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## **Comparative study of traumatic damage in the anogenital area in male and female victims of sexual violence**

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### **Abstract**

Sexual violence is a problem in every civilised country. It often has health, psychological, social, and judicial consequences, and its early discovery and examination are of major importance. The aim of the present study was to assess the findings of potential sexual trauma in the anogenital area procured during examinations of subjects who have claimed to have been the victims of sexual violence, and to make a comparison between the findings in female and male subjects. A total of 192 records of male subjects and 3139 female subjects that had claimed to be victims of sexual abuse were reviewed. The described cases were processed per the documentary method and statistically in Excel. Conclusions: 1. Ecchymoses in the anal area as a result of sexual violence were found twice as frequently in men, 20.57%, than in women – 9.94%. 2. Fissures (tearing of the mucosa in the anal area) as a consequence of sexual violence are more frequently observed in women – 66.46% than in men, 52.34%.

**Key words:** sexual violence, men, women, anogenital area injuries

### **Сравнительное исследование травматических повреждений в ано-генитальной области у мужчин и женщин жертв сексуального насилия**

Сексуальное насилие является проблемой любой нормы права. Это часто имеет медицинских, психологических, социальных и правовых последствий и раннего выявления и диагностики является существенным. Целью данного исследования было оценить результаты возможных травм в ано-генитальной области, в результате чего отзывы людей сказали, что они стали жертвами сексуального насилия и сравнить результаты в женских особей, чтобы у человека мужчин. Обработано было 192 случаев мужчин и 3139 случаев женского лица заявили, что они являются жертвами сексуального насилия. Все случаи описанные в переработанном документальных и статистических методов в Excel. Выводы: 1. Синяки в анальной области, в результате сексуального насилия встречаются в два раза больше у мужчин - 20,57%, чем для женщин - 9,94%. 2. Крекинг (разрыв подкладка в области анального отверстия) в результате сексуального насилия, чаще встречается у женщин - 66,46 процента, по сравнению с 52,34% мужчин.

**Ключевые слова:** сексуальное насилие, мужчины, женщины, ано-генитальной области травмы.

### **Introduction**

Sexual violence is a problem in every civilised country. It often has health, psychological, social and judicial consequences, and its early discovery and examination are of major importance.

Significant advances have been made in the field of medicine related to identifying findings signifying sexual violence.

The medical specialists engaged in this activity are no longer limited to establishing the presence or absence of the hymen as an indication of potential sexual violence.

Various types of anogenital injuries have been established and confirmed, which can be evidence of sexual violence.

Aim: The aim of the present study was to assess the findings of potential sexual trauma in the anogenital area procured during examinations of persons who had claimed to had been the victims of sexual violence, and to make a comparison between the findings in female persons and male subjects.

### Material and Methods

A total of 192 records of male subjects and 3139 female subjects that had claimed to be victims of sexual abuse were reviewed. Records were processed by the documentary method and statistically in Excel. Examinations were performed as follows: Men – in knee-elbow position; women – genital inspection by the method of Serdyukov; anal region inspection – on a gynaecology chair or in knee-elbow position.

### Results and discussion

The present study included 192 male subjects and 3139 female subject who had claimed to had been the victims of sexual violence.

Of the examined women, 385 had given birth prior to the incident. For the remaining 2754, it was established that in 430 of the cases the hymens would allow intercourse without tearing, whereas in the remaining 2324 cases it would not allow vaginal penetration without being ruptured (fig. 1).

Among them, 610 (26.25%) were intact, while 1714 (73.75%) cases exhibited recent or old defloration lacerations (fig. 2).

In 377 (12%) of the examined women there were traumatic injuries in the genital area, regardless of the presence or absence of defloration lacerations. Their distribution is shown in figure 3.

As it is evident from the Figure, bruising of the external genitalia is most commonly observed in 40% (150 cases) of the women, followed by ecchymosis in approximately 30% (109 cases).

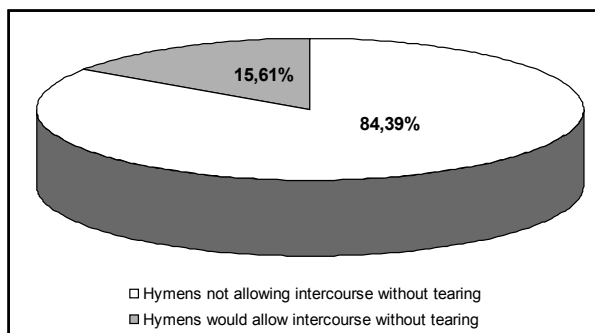


Fig. 1. Distribution of hymens in accordance with whether they would allow intercourse with or without laceration.

