

Geographic Induction of Rural Parturient Women: Is it Time for a Protocol?

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Thirty percent of Canadians live in rural and remote communities,¹ yet only 16% of family physicians and 3% of obstetricians practise in these communities.² This reality, along with the reduction of maternity services outside urban environments, has led to increasing numbers of women giving birth outside their home communities. As Michael Helewa, Past President of SOGC, notes

Not surprisingly in a country this size, geography often comes into play. Many smaller hospitals have closed their maternity units due to funding cuts or a dearth of physicians willing to deliver babies, so rural women must be transported to urban centres to deliver. Once in the city, they can be induced so as to avoid a long wait far from home.³

Since 2000, 17 hospitals in BC have ceased offering intrapartum services. During 2004–2005, 2806 women from rural BC communities gave birth in referral centres, representing 7.1% of all BC deliveries.⁴ In some instances, women must leave their home communities weeks before their due date to avoid the risk of local delivery without access to the appropriate maternity services. According to international literature, in communities that offer services but lack local surgical backup, more than two thirds of women elect to deliver elsewhere.⁵ Leaving the home community may result in financial, emotional, and psychological stress for the birthing woman and her family.^{5–10} Some women may therefore delay travel until the onset of labour and the possibility of precipitous deliveries en route to the

referral hospital become a concern for the birthing woman and her care providers.

In response, some health care providers, in consultation with their rural patients, may recommend an elective induction of labour. This practice is more common for multiparous patients because of the increased risk of a precipitous delivery and concerns about postpartum hemorrhage for grand multiparas. In other circumstances, elective induction may be offered to reduce the woman's time away from home once in a referral community awaiting the onset of labour. This is particularly relevant for women with other children at home or women who have travelled significant distances for intrapartum services. This practice is increasingly referred to as “geographic induction.”

In a Canadian context, induction of labour occurs in between 3% and 23.5 % of women, with variation between jurisdictions.¹¹ Although there are limited data for the rate of non-medically indicated inductions (“social inductions”) in Canada, it has been hypothesized that they account for as many as 12.3% of all births in some US hospitals,^{12–16} and 51.3% of all inductions in Finland.¹⁷ Social induction refers broadly to induction without medical or obstetric indication¹⁸ that, as the American College of Obstetricians and Gynecologists notes, may be undertaken because of risks of rapid labour, for psychosocial reasons, or because of distance from hospital.¹⁹ Prevalence of geographic induction, or induction because of distance from a care facility, is hard to determine because of charting irregularities and stigma associated with attributing induction to geographic causes, but it is estimated that geographic inductions occur in approximately 4% of all induced pregnancies in rural BC (J. Kornelsen and S. Moola, unpublished data).

More evident, however, is the increased risk of Caesarean section incurred by women who undergo induction of labour,^{14,20–22} especially for social reasons and when the cervix is unfavorable.^{16,23–25} This is contradicted by a small

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number of studies that found no increase in the rate of Caesarean section in women undergoing induction.^{26–30} The literature also suggests significant differences in outcomes between primiparous and multiparous women, with primiparous patients experiencing an increased risk of Caesarean section when compared with multiparous women who have had a previous vaginal delivery.^{12,13,22,24,31,32}

Given this context, and acknowledging the reality of geographic inductions as a contemporary strategy for rural care in some jurisdictions, guidelines should be developed to ensure optimal outcomes for mothers and babies. The process of guideline development must be inclusive and multidisciplinary and must honour diverse expertise and methodologies. It must privilege the input of rural care providers (including physicians, midwives, and nurses) in satellite and referral communities who are directly responsible for patient care and who embody experience and knowledge of rural obstetrical practice. In addition, maternal fetal medicine specialists and representatives from professional bodies responsible for setting guidelines and practice protocols must be involved in the discussions, along with health planners and researchers. A forum for rural women and community members to discuss their experiences must also be provided and must ultimately inform any guidelines.

Guidelines must rest on existing evidence-based prerequisites for the induction of labour, including the assumption of a healthy mother, cervical favorability (Bishop score), assessment of fetal presentation, reassuring fetal health status, and appropriate gestational age,^{18,19,30,33} and must assume a comprehensive informed-consent discussion with the patient and other care providers. In addition, consideration for geographic induction should include the following:

- Parity (given the reduced duration of labour for multiparous women)^{34,35};
- Distance and mode of travel between home and delivery site for the parturient woman (with priority given to women travelling by air and/or water and extreme distances);
- Usual seasonal weather condition;
- Resources available to the woman in the referral community (including affordable accommodation and community support);
- Financial resources available to the parturient woman (personal or through government subsidies for travel to and/or accommodation in the referral community);
- Availability of medical personnel in referral hospital (e.g., adequate nursing staff for inductions); and
- Social circumstances, including support available in home and referral community and presence of other children.

Additionally, further research and discussion should be undertaken to determine appropriate gestational age for induction and risks and benefits of elective induction for nulliparous women.

The development of a clear protocol for geographic inductions does not necessarily condone this intervention; rather, it acknowledges that Canada's population distribution makes geographic inductions increasingly common. Guidelines may help support more accurate data collection on prevalence, practice patterns, and outcomes, which will enhance the development of evidence-based medical practice. This strategy will potentially reduce stresses involved in decision-making about geographic inductions, provide a clear framework for women detailing the options available to them, and, ultimately, increase patient safety

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GLOSSARY

Referral Hospital: A hospital offering services to outlying communities with obstetrical services by an obstetrician/gynaecologist.

Referral Community: A community that has such a hospital in it.