Pattern of Non Obstetrics Lower Genital Tract Trauma from western Nepal: A hospital based study.

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ABSTRACT

Back ground: The study of lower genital tract trauma and its management has become essential in gynaecological practice. We have observed that there is paucity of reports on this clinical entity from our settings.

Aim & objective: To document injuries in female lower genital tract in mid western Nepal.

Materials and method: A prospective observational study of 56 consecutive female patients admitted with genital tract injuries caused by coitus or accident. Details of the causes of trauma, clinical presentations and management were recorded.

Results: These injuries were grouped according to etiological factors: coital injuries n 29 (52%) and non coital injuries 27 (48%). Coital injuries are classified as voluntary coitus and non voluntary coitus. Out of coital injuries 4 cases were due to sexual assault which was excluded from the study. Non coital injuries were due to fall from height , cattle horn injuries , straddle type of trauma, vulvular hematoma and anorectal injuries.The most common area affected were fourchette and hymen , followed by posterior wall in lower vagina and in the upper vagina posterior fornix is the most commonly affected area.

Conclusion: Appropriate and timely surgical interventions can avert morbidity and mortality in future.

Key words: Accident, lower genital tract trauma , West Nepal.

Introduction:

The study of trauma has become important in medical practice. This is because of change in life style. Although trauma associated with childbirth remains the most common cause of injury in the female genital tract injuries, traumas due to non obstetrics origin are quite frequent [1]

The pattern of injury largely depends on age , marital status ,, residential location, leisure and sports activity , sexual behaviour and socioeconomic status [2, 3, 4]Some of this injuries are unique and poses diagnostic and management challenges to the treating physician [5] . Severe coital and other traumatic injuries of the genital tract do occur and sometimes may be fatal [6, 7]

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Available evidence suggests that lower genital tract injuries are primarily of coital origin and may result in death where prompt diagnosis and treatment is not obtained. Publications on this field are scarce. However reliable data on all body injuries are needed to make informed decisions on how to deal with injuries.

The objective of this study was to document non obstetric injuries in female lower genital tract in mid west Nepal.

Materials and method:

This is an observational study consisting of 56 cases admitted in gynaecological ward through emergency department with genital tract l trauma to Nepal gunj Medical College, Kohalpur, Banke, Nepal from a time span of September 2009 to September 2015. Injuries due to involuntary coitus and those who did not want to participate by not giving consent were excluded.

After taking informed written consent, a complete history was taken. The women / girl underwent through vaginal and rectal examination to ascertain the nature and extent of the injuries. Routine blood investigations (CBC, RFT, blood grouping) were done. Radiological imaging studies were done in selected cases to rule out internal pelvic organ injury and injury to the other organ. Ultrasound was done in selected cases. Blood transfusion was given if there was evidence of hemorrhagic shock.

Tables :

Table 1 : Etiology of non obstetric lower genital tract injuries as observed in this study.

Etiology	Population number (n)	Percentage (%)
1.Group A		
Coital injury	29	52
1.Consensual coitus	29	
2.Group B		
Noncoital injury	27	48
1.Physical violence	00	00
2.Accidental injury		
Fall from heights (tree, diving in water and boating)	10	16.66
Bicycle accidents	4	6.66
Auto mobile accidents	2	3.33
Cattle horn injuries	3	5
Astride injuries(Edge of chair, stools sharp objects ladder)	6	10
Leech bite	1	1.66
Foreign bodies	1	1.66

Table 2 : Showing number and sites of injuries

Sites of injury	Coital n 33	Non coital n 27
1.Lower vagina and intraoitus		
Fourchette& hymen	8 (13.33	0 (0.0%)
Left wall	2 (3.33 %)	1 (1.66%)
Right wall	1 (1.66 %)	0 (0.0%)
Posterior wall	6 (10 %)	3 (5%)
Anterior Vag Wall	0 (0.0%)	0 (0.0 %)
2.Upper vagina &fornices		
Left fornix	1 (1.66%)	0 (0.0%)
Right fornix	3(1.66%)	0 (0.0%)
Posterior fornix	6 (10 %)	3 (5.0%)
Vulval hematoma	1 (1.66 %)	6 (10.0 %)
Labial injury	0(0.0%)	2 (3.33%)
Perineal injury	3 (5%)	5 (8.33%)
Urethral tear	4 (6.66%)	5 (8.33 %)
Anorectal injury	0(0.0%)	2 (3.33%)

