

Localization of Defloration Lacerations in Crescent-Shaped Hymens

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The hymen is a mucous fold that separates the vaginal entrance and the vagina itself. It could have a various shape depending on the height and the type of the free edge, the width of the opening, the number of openings etc. In this study, crescent-shaped hymens were investigated. A total of 3288 women, victims of sexual abuse were included. Out of them, 149 refused a forensic medical examination and 385 had given birth to a child. In 2.29% of the rest, crescentic hymens (*H. semilunaris*) have been observed. In 14.29% of patients with such hymens, a sexual intercourse without laceration of the hymenal membrane was possible. In cases with hymens with a single laceration, it occurred most commonly at the 6 o'clock position when the victim was in dorsal recumbency; in cases with two defloration lacerations – at 5 and 7 o'clock or 3 and 9 o'clock positions (incidence of 22.22% each) and in cases with three lacerations the commonest pattern was at 3, 6 and 9 o'clock positions (incidence 40%).

Key words: crescent-shaped hymen, defloration laceration, tearings.

Introduction

The hymen was described for the first time in 1615 by Andreas Vesalius [7]. It was named after the ancient Greek god of marriage Hymenaios. The hymen is a mucous fold separating the vaginal entrance from the vagina itself. A matter of forensic medical interest is the investigation of the localization of hymenal lacerations, particularly of crescentic hymens, after defloration. In the available literature, there is no information about the localization of hymenal lacerations. The morphological traits of the hymen, important with regard to forensic medical expertise, are the shape; particularities, location and diameter of the opening; height and thickness of the free edge etc [2]. The crescent-shaped hymen looks like half-moon or horseshoe and has one eccentrically situated opening. Usually, the opening is located urethrally and the membrane – rectally. The occurrence of haematoma, abrasion, laceration, tearing of hymen during the forensic medical examination are not always indicative for a sexual abuse, but in most cases, are resulting from intercourse, bad touch, masturbation or interference with other hard blunt objects [6]. The tearing of the hymen depends on its elasticity, the size and height of its opening, the height of the free edge and its shape.

The aim of the present investigation was to determine the commonest localization of defloration lacerations of crescent-shaped hymens.

Material and Methods

The records of 3288 female victims of sexual abuse, in 15 forensic medical units at the territory of the Republic of Bulgaria were processed. The hymenal shapes, diameter of hymenal openings, the heights of the free edge and the localization of lacerations have been determined.

The forensic medical records and expertise were processed by the documental method (Dimitrov, 2000) and the statistical processing of data was done in Microsoft Office Excel.

Results and Discussion

From all victims of sexual abuse, 149 (4.53%) refused a forensic medical genital examination. Another 385 (11.71%) had given birth by the time of the rape and the forensic examination.

The rest 2754 (83.76 %) had a status of external genitalia with records of morphological traits of the hymen during the forensic medical examination. In 63 out of them (2.29%), crescent-shaped hymens have been registered. This prevalence is lower than that, reported by R a d a n o v [8] – 3.19%. Our data are contradictory to the affirmations of K a d a n o v et al. [5] that the most commonly encountered shape of hymen was the crescent shape.

Morphologically, according to the free edge height, women with crescent-shaped hymens were classified as with a high edge – 26 (41.27%); medium edge – 15 (24.40%) and low edge – 22 (33.35%) (Fig. 1).

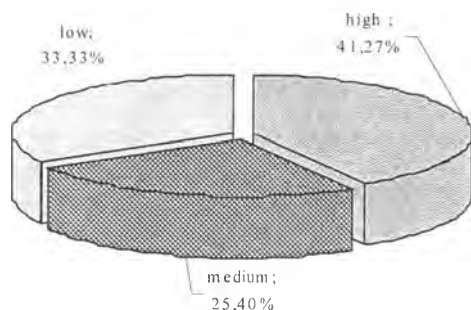


Fig. 1. Distribution of crescent-shaped hymens according to the height of the free edge

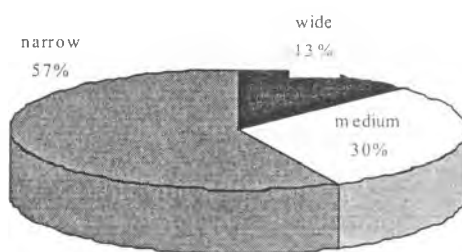


Fig. 2. Distribution of crescent-shaped hymens according to the width of the opening