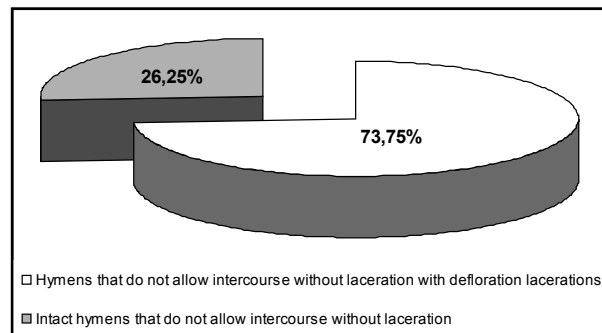


Fig. 2. Hymens that do not allow intercourse without lacerations.

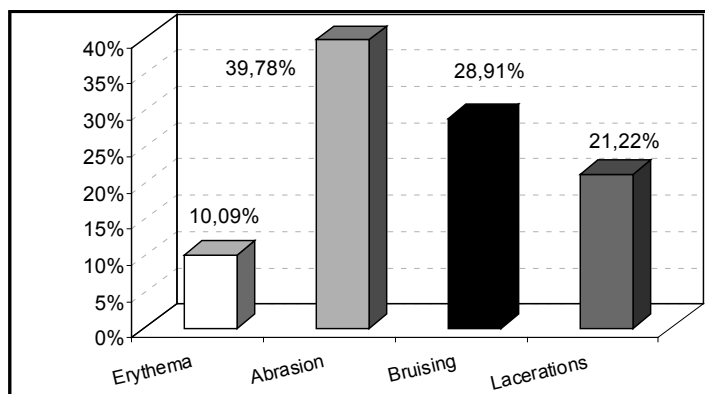


Fig. 3. Traumatic damage of the external genitalia of women who were the victims of sexual violence.

During a study by Heger A. et al., 2002 [2], it was established that 68% of the girls and 70% of the boys reported sexual abuse, described as penetration into the vagina or anus. Further examinations determined that injuries confirming the incident could be observed in 6% of the boys and 1% of the men.

According to Emans, S.J. et al., 1987 [1], it is important to determine whether there were other actions that could be considered sexual violence. Findings such as erythema, ecchymosis, bruising, or hymen rupturing could be the result of sexual violence, yet they can also be observed in girls that have not been victims of violence.

D. Muram, 1989 [8], reported that erythema or oedema in the genital area could be caused by genital manipulation or penetration caused by an older person. They could also be the result of poor hygiene, rash, masturbation, etc.

It is important to note that not all girls who had reported vaginal penetration exhibited erythema, bruising, ecchymosis, or hymen tearing.

In our study, we established that in 161 (5.13%) of female cases and in 107 (55.93%) of the male cases that had reported sexual violence, traumatic injuries could be found in the anal area.

McCann et al., 1988 [7], reported that children who had been subjected to repeated sexual violence (anal sex) exhibited relaxation of the external anal sphincter, yet not of the internal sphincter. Physical examination revealed a funnel-like shape of the anal orifice. Among the cases we studied, it was established that such injuries could be found in 7 (4.35%) of the women and in 4 (3.73%) of the men with traumatic damage in the anal area.

Paul, D. M., 1990 [9], described superficial injuries of the anal area exhibited as surface bruising, ecchymosis, and erythema, which are not established until up to 4 days after the trauma. The author also noted that, even when lubricant is applied, the penetration into the anus almost invariably causes injury of the anal orifice. He emphasised the importance of the child's anamnesis of acute pain not only on the day of the incident, but also several days after it.

We found only 1 (0.93%) case of a man with prolapse in the area of the anal orifice. Hobbs C.J. and Wynne J.M., 1989 [4], reported that complete loss of anal sphincter control was rarely observed, which is indicative for full anal penetration.

They suggest that a single anal penetration could cause ecchymosis, bruising, injuries, etc. Prolapse of the anal canal was observed in very young children who were abused numerous times.

