

Study of Perineal Tears During Delivery of Singletons in Cephalic Presentation

Elie Nkwabong¹, L. Kouam¹, G T Orock², MREkono³, W Takang³, KVMve³

¹ Department of Gynaecology & Obstetrics, University Teaching Hospital Yaoundé & Faculty of Medicine and Biomedical Sciences, University of Yaoundé I, Cameroon; ²Gynaecology & Obstetrics Department, Faculty of Medicine and Biomedical Sciences, University of Yaoundé I, Cameroon, ³Gynaecology & Obstetrics Service, University Teaching Hospital Yaoundé, Cameroon

Abstract:

Background: Perineal lacerations are associated with short and long term maternal complications like perineal pain and superficial dyspareunia and must be prevented.

Aims: To look for risk factors in order to prevent them

Methods: This retrospective study was conducted from the 1st of January to the 31st of December 2007 in the maternity of the University Teaching Hospital Yaoundé (Cameroon). All cases of perineal tear that occurred during delivery of singletons in cephalic presentation were recruited. Our data were analysed using SPSS 12.0. The Student's t-test and the Fisher's exact test were used for comparison. The level of significance was 0.05.

Results: The incidence of perineal tear was 13.5% (230/1695). Second degree perineal tears represented 22.1% and 3rd degree 01.3% of cases. No 4th degree perineal tear was observed. Risk factors for second degree perineal tears were nulliparity especially if maternal age was 27 and above, foetal weight = 3500 g, instrumental deliveries and deliveries of adolescents while that of 3rd degree were forceps delivery (1 case) and macrosomic babies (2) in patients of 27 and 29 years.

Conclusion: In the above mentioned conditions, the perineum must be well protected and a mediolateral episiotomy must be done to prevent severe perineal tears if many risk factors are present.

Keywords: Singletons in cephalic presentation- Perineal tears-Risk factors.

Introduction

Perineal lacerations during delivery were observed in 18.3% of parturitions in our service [1], and this rate can be reduced. Perineal lacerations are associated with short term complications like perineal pain, haemorrhage, partial dehiscence, asymmetry, infection. Long term complications like superficial dyspareunia [2,3] and persistent perineal pain [2] could occur. Perineal tears need to be prevented. Some risk factors are known and these include primiparity, large foetal head circumference, macrosomia, advanced maternal age, foetal head malposition, former perineal scar [4]. Severe perineal laceration (3rd and 4th degree perineal tears) can occur if the perineal length is less than 3 cm, if midline episiotomy is done, in cases of prolonged second stage and oxytocin use [4,5]. Although perineal tears must be prevented, spontaneous 1st and 2nd degree perineal tears cause less perineal pain and superficial dyspareunia than episiotomy although the latter is easier to repair. Mediolateral episiotomy is also used to prevent

severe perineal tears, but studies have shown that avoiding episiotomies when tears are presumed to be imminent increases the number of patients with intact perineum and the number of cases with only minor perineal trauma [6]. Black women seem less prone to have severe perineal lacerations [7]. The aim of this study was to identify risk factors for perineal lacerations in order to try to avoid them, otherwise to advice mediolateral episiotomy in parturients with those risk factors.

Patients and Methods:

This retrospective study was conducted from 1st January to 31st December 2007 in the maternity of the University Teaching Hospital of Yaoundé

Correspondence: Dr. Elie Nkwabong,
P.O. Box 11063 Yaoundé, Cameroon,
Tel.: (237) 99663843,
Email: enkwabong@yahoo.fr

Table 1: Distribution of Perineal Tears (1st, 2nd and 3rd degrees) by Parity.

Parity	number	%
1	137	59.6
2	51	22.2
3	21	09.1
4	9	03.9
5	8	03.5
6	3	01.3
7	1	00.4
Total	230	100

(Cameroon). All singletons in cephalic presentation whose deliveries were complicated by perineal tears were recruited. For each case, the following parameters were recorded: maternal age and parity (after delivery), gestational age, foetal birth weight, Apgar score at the 1st and 5th minutes, and the status of the birth attendant. For our sample size, the incidence of perineal tear in our service was 18.3% in a former study [1]. The degree of precision of our study is 0.05 and the confidence interval is 0.05. By applying the Lorentz formula, our sample should contain 230 cases. We then had to collect cases over a 1-year period. The delivery room records were screened to have the total number of singleton vertex deliveries during the period of study. Our data were analysed using SPSS 12.0. The Student's t-test and the Fisher's exact test were used for comparison. The significance level was 0.05.

