Normal variants in patients consulted in the Dermatology Clinic for lesions of the male external genitalia

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KEY WORDS

penis ◗ normal variants ◗ pearly penile papules

ABSTRACT

Introduction. So far there have been no papers analyzing the incidence of 'non-pathological' lesions or normal variants on the male external genitalia. Subsequently, the number of patients consulted due to the presence of such lesions remains unknown. The aim of the study was to estimate the incidence of normal variants in patients who were consulted due to lesions on the skin or mucosa of the male external genitalia.

Material and methods. The study group consisted of 400 males, aged 3-91, who were consulted due to lesions on the genitalia in the Department of Dermatology, Venereology and Allergology of the Medical University of Gdańsk.

Results. The most common lesions were hyperpigmentation of the median raphe of the penis and scrotum (85.6%), pearly penile papules (24%), and prominent veins (24%). Sebaceous hyperplasia or ectopic sebaceous glands were revealed in 9% of patients, respectively. Melanocytic nevi were diagnosed with similar frequency (9.5%), whereas skin tags more rarely (7%). Other 'non-pathological' lesions were diagnosed in a considerably lower number of patients. In 32 patients (8% of all patients) the reason of admission to the Clinic was just the presence of some 'non-pathological' lesions. Pearly penile papules were found to be the most common condition, occurring in 78.1% patients.

Conclusions. Normal variants represent a substantial percentage of generally asymptomatic lesions and the only indication for their removal is cosmetic discomfort or venerophobia.

INTRODUCTION

A considerable number of patients were admitted to the Dermatology Clinic due to lesions on the skin or mucosa of the male external genital organs and diagnosed with 'non-pathological' lesions i.e. normal variants. Frequently, the occurrence of these lesions may give rise to venerophobia and thus is a major reason for seeking consultation. However, specialist knowledge among urologists, dermatologists and family doctors who are able to recognize such conditions that do not require treatment allows avoiding unnecessary therapy and finally eases the patients' anxiety. The only indication for surgical removal of such lesions is cosmetic discomfort. The aim of the study was to assess the normal variants incidence in patients attending the Dermatology Clinic due to the lesions on the skin or mucosa of the male external genitalia.

MATERIALS AND METHODS

Study group consisted of 400 male patients aged between 3 and 99, who were referred to the outpatients' clinic of the Department of Dermatology, Venereology and Allergology of the Medical University of Gdańsk due to the lesions on the skin or mucosa of the male external genitalia. Research was carried out for 4 consecutive years (2006-2009). All lesions on the skin/ mucosa of the male external organs, considered to be normal variations, are shown in table 1 [1].

The incidence of particular normal variation was analyzed in all diagnosed patients. Additionally, the patients who were referred to Clinic for "non- pathological" reasons only were also registered.

RESULTS

The incidence of particular normal variation in patients who were referred to the outpatients' clinic of the Department of Dermatology, Venereology and Allergology of the Medical University of Gdańsk is shown in table 2.

Hyperpigmentation of the median raphe of the penis and scrotum was found to be the most common normal variation in the analyzed group of patients (86.5%), the next most common variation being pearly penile papules (PPP) and prominent veins, (both 24%). Sebaceous hyperplasia or ectopic sebaceous glands were diagnosed in 9% of the patients. Melanocytic nevi were equally often diagnosed (9.5%), whereas in the dermatoscopic examination,

Table 1. Normal variants on male external genitalia

Hyperpigmentation of the median raphe of the penis and scrotum
Skin tags (acrochordons)
Pearly penile papules
Sebaceous hyperplasia or ectopic sebaceous glands
Melanocytic nevi
Prominent veins
Angiomas and angiokeratomas
Bier's spots
Circumcision

Table 2. Incidence of normal variants

Normal variation	Normal variation being the reason for referral to our Clinic	Percentage (n = 32)	Normal variations in all diagnosed patients	Percentage (n = 400)
Hyperpigmentation of the median raphe of the penis and scrotum	0	0%	346	86.5%
Skin tags (acrochordons)	2	6.3%	28	7%
Pearly penile papules	25	78.1%	96	24%
Sebaceous hyperplasia or ectopic sebaceous glands	0	0%	36	9%
Melanocytic nevi	2	6.3%	38	9.5%
Prominent veins	0	0%	96	24%
Angiomas and angiokeratomas	3	9.4%	18	4.5%
Circumcision	0	0%	22	5.5%
Bier's spots	0	0%	4	1%
Total number of patients	32	100%	400	100%

no patient was found to have atypical nevi. Skin tags occurred in lower number of patients (7%), and were mainly localized on the scrotum, and more rarely on the penile body. Other "non-pathological" lesions were diagnosed in a considerably smaller group of patients.

In 32 patients, who accounted for 8% of all examined patients, the presence of solely "non- pathological" lesions was the reason for the referral. Among these patients, the most frequent reasons for the dermatologic consultation were pearly penile papules, diagnosed in 78.1%. The average age of these

Fig. 1. Hyperpigmentation of the median raphe of the penis.

Fig. 2. Hyperpigmentation of the median raphe of the scrotum.

Fig. 3. Prominent veins of the penis.

Fig. 4, 5. Multiple pearly penile papules on the coronal margin of the glans.

Fig. 6. Several millimeters in diameter, distally directed pearly penile papules resembling genital warts.

Fig. 7. Single pearly penile papule on the glans penis. Diagnosis is based on the dermatoscopic examination.

