DOI: 10.7860/JCDR/2017/24060.9777

Original Article

Obstetrics and Gynaecology Section

Risk Factors and Incidence of Puerperal Genital Haematomas

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ABSTRACT

Introduction: Puerperal genital haematomas although an uncommon entity but is elusive. This painful condition is not only distressing and dangerous to patient but is embarrassing to the obstetrician who has conducted the delivery.

Aim: This study has been planned to evaluate the incidence and risk factors for puerperal genital haematomas.

Materials and Methods: A case control study was done from August 2005 to August 2015, of all puerperal genital haematomas. All patients, who had undergone drainage for the puerperal genital haematoma, were enrolled as cases. Two controls were chosen for each case, who had delivered immediately after the case. All the patients were evaluated for the characteristics of haematoma and the management of the same. Cases and controls were compared for the evaluation of risk factors for puerperal genital haematoma.

Results: During the study period 27,826 vaginal deliveries were performed in our institute. Thirty nine haematomas were drained during this period. Incidence of haematomas was one in 1,113 deliveries, in our institute. Among the puerperal haematomas, vulvovaginal was the most common type. Perineal pain was the most common complaint. To evaluate the risk factors, 77 controls were enrolled. Primigravida, hypertensive disease of pregnancy and coagulopathy were the significant risk factors with p-value of <0.01, 0.01 and 0.03 respectively. Episiotomy too was a risk factor with a p-value of 0.002.

Conclusion: Primigravida, hypertensive disease of pregnancy, coagulopathy and episiotomy are still the most common risk factors.

Keywords: Perineal haematomas, Traumatic haematomas, Traumatic postpartum haemorrhage, Vulvovaginal haematomas

INTRODUCTION

Puerperal genital haematomas arise most often due to vascular injury to lower genital tract. An incidence of 1 in 300 to 1 in 15,000 deliveries has been reported in literature [1,2]. Vulval veins have no valves and there is no counter pressure, so continued bleeding from trauma leads to gross distension of the soft tissues of vagina and vulva [3,4]. Multiple underline risk factors like primiparity, episiotomy, instrumental delivery, pudendal nerve block, hypertensive disorders of pregnancy, macrosomia, prolong second stage of labor, vulvovaginal varicosity and any coagulation disorders are responsible for puerperal genital haematoma formation [5,6]. However, most of these haematomas are formed after normal labor and delivery rather than abnormal labor or delivery [6].

Since very long there has been no change in aetiology and treatment of this potentially serious condition. Also, limited data is available in literature. So, this study was planned to evaluate the risk factors, management and immediate maternal outcome in patients with puerperal genital haematoma.

MATERIALS AND METHODS

This case control study was done in Department of Obstetrics and Gynaecology from August 2005 to August 2015. Study approval had been taken from Institutional Ethic Board. Subjects who had puerperal genital haematoma and in whom drainage was done in our institute were enrolled as cases. Subjects who did not have puerperal genital haematoma were enrolled as controls.

Patients who were managed conservatively or referred without drainage were excluded. All haematomas were drained vaginally with occlusion of dead space followed by vaginal packing. Vaginal pack was removed after 12 to 24 hours. Two controls for each case were enrolled. Controls were chosen as a subject who had delivered immediately after the case. Records of both cases and controls were retrieved from medical record department.

Details of both cases and controls like baseline characteristics, obstetric and significant medical history were recorded. Details of type of haematoma, its management and complications were also recorded.

STATISTICAL ANALYSIS

Data was entered in Microsoft excel. Statistical of analysis was done with statistical package R. Mean or median was calculated for continuous variables. Significance of risk factors for puerperal genital haematoma was calculated by Wilcoxon rank sum test and Fisher's-Exact test.

RESULTS

During the study period 27,826 vaginal deliveries were performed in our institute. Thirty nine haematomas were drained during the study period, of which 25 patients were booked in our institute and 14 patients were referred with haematoma. So, the incidence of puerperal genital haematomas was 1 in 1,113 deliveries.

Seventy seven controls were enrolled during the same time period. Baseline characteristics and risk factors for puerperal genital haematoma of cases and controls are shown in [Table/Fig-1]. Mean age in cases and controls were 23±2.28 years and 26±4.07 years respectively. Mean birth weight in cases and controls were 2656±420 gm and 2665±585 gm respectively. Four subjects in each group had instrumental delivery. [Table/Fig-2] depicts the characteristic of puerperal genital haematomas. Vulvovaginal (35/39) was the most common type of haematoma. Pain in the episiotomy site was the most common complaint (12/39) followed by tachycardia and bleeding. Median time to detect haematoma was six hours (0-17). Drainage and occlusion of the dead space with vaginal packing for 24 hours was sufficient management for 38 haematomas.