Table 3 : Coital injury and parity distribution

Type of injury	Parity	N and percentage
Coital injury		33
	Nulliparous	17 (51.51%)
	Multiparous	16 (48.48%)
	Breast feeding	10 (62.5) out of multiparous women.
	Non nursing	06 (37.5%)out of multiparous women.
Consensual coitus		29 (N 33)
Non consensual coitus	Excluded from the study	

Results :

During the study period there were 56 cases of vulvo vaginal injuries. There were 2048 admissions to gynaecology ward during the study period. Non obstetric genital tract injury constituted 2.92 % of all emergency gynaecological admissions.

The age of women ranges from 5 to 40 years. Most of the women live in rural areas N 48 (80%)

According to cause of injury the patients were divided into 2 main groups coital injury (N 33)(55%) and noncoital (n 27)(45%) injury (**vide Table 1**).

Coital injuries were divided according to voluntary coitus and involuntary coital injury.
Non coital injuries were divided into accidental injury and injury due to physical violence. Fortunately there was no case reported due to physical violence. These shows better social environment.

Coital injury Group :

Out of 56 cases 29 (42 .3 %) women with coital injuries presented with vaginal bleeding. Most of the patients came to the hospital directly. 17(28.8%) cases were nulliparous women who sustained injuries during their first intercourse involving fourchette and hymen, lateral wall or posterior vaginal wall and lower vagina where as 8 (13.33 %) cases multiple tears and deep lacerations . Urethral tears sustained by 4 girls between 5 to 7 years , three cases of dehiscence (perineal injury) of episiotomy wound reported several days after delivery. Multiparous women who sustained genital injuries are 16 in number, which is almost same as nulliparous women.

Non coital injury group:

One woman aged 28 years has reported with vulval hematoma from fall. All cases of accidental injuries were admitted to the hospital with chief complaints of bleeding and pain. Accidental injuries were due to fall from the tree, diving and swimming in stream 10 (16.66 %) c, astride injuries 6 (2.3) cases , bi cycle accident 4 (6.66 %) and automobile accident 2 (3.33 %) cases . 3 (5 %) cases sustained cattle horn injuries , one child of 6 years presented with a foreign body and leech bite constituted 1 (1.7 %)cases each .

Regarding the site of injury , the most common area that is affected in the lower vagina is fourchette and hymen (13.3%), followed by posterior wall (10%) in the coital group and 5% in the non coital group. In the upper vagina, posterior fornix is the most commonly affected area (10%) followed by paraurethral area (6.66%) and right fornix (1.66%)(**vide Table 2).**

Coital injury happens almost equally in nulliparous and multiparous women. Amongst multiparous women, breast feeding women are most commonly affected 62.5%, where as non nursing group comprises of 32.5% (**vide Table 3)**.

Discussion

This study confirms that non obstetrics vaginal injury is common. It comprises of nearly 3 percent of all gynaecological admission. Although injuries from the coitus are most likely in young virgins or post menopausal women, the finding of this study suggests that parous women are equally affected. Vagina appears to be more prone to injury during puerperium particularly when the women were breast feeding.

Sau AK et al[8] found 42 % coital injury from voluntary intercourse and 58 % non coital injuries. In this series 56 % were coital injuries and 44% were non coital injuries. Two cases of coital injury were due to congenital anomaly (longitudinal septum in vagina in one and shallow vagina in another woman.

Diagnosis would appear to be straight forward but does require a vaginal speculum examination. The extent of the injury may be missed by not performing an adequate clinical examination because of pain or because of large blood clot particularly obscuring the injury. It is important to recognise that some injuries in the upper vagina may enter the peritoneal cavity and may injure bowel, bladder and any adjacent organs, hence Examination under anaesthesia is recommended in most of the cases.

Regarding the site of injury, we have observed that Coital injury in vagina occurred mostly at two sites, lower vagina and introits and second type in vaginal vault, also described by Chandra et al [9]. In our study , we found there are 3 injuries in the right fornices where as left fornix was affected in one case . This was explained by Dickinson[10] as right fornix is more spacious and accommodates the glans and stretched most during coitus Sill PR[11] et al after retrospective analysis has found laceration of posterior fornics of vagina in 13 cases out of 25 cases admitted..

