induced labors, rising to nearly 50% of births involving prolapse at 42 weeks or more.21

- **Induced labors are usually more painful**, which can increase the need for epidural analgesia.3 Epidurals introduce a higher probability of a host of adverse effects on the labor, the baby, and the mother.

- Women with **prior cesarean sections** have a slightly increased probability of the scar giving way with Pitocin (oxytocin) induction (8 per 1,000 vs 5 per 1,000 with spontaneous labor onset) and greatly increased risk when prostaglandins (24 per 1,000) are used for cervical ripening or induction.20

- Prostaglandins include Cytotec (misoprostol), Prepidil (prostaglandin E2), and Cervidil (prostaglandin E2).

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HAZARDS AND PROBLEMS OF INDUCTION AGENTS

Cytotec (Misoprostol)

- Cytotec, although widely used as an induction agent, is neither formulated nor intended for use in labor. Cytotec's manufacturer, Searle, has repudiated its off-label use as an induction/cervical ripening agent because of Cytotec's attendant risks.27

- The FDA states that Cytotec's major adverse effects include uterine hyperstimulation, which can become severe and result in profound fetal distress; uterine rupture; amniotic fluid embolism, which has a high maternal and infant mortality rate; severe genital bleeding; shock; fetal death; and maternal death.6 Other adverse effects include retained placenta, cesarean section, and passage of meconium (the baby's first stool) into the amniotic fluid, which can cause a type of newborn pneumonia if inhaled.6

- Cytotec is commonly believed to pose a life-threatening risk only in women with a uterine scar or with high doses. However, cases of maternal and infant death and hemorrhage requiring hysterectomy have been reported in women with no uterine scar, some of whom were given a minimal dose.13,28,30

- Cytotec dosage cannot be controlled because the drug is a small pill that must be cut in pieces.

- Once given, the drug cannot be rescinded or the dosage reduced in case of adverse effects.

- Cytotec does not decrease cesarean rates compared with prostaglandin E2, which is FDA-approved for use in labor.16

- Cytotec's only advantages compared with prostaglandin E2 are much reduced cost and faster labors.16 Both benefit only hospitals and doctors as short labors are usually intense, tumultuous, and difficult.

Prostaglandin E2 (Prepidil, Cervidil)

- Prostaglandin E2 can cause uterine hyperstimulation and fetal distress.18 Fetal distress can require cesarean section.

- Prostaglandin E2 does not reduce excess cesareans associated with labor induction.18

- Unless the drug is formulated in a tampon (Cervidil), the drug cannot be rescinded or the dosage reduced in case of adverse effects.

Oxytocin (Pitocin)

- Complications of oxytocin (Pitocin) include uterine hyperstimulation,25 which can lead to fetal distress; twice the chance of the baby being born in poor condition;15 postpartum hemorrhage;25 and greater probability of newborn jaundice.25 Rare, severe, maternal complications include uterine rupture and water intoxication leading to coma and death. Oxytocin may also cause brain damage or death in the baby.25

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MEDICAL RESEARCH FAILS TO SUPPORT COMMON INDUCTION RATIONALES

- **Elective induction of labor**, that is, induction for nonmedical reasons such as convenience, exposes babies and mothers to the hazards of induction with no counterbalancing benefit.

- **Inducing labor for suspected big baby** produces no benefits but increases the likelihood of cesarean section.12,29

- No credible evidence supports **inducing labor in women with gestational**-as opposed to pre- existing-**diabetes**.

- Routinely **inducing labor for prelabor rupture of membranes** does not reduce the incidence of newborn infection with the exception of women testing positive for Group B strep who do not receive IV antibiotics during labor.14

- **Inducing labor in women with Group B strep** has not been shown to improve outcomes when antibiotics are given regardless of membrane status and is not part of the Centers for Disease Control recommended guidelines.4

- **Studies claiming to support routine induction of labor at 41 weeks** of pregnancy have serious flaws.23 No research supports routine induction at any earlier point in pregnancy; no sound research supports routine induction at any point in pregnancy.

- Proponents of **inducing labor at full-term** argue that the stillbirth rate and the rates of other newborn complications increase markedly after that date, but, in fact, these rates show no such increase.1,23 Induction at 41 weeks in a hypothetical population of 100,000 first-time mothers would theoretically prevent 120 fetal deaths that would statistically occur in the ensuing week, but:17

  - We don't know how many of those deaths would actually be prevented by routine induction in that they were unpredictable events in healthy mothers carrying healthy, normally formed babies.
  - That number would be offset by some babies dying as a result of the hazards of induction.
  - Any decrease in fetal deaths would be outweighed by the infertility, miscarriage, and fetal and newborn losses consequent to the excess cesareans. (See *The Risks of Cesarean Delivery for Mother and Baby, a CIMS Fact Sheet.*)

- Forty-one weeks is the median length of pregnancy in healthy first-time mothers.24 This means that one- half of such pregnancies will last longer than 41 weeks.

- If there is no reason to curtail the natural length of pregnancy, then there is no reason for measures such as **stripping or sweeping membranes**, which themselves introduce the possibility of risk.

The Coalition for Improving Maternity Services (CIMS), a United Nations recognized NGO, is a collaborative effort of numerous individuals, leading researchers, and more than 50 organizations representing over 90,000 members. Promoting a wellness model of maternity care that will improve birth outcomes and substantially reduce costs, CIMS developed the Mother-Friendly Childbirth Initiative in 1996. A consensus document that has been recognized as an important model for improving the healthcare and well being of children beginning at birth, the Mother-Friendly Childbirth Initiative has been translated into several languages and is gaining support around the world.

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