Guideline evaluated


Introduction

Clinical practice guidelines are detailed statements developed by an organization, using a formal process, to assist clinicians and patients/clients in making decisions about appropriate health care for specific clinical circumstances. They are a means of translating the evidence from the current scientific literature into recommendations for clinical practice with the goal of improving outcomes. Many groups in Canada are now engaged in developing clinical practice guidelines for health care providers.

In order to assist and support registered midwives in Ontario to provide evidence-based care, and to provide informed choice to women and their families, the Association of Ontario Midwives (AOM) reviews, evaluates and endorses, where applicable, existing clinical practice guidelines. Guidelines from other professional organizations are evaluated and graded by midwife authors utilizing the Appraisal of Guidelines Research and Evaluation (AGREE) Instrument. This tool provides a systematic framework for assessing key components of clinical practice guideline quality, with the goal of assessing quality, validity, the method of guideline development and identifying bias. The evaluation of clinical practice guidelines for the AOM includes discussion of issues which are specifically related to the midwifery model of care and scope of practice.

The goal of the Association of Ontario Midwives in evaluating current clinical practice guidelines is to provide for midwives a set of comprehensive and accessible guidelines. These guidelines, along with those developed by the AOM, will guide midwives in clinical practice, assist with informed choice discussions and aid midwives with practice protocol development. When using these guideline reviews, midwives are advised that the review cannot be used in isolation, but must be read in conjunction with the guideline in order to achieve a full understanding of the recommendations.

Evaluation

This is the link to the SOGC Guideline that is the subject of this review:
The purpose of this clinical practice guideline is to review the effects of parvovirus B19 on the pregnant woman and fetus, and to outline the options for management of women who are exposed to or contract this disease in pregnancy.

The guideline was evaluated by the principal author using the AGREE instrument, and found to be of high overall quality. The strengths were related to clinical data, quality, and applicability of recommendations. A particular strength of this clinical practice guideline as it relates to midwifery is the clear delineation of prenatal management and timing of referral to a tertiary care centre. The main areas of weakness related to structural omissions, including statements regarding potential conflicts of interest, and lack of patient involvement in guideline development.

OVERALL EVALUATION OF CLINICAL PRACTICE GUIDELINE: RECOMMENDED

The recommendations contained in the SOGC Clinical Practice Guideline “Parvovirus B19 Infection in Pregnancy” should be applied to midwifery practice.

SUMMARY OF RECOMMENDATIONS

1. Pregnant women exposed to, or who develop symptoms of parvovirus B19 infection should be assessed to determine if they are susceptible to infection (nonimmune) or if they have a current infection, by determining their parvovirus B19 IgG and IgM status. (II-2A)
2. If parvovirus B19 IgG is present and IgM is negative, the woman is immune and can be reassured that she will not develop infection and that the virus will not adversely affect her pregnancy. (II-2A)
3. If both parvovirus B19 IgG and IgM are negative (and the incubation period has passed), the woman is not immune and has not developed the infection. Although she may wish to minimize further exposure, leave from the workplace is controversial and is not routinely recommended. Further studies are needed in this area. (III-B)
4. If a recent parvovirus B19 infection has been diagnosed in the woman, then referral to an obstetrician or a maternal-fetal medicine specialist should be considered (III-B). The woman should be counselled regarding risks of fetal transmission, fetal loss, and hydrops. Serial ultrasounds should be performed up to 8 to 12 weeks after infection to detect the development of hydrops. (III-B) If hydrops develops, referral to a maternal-fetal medicine specialist should be made and consideration should be given to fetal blood sampling and intravascular transfusion. (II-2B)

CURRENT RESEARCH

A review of the literature was conducted using MEDLINE. The major focus of the literature review was on research published from January 2002 through March 2005, as this represents data that was released after completion of the evaluated guideline.

There has been some valuable literature published regarding the detection and management of parvovirus B19 in pregnancy since the publication of the SOGC clinical practice guideline.