Only one case had drainage twice with vaginal packing but still developed haematoma. She was referred to another center for

Variable	Cases (n=39)	Controls (n=77)
Age(yrs)[a]	23±2.28	26±4.07
Gravida[b]	1(1-3)	2(1-6)
Risk factors[c]		
Primigravida	29	30
Episiotomy	39	63
Hypertensive disease of pregnancy	13	9
Obstetric cholestasis	6	4
Anaemia	6	1
Instrumental delivery	4	4
Coagulopathy	3	0
Type of delivery[c]		
Normal vaginal	35	73
Instrumental		
Forceps	4	4
Ventouse	0	0
Birth weight (gm)[a]	2656±420	2665±585

[Table/Fig-1]: Baseline characteristics and risk factors for puerperal genital hematoma among cases and controls.
Values in [a] are mean± SD, [b] is median, [c] are numbers

Variable	Number of cases (n=39)
Symptoms[a]	
Pain	19
Bleeding	10
Shock	01
Rectal pressure	01
Tachycardia	12
Time of detection of haematoma (hr)[b]	6(0-17)
Site of haematoma[a]	
At episiotomy	35
Other than episiotomy	04
Size of haematoma (cm)[c]	6.2±1.6
Type of haematoma[a]	
Vulval	00
Vaginal	04
Vulvovaginal	35
Retroperitoneal	00
Drainage of haematoma[a]	
Once	38
More than once	01
Referred[a]	01
Blood transfusion[a]	32
Duration of Hospital stay (days) [b]	5(2-11)

[Table/Fig-2]: Characteristic of puerperal genital haematoma.
Values in [a] are numbers, [b] is median, [c] are mean± SD

Risk Factors	Cases (n=39)	Controls (n=77)	p-value
Primigravida	29	30	<0.01
Hypertensive disease of pregnancy	13	9	0.01
Obstetrics cholestasis	6	4	0.08
Aanemia	6	1	0.005
Coagulopathy	3	0	0.03
Instrumental delivery	4	4	0.44
Episiotomy	63	39	0.002

[Table/Fig-3]: Risk factors for puerperal genital hematomas.

arterial embolization. Risk factors for puerperal genital haematoma were shown in [Table/Fig-3]. Primigravida, hypertensive disease of pregnancy, coagulopathy and episiotomy were significant risk factors for the puerperal genital haematoma. Aanemia was also a significant risk factor for the haematoma (p=0.05). But, whether it was the cause or effect of haematoma could not be ascertained as the pre-delivery haemoglobin was not available in all subjects. Obstetric cholestasis although not a significant risk factor, was seen in six out of 39 cases.

DISCUSSION

Puerperal genital haematoma is an uncommon but a dreadful condition. In our study, incidence of these haematomas is one in 1113, which is same as reported in the literature [1,2]. We also found that primigravida, hypertensive disease of pregnancy, coagulopathy and episiotomy are significant risk factor for these haematoma with a p-value of <0.01, 0.01, 0.03 and 0.002 respectively. Saleem Z et al., did a population based study of vulvar haematoma in 1,76,1156 deliveries from 1987-2000. They found 1418 haematoma during this period. They reported nulliparity was a strong risk factor with OR 3.63; (95% CI 3.25–4.08), birth-weight ≥ 4500 g OR 1.51; (95% CI 1.15–1.99) and age > 29 years was an independent risk factor. On an average each patient had two days extra hospital stay [7]. We found a median duration of hospital stay of five days, which is four days more than average hospital stay after normal delivery. Mc ET et al., too reported episiotomy as the most common risk factor 85%-93% of haematomas [8]. Sotto LS et al., studied 47 consecutive haematomas. They reported, 85% of patients had episiotomy and six of 47 of them had improperly repaired episiotomy. Improper repair of episiotomy was also reported as a major risk factor of these haematomas [9,10].

Pedowitz P et al., analysed 112 cases of puerperal haematoma. They found that only half of the haematomas were on the episiotomy site and suggested probably episiotomy was not the major reason of puerperal haematomas [10]. In our study, we found four haematomas on the site different from episiotomy. Iskender C et al., did a retrospective analysis of 47 cases of puerperal genital haematomas [11]. They reported nulliparity, instrumental delivery and mediolateral episiotomy as the main risk factors for haematomas. Since long, there has not been any change in risk factors and the management of vulval haematomas. Few cases have been reported in literature regarding the use of selective arterial embolization and tissel for the management of vulval haematomas [4,12].

Among all the risk factors for these haematomas episiotomy is one of the modifiable risk factor. Episiotomy is also associated with increased risk of anal incontinence and perineal lacerations. American College of Obstetrics and Gynecology (ACOG) do not support the routine or liberal use of episiotomy except in certain situations in view of best available data [13]. WHO too recommend an episiotomy rate of 10% a good goal to pursue [14]. But, whether restricted use of episiotomy will decrease the incidence of haematoma is not known.

Due to the retrospective nature of study the relationship between the experience of obstetrician conducting delivery and incidence of haematomas solely due to improperly repaired episiotomy could not be calculated. We have evaluated the incidence and risk factors of puerperal genital haematomas after such a long time (over 10 years) which is the strength of our study.

CONCLUSION

Primigravida, hypertensive disease of pregnancy, coagulopathy and episiotomy are significant risk factor for puerperal genital haematoma.

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FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Sep 11, 2016**
Date of Peer Review: **Oct 14, 2016**
Date of Acceptance: **Dec 28, 2016**
Date of Publishing: **May 01, 2017**