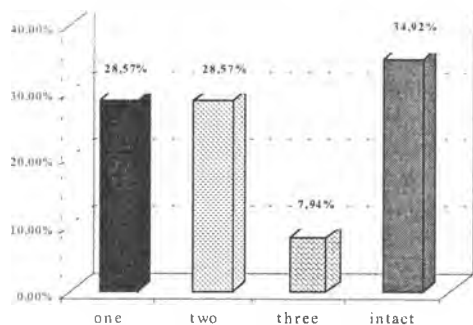


Fig. 3. Distribution of crescent-shaped hymens according to the number of lacerations

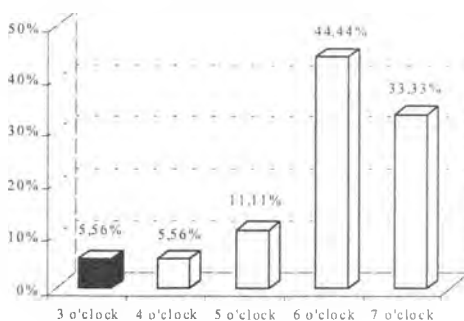


Fig. 4. Site of crescent-shaped hymens with a single laceration

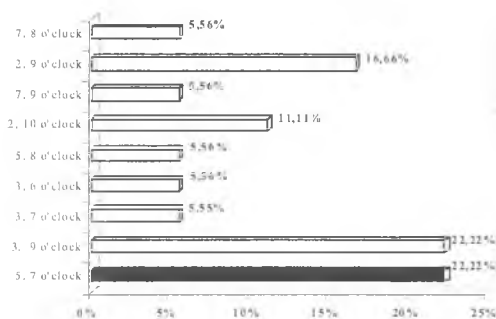


Fig. 5. Sites of crescent-shaped hymens with two lacerations

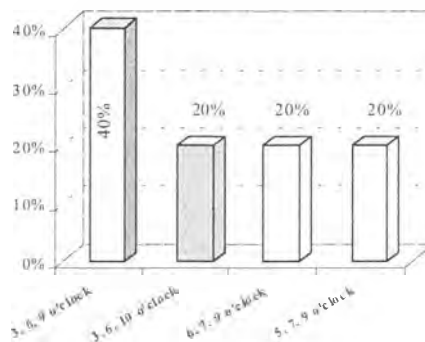


Fig. 6. Sites of crescent-shaped hymens with three lacerations

In 36 (57.00%) of cases, crescent-shaped hymens were with narrow opening, in 19 (30%) cases – with a medium opening and in 8 cases (13.00%) – with a wide opening. This distribution is presented on Fig. 2.

During the forensic medical examinations, 22 (34.92%) of hymens were intact. Defloration lacerations were established in 41 (65.08 %) female victims of sexual abuse. Out of them, 28.57% had a single laceration, the same number presented two lacerations and in 7.94% of cases – three lacerations were observed (Fig. 3). These results are inconsistent with those of Radanov (1986) who reported that in 20.45% of female rape victims with crescentic hymens, defloration lacerations have been present.

The site of single crescent-shaped hymenal lacerations was in most instances at 6 o'clock at dorsal recumbency of the patient, followed by location at 7 o'clock (33.33%). The least occurrences (5.56% each) were those at 3 and 4 o'clock positions. The distribution is shown on Fig. 4. Our data are similar to those of other authors having investigated the localization of lacerations of hymens with various shapes. Hobbs et al. [3] reported that the commonest site of hymenal laceration was at the 6 o'clock position at dorsal recumbency.

In our study, the sites of injury of crescentic hymens with two lacerations were at 3 and 9 o'clock positions or at 5 and 7 o'clock positions (with 22.22% each) at dorsal recumbency of the victim. The distribution is presented on Fig. 5. Ingram DM, et al. (2001) reported that in cases of two hymenal lacerations, their sites were at 5 and 7 o'clock positions, without specifying the shape of hymens.

Fig. 6 shows that cases with three lacerations presented localizations at 3, 6 and 9 o'clock positions.

It should be also noted that during the performed forensic medical examinations, a part of examined women with crescent-shaped hymens had had sexual intercourse without tearing of their hymens.

Conclusions

1. In rape victims with crescent-shaped hymens with a single defloration lacerations, its site in 44.44% of cases was at the 6 o'clock position at dorsal recumbency of the patient.

2. When two defloration lacerations of crescent-shaped hymens were present, they exhibited an equal incidence of 22.22% at the 5 and 7, or 3 and 9 o'clock positions.

3. The most prevalent pattern (40%) of crescent-shaped hymens with three lacerations was observed at the 3, 6 and 9 o'clock positions.

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