Although routine screening of women for parvovirus B19 susceptibility is not recommended in the reviewed guideline, much attention is paid to the identification of at-risk populations. There is value in health care providers having an awareness of the populations more likely to encounter parvovirus B19 in pregnancy. Accordingly, there has been some debate as to the potential value of routine screening of “high-risk” women for parvovirus B19 titers. A statistical analysis done by Fean et al.1, clearly indicates that this practice should not be recommended. With 1-3% of pregnancies being complicated by parvovirus B19 infection, and an overall fetal mortality rate of 0.6%, it is not felt that routine screening in the first trimester would be a cost effective practice1. (III-B) As Fean states, “To prevent 1.5 fetal losses, 50,000 women would need to be screened regularly from the first trimester”3.

Identifying women who have been exposed to, or show symptoms of, parvovirus B19 infection has thus far been the only strategy for identifying fetuses at risk. A recent prospective study published by Simchen et al.2 illustrates the value in interpreting ultrasounds as they may relate to parvovirus B19 infection. The ultrasound detection of a hyperechogenic focus in the fetal liver is a relatively common finding, with an incidence of 1:10002. Although this ultrasound finding is often associated with the presence of other congenital abnormalities, its presence in isolation may indicate fetal infection2. Although two cases of fetal infection identified in this study in relation to a hyperechogenic focus in the liver; one was parvovirus B19 and the other was cytomegalovirus2. The findings of this study suggest that one may consider investigating potential parvovirus B19 infection in the
There has been new research published in regard to the severity of parvovirus B19 infection after 20 weeks gestation, since the release of the SOGC guideline. The SOGC clinical practice guideline states the fetal loss rate after 20 weeks gestation to be 2.3%, as it relates to spontaneous demise and a hydropic presentation. There is compelling evidence to suggest that parvovirus B19 is a more significant contributor to fetal morbidity and mortality after 20 weeks gestation than previously believed. A study by Genen et al. performed pathological testing on the placentas of neonates with unexplained systemic illness and poor neonatal outcomes. It was found that there was a high incidence of previously undetected infection in placental specimens, with 4% of specimens testing positive for parvovirus B19.

Also supporting these findings is a retrospective analysis by Norbeck et al. This study examined both placental and fetal tissue in cases of intrauterine fetal death (IUFD) in late gestation. Parvovirus B19 in this study was present in 14% of IUFD cases. This suggests that the incidence of parvovirus B19 related intrauterine fetal death in the later half of pregnancy may be much greater than the 2.3% loss rate quoted in the SOGC clinical practice guideline. It is suggested that although the risk of fetal hydrops decreases significantly after 20 weeks gestation, the risk of fetal death does not. The above studies suggest that routine parvovirus B19 investigation in all cases of IUFD and unexplained systemic illness and poor neonatal outcome may be warranted.

ADDITIONAL MIDWIFERY CONSIDERATIONS

Midwives are in an ideal position as primary health care providers to ensure vigilance regarding the detection and management of parvovirus B19 infection in pregnancy. The model of midwifery care permits midwives to counsel women regarding the existence of parvovirus B19, to identify at risk populations, and ensure the timely reporting of infectious disease exposure.

The significant body of literature published since the clinical practice guideline reviewed does suggest additional recommendations should be made. Midwives should consider parvovirus B19 screening in cases of hyperechogenic foci in the fetal liver identified by ultrasound. When working with the obstetric team, midwives should advocate for parvovirus B19 screening in cases of intrauterine fetal death or unexplained neonatal morbidity and mortality, if it is not already included in routine investigations for these situations.

Overall, the “Parvovirus B19 Infection in Pregnancy” clinical practice guideline is a very useful tool for midwives. It provides clear guidelines for timing and interpretation of serology testing, as well as outlining indications for referral to an obstetrician and/or maternal-fetal medicine specialist.

CONCLUSION

After evaluation using the AGREE instrument and assessment of the current literature, the Association of Ontario Midwives recommends the application of the SOGC Clinical Practice Guideline, “Parvovirus B19 Infection in Pregnancy” to midwifery practice, with these additional recommendations:

- Midwives should be aware of at risk populations who may encounter parvovirus, but routine screening within these populations is not warranted.
- The ultrasound detection of hyperechogenic focus in the fetal liver should prompt testing for Parvovirus B19.

REFERENCES