Initial coitus after resumption of marriage can cause lower vaginal injuries and introit injuries.Tearing of the hymen id almost inevitable with defloration and is sometimes accompanied by tear in the fourchette . Van De Velde[12] postulated that disproportion of male and female genitalia, rough and violent coitus without foreplay are important factors in rupture of vagina.

Women between 17 to 22 years had consensual sex with vaginal tears and one in the posterior fornix Bower et al [13]Slaughter L et al [14]have reviewed colposcopic findings of 311 victims of sexual assaults to describe type extent and distribution of injuries.

Dehiscence of three cases of episiotomy wound has been taken place after 6 weeks of delivery due to coitus . The issue with consensual sex is different. Lack of fore play, penile vaginal disproportion bad postures, rough coitus under the influence of alcohol and hard drugs are predisposing factors.

Regarding the amount of blood loss, Crescentric tear in posterior fornics does not bleed as much as the lateral vaginal wall. Hymeneal tear either at 6 0 clock position and multiple or vaginal laceration were noted in this series.

There is no written established guide line for management of lower genital tract injuries and therefore the surgeons judgement play a crucial role in treatment. Initial assessment and resuscitation with blood transfusion was done when necessary. Examination under anaesthesia and

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primary repair was attempted in majority of patients . Ligation suture or pack is often necessary. Vaginal lacerations during coitus can cause severe bleeding and endanger life. In our study we used 3 0 rapid vicryl to suture most of the lacerations in the upper vagina .Vulval hematoma has been evacuated and concomitant injury of that area has been sutured. This alleviates pain and expedites recovery also suggested by Sau et al. [1]

Conclusion :

This study confirms that lower genital injury due to non obstetrics causes is common and needs careful attention because it can be fatal if not intervened in proper time. Lower genital tract injuries in mid western Nepal are commonly due to fall from height, falling astride or fall from bi cycle and coitus. Severe injuries of lower genital tract are potentially fatal.

Appropriate surgical intervention can avert both mortality and morbidity. Superficial injury with minimal bleeding can be managed by vaginal packing but a deep laceration should always be repaired under anaesthesia with antibiotic prophylaxis.

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Conflict of Interest : The authors declares that there is no conflict of interest in this study .

References :

1. Sau AK ,Dhar KK, Dhalp GI. Non obstetrics lower genital tract trauma. Aust N Z J Obstet Gynaecol 1993;33(4):433-5.

2. Dahiya P, Agarwal U, Sangwan K, Chauhan M. Long retained intravaginal forgeignbody : a case report . Arch Gynaecol Obstet 2003;268(4):323-4.

3 Avidor Y, Rub R ,Kluger Y. Vaginal evisceration resulting from a water slide injury . J Trauma 1998;44(2):415-6.

4 Deligeoroglou E, Deliveliotou A, laggariV,Tsimaris P, Creatsas G. Vaginal foreign body in childhood: a multidisciplinary approach. J Pediatric Child Health 2006;4210):649-51.

5 Wilson KF. Lower genital tract trauma. Aust N Z J Obstetrics Gynaecol1966;6(4):291-3.

6 IkedifeD. Fatal coital rupture of pouch of douglas. Niger Med J 1976;6(2):210-1.

7 Wilson F ,swartz DP coital injury of the vagina . Obstet Gynaecol 1972;39:182-4.

8 Sau AK ,Dhar KK , Dhall GI. Non Obstetric lower genital tract trauma .Aust N Z J Obstet Gynaecol 1993;33(4):433.

9 Chandra SP, Rathes SD. Coital injury . J Obstetrics Gynaecol India 1964;14:930-2.

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10 Dickinson RL. Atlas of human sex anatomy. Baltimore:Williams and Wilkins; 1949.p.100- 1.

11 Sill PR . Non obstetric female genital tract trauma in Port Moresby, Papua New Guinea. Aust N Z J Obstet Gynaecol 1987;27(2):164.

12 Van de velde TH. Ideal marriages. New York : Random houses; 1963. p. 205

13 Bower L , Dalton ME . Female victim of rape and their genital tract injury. Br J Obstet Gynae 1997;104(5):617-20.

14 Slaughter L, Brown CR, Crowley S, Peck R. Pattern of genital injury in female sexual assault victims. Am J Obstet Gynaecol 1997;176(3):609-16.

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