Figure 4 and figure 5 visualise the results for traumatic damage in the anal area of men and women who were victims of sexual violence.

In 8.41% (9 cases) of the men and 4.97% (8 cases) of the women who reported violent sexual intercourse, there was erythema of the mucosa in the anal area. In 14.02% (15 cases) of the men and 14.28% (23) of the women bruising could be observed, while in 20.57% (22 cases) of the men and 9.94% (16) of the women ecchymosis was registered.

McCann et al., 1989 [6], considered that perianal erythema and the increase in perianal pigmentation could be caused by bad hygiene. They believed dilation over 20 mm was indicative of anal penetration.

According to Hobbs CJ, Wynne JM, 1989 [4], however, not every dilation is caused by anal penetration. They reported that in children this could be due to the lower third of their intestines with fecal masses (fig. 6).

In 52.34% (56 subjects) of the men and 66.46% (107 subjects) of the women included in our study, we observed fissures on the external anal sphincter mucosa.

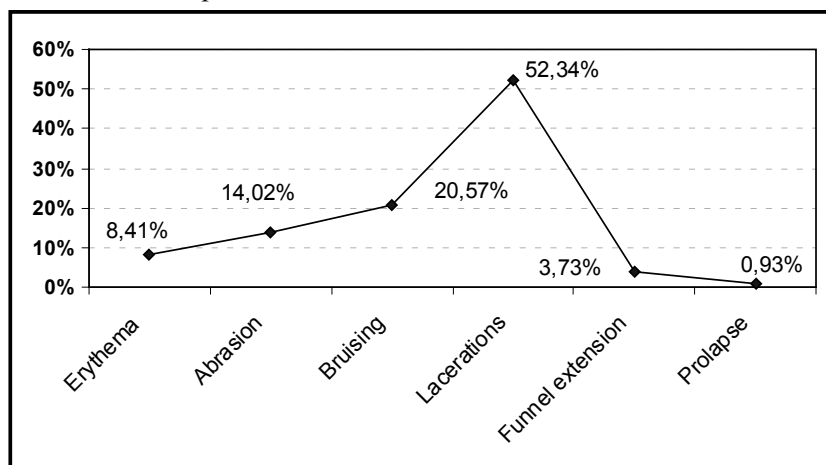


Fig. 4. Traumatic damage in the anal area in male victims of sexual violence.

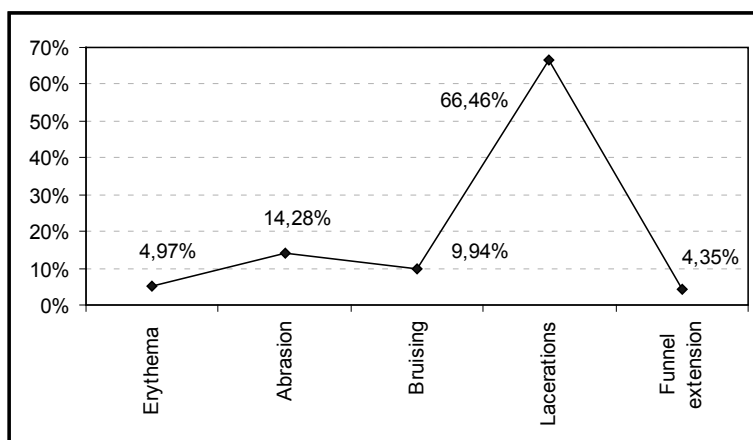


Fig. 5. Traumatic damage in the anal area in female victims of sexual violence.

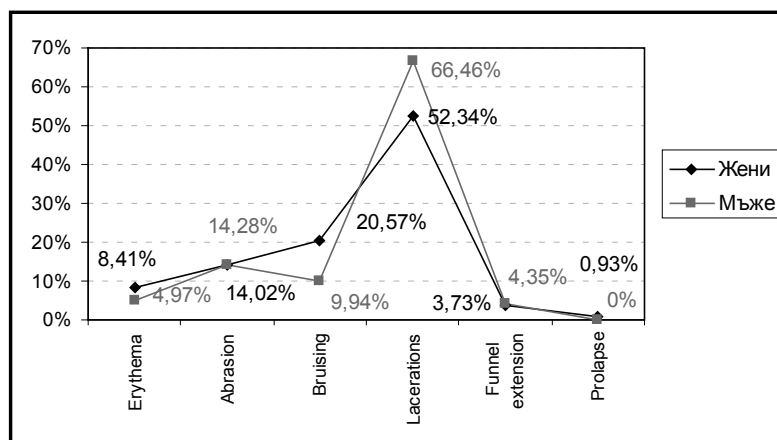


Fig. 6. Comparative representation of traumatic injury in the anal area of male and female victims of sexual violence.