Results

During the period under study, 230 perineal tears occurred out of 1695 singleton cephalic deliveries giving 13.5%. First degree perineal tears occurred in 176 cases (76.5%), second degree in 51 cases (22.1%), 3rd degree perineal tear in 3 cases (1.3%). No 4th degree perineal tear

was recorded. Furthermore, 163 (9.6%) episiotomies (all mediolateral) were conducted. The mean age of patients who had 1st degree perineal tears was 26.4 ± 5.2 years with a range of 16 to 41 years while it was 27.9 ± 5.5 years with a range of 17 to 41 years in patients who had second and third degree perineal tears (P>0.05).

The parity ranged between 1 and 7 with a mean of 1.7 ± 1.1 in the group with 1st degree perineal tears and between 1 and 6 with a mean of 1.9 ± 1.3 amongst those with 2nd and 3rd degree perineal tears (P>0.10). Perineal tears occurred frequently in primipara and paucipara (Table 1 & 2).

The gestational age varied between 35 and 44 weeks with a mean of 39.4 ± 1.4 weeks in the group with 1st degree perineal tears and between 34 and 43 weeks with a mean of 39.9 ± 1.4 in the group with 2nd and 3rd degree perineal tears (P<0.05). Fetal weights ranged between 2101 and 4117 g with a mean of 3253 ± 400 g in the group with 1st degree perineal tears and between 2781 and 4738 g with a mean of 3878 ± 427 g in the group with 2nd and 3rd degree perineal tears (P<0.001).

The mean Apgar score at the 1st minute was 8.2 ±

Table 3: Predisposing Factors of 2nd and 3rd Degree Perineal Tears

Predisposing factors	Number	%
Big foetus(= 3500 g) + Maternal age = 27 years	33	61.1
Foetal birth weight = 3500 g	11	20.4
Maternal age = 27 years	04	07.4
Instrumental deliveries	02	03.7
Adolescent (= 19 years)	02	03.7
Not found	02	03.7
Total	54	100

1.6 in the group with 1st degree perineal tears with a range of 0 to 10. In the group with 2nd and 3rd degree perineal tears, it ranged between 0 and 10 with a mean of 7.9 ± 2.0 (P>0.10). The main predisposing factors for 2nd and 3rd degree perineal tears were maternal age of 27 and above and foetal weight above 3500 g (Table 3).

First degree perineal tears occurred more when the delivery was conducted by midwives (197 cases /1391) than when it was conducted by obstetricians and residents (31 cases /304), but the difference was not statistically significant (P>0.07, OR 0.6, 95% CI 0.4, 0.9). Second and 3rd degree perineal tears occurred more when the delivery was conducted by obstetricians and residents (12 cases /304) than when it was conducted by midwives (42 cases /1391), but the difference was not statistically significant (P>0.37, OR 1.1, 95% CI: 0.6, 2.2).

Discussion

The incidence of perineal tears in our study (13.5%) is lower than that of 18.8% found by other authors [8]. First degree perineal tears are the most encountered (76.5% in our study). Perineal tears affected mostly primipara (Table I & II). This has already been noticed in other studies [9,10]. This may be due to poor maternal compliance when pushing. Mean maternal age was slightly increased in patients who had 2nd and 3rd degree perineal tears, but the difference was not statistically significant.

The mean gestational age was higher in women who had 2nd and 3rd degree perineal tears and this was statistically significant. This is related to the increasing foetal weight with increasing gestational age.

Concerning the mean foetal birth weight, it was higher in patients who had 2nd and 3rd degree perineal tears with a statistically significant difference. This has already been noticed by some authors [5,9]. Mean Apgar score at the 1st and 5th minutes was slightly lower in patients who had 2nd or 3rd degree perineal tears than in those who had a 1st degree perineal tear, but the difference was not statistically significant. This may be explained by the fact that the foetal head was slightly traumatised when it was tearing the perineal muscles. It is hence advised to perform episiotomy in cases of acute foetal distress, rigid perineum or prematurity.

