

Routine Third Trimester Control Ultrasound Examination for Low-Lying or Marginal Placentas Diagnosed at Mid-Pregnancy: Is This Indicated?

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Abstract

Objective: To determine what proportion of placentas described as low lying or marginal at the mid-pregnancy ultrasound examination are still so described in the third trimester, necessitating delivery by Caesarean section.

Methods: A retrospective chart review of all women delivering at the Centre Hospitalier Universitaire de Sherbrooke (CHUS) from April 1, 2009, to March 31, 2011, was undertaken, and placental location at the mid-pregnancy ultrasound examination was noted. For all cases in which the placenta was described as previa (complete, partial, marginal, or low lying), the control third trimester ultrasound examination, when performed, was revised and so was the mode of delivery, vaginal or Caesarean section.

Results: During the study period, 5618 women delivered at the CHUS, and 4884 (86.9%) of these women had an ultrasound examination performed at the CHUS at mid-pregnancy. The placenta was described as low lying or marginal in 412 cases (8.4%). A third trimester control examination was performed in 376 cases (91.2%), and the placenta was still described as low lying or marginal in six cases (1.5%). Four of these 412 women (0.9%) had Caesarean sections for placental reasons.

Conclusion: The vast majority (98.5%) of women with low-lying or marginal placentas at the mid-pregnancy ultrasound examination had normally located placentas in the third trimester, and less than 1% of these women had a Caesarean section for reasons that could be associated with the placental location.

Key Words: Placenta previa, ultrasound examination, third trimester

Competing Interests: None declared.

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Résumé

Objectif : Déterminer la proportion des placentas qui sont décrits comme étant bas ou marginaux au cours de l'examen échographique mené à la mi-grossesse et qui font toujours l'objet d'une telle description au troisième trimestre, nécessitant ainsi la mise en œuvre d'une césarienne.

Méthodes : Une analyse rétrospective des dossiers de toutes les femmes ayant accouché au Centre hospitalier universitaire de Sherbrooke (CHUS) entre le 1^{er} avril 2009 et le 31 mars 2011 a été menée, et l'emplacement du placenta au cours de l'examen échographique mené à la mi-grossesse a été noté. Dans tous les cas où le placenta avait été décrit comme étant prævia (complet, partiel, marginal ou bas), l'examen échographique de contrôle mené, le cas échéant, au cours du troisième trimestre a été passé en revue, tout comme le mode d'accouchement (vaginal ou césarienne).

Résultats : Au cours de la période à l'étude, 5 618 femmes ont accouché au CHUS et 4 884 (86,9 %) de ces femmes avaient subi un examen échographique au CHUS à la mi-grossesse. Le placenta a été décrit comme étant bas ou marginal dans 412 cas (8,4 %). Un examen de contrôle a été mené au troisième trimestre dans 376 cas (91,2 %) et le placenta a encore été décrit comme étant bas ou marginal dans six cas (1,5 %). Quatre de ces 412 femmes (0,9 %) ont subi une césarienne pour des raisons liées au placenta.

Conclusion : Chez la vaste majorité (98,5 %) des femmes qui présentaient un placenta bas ou marginal au cours de l'examen échographique mené à la mi-grossesse, le placenta se trouvait en position normale au troisième trimestre; moins de 1 % de ces femmes ont subi une césarienne pour des raisons pouvant être associées à l'emplacement du placenta.

INTRODUCTION

Ultrasound examination has become an integral part of modern obstetrics, and most pregnant women will have more than one ultrasound examination during their pregnancy. One of the reasons for repeating the examination at the beginning of the third trimester is to determine the location of the placenta if it was described as a placenta previa at the mid-pregnancy examination.

A placenta is described as previa when placental tissue partially or totally covers the internal cervical os; it is described as marginal when it is adjacent to the internal os but does not cover it, and it is described as low lying when the margin of the placenta is situated 2 cm or less from the internal os.^{1,2}

Placenta previa diagnosed at mid-pregnancy will often migrate during the second half of pregnancy as a result of trophotropism. The incidence of placenta previa at mid-pregnancy is approximately 5%, and at the time of delivery it varies from 0.5 to 1%.³ Twelve percent of complete placenta previas diagnosed by ultrasound examination between 15 and 19 weeks of pregnancy and 34% of those diagnosed between 20 and 23 weeks will remain as placenta previa until delivery.⁴ Up to 30% of placentas are described as low lying between 16 and 20 weeks' gestation, and more than 90% of these will be described as normally located at the time of delivery.⁵

The aim of the present study was to evaluate the incidence of persistent low-lying or marginal placenta in the third trimester. We also sought to evaluate the risk for a woman with a low-lying or marginal placenta at mid-pregnancy to have bleeding in the third trimester that could necessitate a Caesarean section.

MATERIALS AND METHODS

This retrospective study was conducted at the Centre Hospitalier Universitaire de Sherbrooke (CHUS). All women delivering between April 1, 2009, and March 31, 2011, were eligible for this study. We excluded women with a multiple pregnancy and women who did not have an ultrasound examination at the CHUS between 18+0 weeks and 21+6 weeks of pregnancy.

In the province of Quebec, the standardized form for reporting the results of the mid-pregnancy ultrasound examination requires the ultrasonographer to record placental location as normal, low-lying, marginal, partial previa, or complete previa.

We reviewed the medical records of all patients whose placenta was described as previa (complete, partial,

marginal, or low lying). The mode of delivery was noted, and for those patients who delivered by Caesarean section the indication for Caesarean section was identified.

All ultrasound examinations were performed trans-abdominally. Patients were asked not to void for one hour before the examination. Scans were performed by certified and experienced technicians, by radiologists, or by obstetricians. All examinations done by technicians were reviewed immediately by a physician.

RESULTS

There were 5618 deliveries during the two-year study period. Seven hundred thirty-four medical records (13%) were excluded from the study: 567 women did not have an ultrasound examination at the CHUS between the 18th and 22nd week of pregnancy (168 patients had their examination at the CHUS but either before the 18th or after the 22nd week, and 399 patients had their ultrasound scan in another hospital or clinic); 107 patients had a multiple pregnancy; and in 60 patients who had their examination at the CHUS, placental location was not specified. Overall, 4884 records were available for the study. The placenta was described as normally located in 4443 patients (91%) and abnormally located in 441 (9%). It was described as low lying in 326 patients (6.7%), marginal in 86 cases (1.7%), partial previa in 18 cases (0.4%), and complete previa in 11 cases (0.2%) (Table 1). The placenta was thus described as low lying (326) or marginal (86) in 412 cases.

Control examinations were done after 28 weeks in 376 cases (91.2%). The placenta was described as normally located in 370 patients (98.4%) and as still marginal or low lying in six cases. In three of these cases the patients had no bleeding and delivered vaginally. The other three patients delivered by Caesarean section. Two were performed electively at term without any previous vaginal bleeding, and the remaining patient delivered by Caesarean section after presenting in early labour with slight vaginal bleeding. In the 36 patients who did not have control examinations, none had third trimester bleeding.

Overall, in the 412 patients with a marginal or low-lying placenta at the mid-pregnancy examination, 80 (19%) had a Caesarean section. The indications for these Caesarean sections are summarized in Table 2. Only four of the Caesarean sections were performed for placental reasons: in two cases, elective Caesarean section was performed at term (37+5 weeks and 38+4 weeks) because repeat control ultrasound scans performed at 36+6 weeks and 37+1 weeks, respectively, had shown a low-lying placenta; neither of these patients had any vaginal bleeding. Finally, two

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