In his report, Gubler Ch. et al., 2005 [5], points out that the fissures in this area could be caused by infectious diseases, or Lichen sclerosus and Crohn's disease.

It is evident from Figure 6 that in half of the men, and in three out of five women with traumatic damage in the anal area, tearing could be observed (fissures, injury). The ecchymosis as an injury in anal intercourse is observed significantly more often among men, 20.57%, than in women, 9.94%. Heppenstall-Heger A. Et al., 2003 [3], reported that in 52% of the cases, an anal injury due to sexual violence was exhibited as ecchymosis, bruising and wounds.

In conclusion, it should be noted that social workers, parents and guardians, and lawyers rely too much on the medical examination when diagnosing sexually abused persons, which cannot be confirmed or rejected as a finding with certainty.

### Conclusions

1. Ecchymoses in the anal area as the result of sexual violence were twice as common in men, 20.57%, than in women 9.94%.

2. A fissures (tearing of the mucosa in the anal area) as a consequence of sexual violence was observed more often in women, 66.46%, than in men – 52.34%.

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## **Morfologia și proprietățile biochimice ale celulelor conținătoare de serotonină din endometrul șobolancelor virgine**

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### **Morphology and biochemical properties of cells containing serotonin in the endometrium of virgin female rats**

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The population of cells of the DES (Diffuse Endocrine System) containing serotonin, is localized mainly in the functional endometrium, as a rule, forming groups. These cells have an oval and round shape. The cells of the DES located in the endometrium show specific properties: serotonin granules with specific fluorescence are contained in the cytoplasm, and are capable of grasping serotonin - precursors (tryptofan and 5-hydroxytryptofan) and to synthesize from them serotonin. All these characteristics illustrate, that these cells are part of DES.

**Key words:** serotonin, apud cells, endometrium, tryptophan, 5-hydroxytryptophan

### **Морфология и биохимические свойства клеток, содержащих серотонин в эндометрии самок крыс**

Популяция клеток ДЭС (Диффузной Эндокринной Системы), содержащих серотонин локализована преимущественно в функциональном слое эндометрия в виде клеточных скоплений. Клетки имеют овальную или округлую форму. Клетки ДЭС, расположенные в эндометрии, демонстрируют специфические свойства: содержат в цитоплазме гранулы, обладающие специфической для серотонина флуоресценцией, способные захватывать вещества-предшественники (триптофан и 5-гидрохитриптофан) и синтезировать из них серотонин. Все перечисленные свойства указывают на принадлежность описанных клеток к ДЭС.

**Ключевые слова:** серотонин, клетки диффузной эндокринной системы, эндометрий, триптофан, 5-гидрохитриптофан.

## **Introducere**

În pofida faptului, că în ultimii ani a crescut vădit interesul față de celulele seriei APUD și tumorilor derivate din acestea (apudoame) [10], SED (Sistemul Endocrin Difuz) uterin în normă și în diferite stări patologice rămâne încă insuficient studiat [1, 2, 5, 6, 12, 18]. Celulele endocrine și hormonii lor peptidici combină mai multe aspecte caracteristice activității sistemului nervos și endocrin [4, 5, 9].

O caracteristică comună și definitorie a celulelor din componența acestui sistem este că ele conțin amine biogene, fiind produse prin capacitatea lor de a absorbi și decarboxila precursorii aminici [8; 9; 11]. Din substanțele biologice active secretate de celulele SED un loc deosebit îl ocupă serotonină [6, 14].

Uterul are capacitatea de a acumula în cantități mari această amină [14], ce se explică prin activitatea înaltă a 5-hidroxitriptofandecarboxilazei și scăzută a monoaminoxidazei [7, 8]. Rolul serotoninei în procesele diferențierii și proliferării celulare, atât fiziologice, cât și blastomatoase, deschid și posibilitatea utilizării acestei amine în practica medicală [3, 14].