Predisposing factors for 2nd and 3rd degree perineal tear were maternal age = 27 years and excessive foetal weights (= 3500 g). When the 2 factors co-existed in the same patient, the risk of having a 2nd degree perineal tear was multiplied at least by 3 (Table III). Among the 3 cases with 3rd degree perineal tear, 1 was due to instrumental delivery although mediolateral episiotomy was done and the other 2 cases were due to macrosomic babies in patients of 27 and 29 years. This may be due to the rigidity of perineum observed with increasing maternal age. These observations have already been made by some authors [4,11]. Other risk factors were instrumental deliveries when episiotomy was not done and adolescent parturients (=19 years).

There was no statistically significant difference in the occurrence of 1st and 2nd degree perineal tears when deliveries were conducted by obstetricians, residents or midwives. Since perineal lacerations are associated with early and late maternal complications, they must be prevented. For instance, Schaub et al showed

Table 2: Distribution of 2nd and 3rd Degree Perineal Tears by Parity.

Parity	number	%
1	30	55.6
2	12	22.2
3	07	13.0
4	01	01.8
5	03	05.6
6	01	01.8
Total	54	100

that systematic vaginal application of an obstetric gel showed a significant reduction in the length of the 2nd stage of labour and a significant increase in perineal integrity [12].

This study has shown that risks factors for 2nd and 3rd degree perineal tear were primiparity, especially when women were 27 years and

above, fetal birth weight = 3500 g, instrumental deliveries and adolescent deliveries. When two of these factors co-existed, the risk was increased. Perineum should be well protected in those cases and we should not hesitate to perform a mediolateral episiotomy when imminent tear is present in order to prevent high degree perineal tears.

References:

1. Kongnyuy EJ, Kouam L, Ngassa P, Wamba MT, Takang W, Nkwabong E, et al. Case control study of episiotomy in the University Teaching hospital (CHU) Yaoundé. *Clin Mother Child Health* 2004; 1(2):97-102.
2. Andrews V, Thakar R, Sultan AH, Jones PW. Evaluation of post partum perineal pain and dyspareunia: a retrospective study. *Eur J Obstet Gynecol Reprod Biol* 2008; 137(2):152-156.
3. Ejegard H, Ryding EL, Sjogren B. Sexuality after delivery with episiotomy: a long term follow-up. *Gynecol Obstet Invest* 2008; 66(1): 1-7.
4. Bodner K, Bodner-Adler B, Wagenbichler P, Kaider A, Leodolter S, Husslein P, et al. Perineal lacerations during spontaneous vaginal delivery. *Wien Klin Wochenschr* 2001; 113(19): 743-746.
5. Aytan H, Tapisiz OL, Tuncay G, Avsar FA. Severe perineal lacerations in nulliparous women and episiotomy type. *Eur J Obstet Gynecol Reprod Biol* 2005; 121(1): 46-50.
6. Dannecker C, Hillemanns P, Strauss A, Hasbargen U, Hepp H, Anthuber C. Episiotomy and perineal tears presumed to be imminent: randomized controlled trial. *Acta Obstet Gynecol Scand* 2004; 83(4): 364-368.
7. Goldberg J, Hyslop T, Tolosa JE, Sultana C. Racial differences in severe perineal lacerations after vaginal delivery. *Am J Obstet Gynecol* 2003; 188(4):1063-1067.
8. Ola ER, Bello O, Abudu OO, Anorlu RI. Episiotomies in Nigeria: should their use be restricted? *Niger Postgrad Med J* 2002; 9(1): 13-16.
9. Christianson LM, Bovbjerg VE, McDavitt EC, Hullfish KL. Risk factors for perineal injury during delivery. *Am J Obstet Gynecol* 2003; 189(1): 255-260.
10. Wu JM, Williams KS, Hundley AF, Connolly A, Visco AG. Occiput posterior fetal head position increases the risk of anal sphincter injury in vacuum assisted deliveries. *Am J Obstet Gynecol* 2005; 193(2): 525-528.
11. Cohain JS. Episiotomy, hospital birth and caesarean section: technology gone haywire. What is the suture tear rate at first births supposed to be? *Midwifery Today Int Midwife* 2008; 85: 24-25.
12. Schaub AF, Litschigi M, Hoesli I, Holzgreve W, Bleul U, Geissbuehler V. Obstetric gel shortens second stage of labor and prevents perineal trauma in nulliparous women: a randomized controlled trial on labor facilitation. *Am J Perinat Med* 2008; 36(2): 129-135.