Fig. 8. Sebaceous hyperplasia on the internal lamina of the prepuce.

Fig. 9. Ectopic sebaceous glands on the glans penis.

patients with PPP was 21.4 (from 16 to 30 years of age). No patient from this group insisted on having these lesions removed. In the past, 5 patients with diagnosed PPP, from the group of 25 patients, underwent treatment for genital warts. The incidence of other normal variations like skin tags, hyperpigmentation of the median raphe of the penis and scrotum, penile angiomas, and angiokeratomas were significantly lower.

DISCUSSION

Up till now, the occurrence of normal variations related to the "non-pathological" changes on the male external genitalia as well as pathological lesions in sick persons were not analyzed. Thus, the incidence of the patients with the above-mentioned eruptions present on the external male genitalia, which were the chief reason for visiting a specialist, remains unclear.

Hyperpigmentation of the median raphe of the penis and scrotum (Fig. 1, 2) was the most commonly diagnosed normal variation of the male genitalia (86.5%), although it was the presence of other genital lesions that made the patients seek the consultants' opinion. Prominent veins (Fig. 3), present in 24% of patients, were never a major complaint, but they were also diagnosed on physical examination.

PPP were diagnosed in 96 from 400 patients examined, which accounted for 24% of the total number of patients. In 25 out of 96 patients with PPP, it was just the occurrence of these lesions that made the patients visit the consultant. Incidence of PPP in the patients of our dermatological clinic coincides with the data obtained from the literature. The incidence of PPP reportedly ranges from 14-48% of male population [2]. PPP are most commonly observed in non-circumcised male adolescents and young adults. With age the number of lesions either decreases or disappear [3]. Clinically, PPP appear as one or several rows of small, flesh-colored, yellow-pinkish or transparent, more rarely yellowish, smooth, dome-topped papules, localized circumferentially around the glans penis. In some cases the lesions are present on both sides of the frenulum or in the corona of glans penis. The papules may be directed one-sided (more often proximally), less frequently distally or multilaterally. Mucous membrane lesions are not accompanied by any subjective symptoms. Histopathological examination in PPP show patterns characteristic of angiofibromas. Differential diagnosis, especially in the case of intensified lesions (Fig. 6) and PPP localized behind the corona of glans penis (Fig. 7), suggests genital warts [4]. Detailed history of each patient, acetic acid test and some differential features found in the dermatoscopic examination allowed to arrive at final diagnoses [4, 5]. PPP are not always accepted by the patients. In order to remove these lesions, chiefly for cosmetic reasons, or in patients with venerophobia, CO_2 or Nd:YAG laser vaporization, cryosurgery, and rarely curettage or electrosurgery are used [2]. Nowadays, laser treatment of PPP seams most promising [6].

In the area of the male genitalia, there are numerous sebaceous glands related to the hair follicles (penile corpus, scrotum), or independent glands (internal lamina of the prepuce (Fig. 8), or less commonly the glans (Fig. 9). Clinically, they appear as numerous, small papules, yellowish in color, which do not give any subjective symptoms. 9% of the examined patients had sebaceous hyperplasia or ectopic sebaceous glands, which was consistent with the reference literature. [7]. Considerable hyperplasia may be mistaken for genital warts or *molluscum contagiosum* and unnecessary treatment may be undertaken.

Congenital and acquired melanocytic nevi may be localized in the area of genitalia, too (Fig. 10). We have detected acquired melanocytic nevi without the features of abnormalities in 38 patients (9.5%), whereas only 2 patients reported them as their major concern. Cullen [8] states that 9% of males have at least one acquired melanocytic nevus in the area of genitalia during lifetime. Treatment depends on the type of the nevi, its location and abnormal features detected in the dermatoscopic examination [9].

In 28 patients, (7%) skin tags were found (Fig. 11). According to Banik et al. in a group of 750 males selected at random, skin tags were diagnosed in 46% cases [10]. The most common sites of genital skin tags in male include groins, sometimes scrotum, penile corpus and the corona of the glans. As a rule these lesions are asymptomatic. In some cases, contact with the underwear may result in a painful bleeding or predispose to bacterial superinfections. Treatment involves removal of the skin tags by means of electro- or cryosurgery [11].

Angiomas (Fig. 12) and angiokeratomas (Fig. 13) were detected in 18 patients (4.5%). In most cases the lesions were multiple, and occurred as small (1-3 mm), cherry red to port-colored papules. These lesions seem to be benign, still due to the localization prone to injury, they may lead to occasional bleedings [12]. However, even then, the treatment is unnecessary. For cosmetic reasons, laser treatment or electrosurgery is used, still with relapses of the lesions observed [11].

White spots were found in 4 patients. They were probably due to a vascular anomaly (Bier's spots), which occur due to vasoconstriction and are localized on the penile corpus (Fig. 14). The same

Fig. 10. Typical melanocytic nevus on the shaft of the penis.

Fig. 11. Hyperpigmented skin tags on the shaft of the penis.

Fig. 12. Single angioma on the internal lamina of the prepuce.

Fig. 13. Multiple hemorrhagic keratomas on the scrotum.

Fig. 14. Bier's spots.

macules are more often observed on the other parts of the body, in the extra-genital region. [13].

CONCLUSIONS

Normal variants represent a substantial percentage of generally asymptomatic eruptions and the only indication for their removal is cosmetic discomfort or venerophobia.

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