Case Report

Warty Carcinoma Penis: An Uncommon Variant

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Penile carcinoma frequency varies widely in different parts of the world and comprises 1–10% of all the malignancies in males [1]. Warty carcinoma (WC) of the penis is an unusual neoplasm and a variant of penile squamous cell carcinoma (SC) [2]. It comprises 5%–10% of all the penile carcinomas [3]. The diagnosis is typically made by histological features of hyperkeratosis, arborescent papillomatosis, acanthosis, and prominent koilocytosis with nuclear pleomorphism [2].

1. Introduction

Penile carcinoma frequency varies widely in different parts of the world and comprises 1–10% of all the malignancies in males [1]. Warty carcinoma (WC) of the penis is an unusual neoplasm and a variant of penile squamous cell (SC) carcinoma [2]. It comprises 5%–10% of all the penile carcinomas [3]. The diagnosis is typically made by histological features of hyperkeratosis, arborescent papillomatosis, acanthosis, and prominent koilocytosis with nuclear pleomorphism [2].

2. Case Presentation

A 65-year-old male presented with mass in the penis for 18-month duration. It was insidious in onset and gradually progressive. On general examination, the condition of the patient was fair. All the vitals were in stable conditions. There was no palpable inguinal lymphadenopathy. On local examination, there was a large fungating penile mass identified in the glans penis and extending to the shaft of penis. Total penectomy was done and sent for histopathological examination. Grossly, the specimen showed an exophytic, gray white firm mass involving the glans penis and coronal sulcus and extending up to the prepuce and shaft of penis measuring 6 × 4 cm. The cut surface showed a papillomatous growth (Figure 1). On microscopic examination, the lesion had an arborescent papillomatosis with prominent fibrovascular core (Figure 2). Parakeratosis, acanthosis, and koilocytosis with nuclear pleomorphism were present throughout (Figure 3). The case was reported as WC of the penis with uninvolved surgical margins. On follow-up after 1 year, patient was doing fine and there was no recurrence.

3. Discussion

Carcinoma of the penis is rare in developed countries and the frequency is high in Asia (China, Vietnam, Sri Lanka, Burma, and India), Africa (Uganda), and Latin America (Mexico) comprising 10% of all the malignancies [4]. The etiology is typically multifactorial and includes poor hygiene, lack of circumcision, preexisting condyloma acuminatum, squamous intraepithelial lesions with warty features, and HPV infections [4]. The majority of penile neoplasms are SC, but within this category a heterogeneous variety of growth patterns and histologic subtypes may be seen. The different histological variants include basaloïd, verrucous, papillary,
Figure 1: Close-up view of total penectomy specimen showing papillomatous growth.

Figure 2: Arborizing papillomatosis with parakeratosis and acanthosis (H&E, ×100).

Figure 3: Conspicuous koilocytic atypia present throughout the tumor (H&E, ×400).

Figure 4: Exophytic verruciform lesions of the penis include:

(i) condyloma acuminatum;
(ii) giant condyloma acuminatum;
(iii) warty (condylomatous) squamous cell carcinoma;
(iv) warty-basaloid carcinoma;
(v) verrucous carcinoma;
(vi) papillary squamous cell carcinoma, not otherwise specified;
(vii) carcinoma cuniculatum.

Histologically, a papillomatous pattern with acanthosis is noted in all the cases of verruciform lesions and thus they may mimic each other both clinically and on microscopy (Table 1) [2, 10–12]. WC is diagnosed when typical features, namely, papillomatous exophytic growth with rounded papillae, prominent fibrovascular cores, irregular infiltrative tumor interface, and conspicuous koilocytosis, are present. Fibrovascular cores are prominent in WC, papillary carcinoma, not otherwise specified (NOS), and giant condyloma and mostly absent in verrucous carcinoma. Koilocytosis is characterized with clear perinuclear cytoplasmic haloes, wrinkled, enlarged nuclei, bimultinucleated cells, and dyskeratosis [2]. Koilocytic atypia is characteristically seen throughout the tumor in WC and may be seen on the surface in giant condyloma and absent in verrucous and papillary carcinoma, NOS. In verrucous carcinoma, the papillae are regular and the base is characteristically broad and pushing [13]. In papillary carcinoma, NOS, the tip of the papillae is polymorphic, namely, straight, undulated, spiky, rounded, or blunt, and the interface of the tumor and stroma is irregular, but the prominent condylomatous papillae and conspicuous pleomorphic koilocytosis, hallmark of warty tumors, are absent [14]. Warty-basaloid carcinoma also needs to be differentiated from pure WC. It has got 3 histological patterns in which the most common type shows warty growth on the surface and basaloid features in deep infiltrative nest [10]. Carcinoma cuniculatum is characterized by exoendophytic growth with irregular and deep sinuses and tracts connecting the surface of the neoplasms to deep anatomic structures [11, 12].
MRI of the penis to identify invasion into the corpora cavernosa or spongiosum is helpful when the depth and extent of tumor remain unclear on physical examination [4]. Abdominal and pelvic CT or MRI may be useful to exclude metastatic disease. Partial penectomy with a 2 cm proximal resection margin remains the gold standard treatment [4]. But in our case total penectomy was done due to extension of the tumor into the proximal shaft of the penis. In a study done by Cubilla et al. [15], three prognostic groups of penile SC were identified in relation to different histologic subtypes and outcome. The verruciform tumors had a better prognosis compared to SC of the usual type which in turn had a better prognosis than the basaloid-sarcomatoid group. Guimarães et al. [16] have documented a 10% recurrence rate for WC when compared to 28% for usual SC. Metastatic rate of papillary carcinoma, NOS, is similar to WC and lower than basaloid carcinomas but lower than usual SCs [14]. The incidence of metastasis in warty-basaloid tumors is similar to that of usual SC, higher than WC, and lower than basaloid carcinomas [10].

4. Conclusion
Warty carcinoma of penis is an unusual variant of squamous cell carcinoma. The various histological entities with exophytic papillary lesions together known as “verruciform” group of neoplasms of penis should be considered as differential before a definite diagnosis.

Competing Interests
The authors declare that there is no conflict of interests regarding the publication of this paper.

References

Table I: Comparison of warty carcinoma and other verruciform lesions.

<table>
<thead>
<tr>
<th></th>
<th>Giant condyloma</th>
<th>Warty carcinoma</th>
<th>Verrucous carcinoma</th>
<th>Warty-basaloid carcinoma</th>
<th>Carcinoma cuniculatum</th>
<th>Papillary carcinoma, NOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average size</td>
<td>&gt;8 cm</td>
<td>&gt;5 cm</td>
<td>&lt;3.5 cm</td>
<td>2–12 cm</td>
<td>5–8.9 cm</td>
<td>3–14 cm</td>
</tr>
<tr>
<td>Papillae</td>
<td>Arborizing, nonundulating, rounded</td>
<td>Long and undulating, Arborizing, rounded, or tapered</td>
<td>Straight</td>
<td>Similar to warty carcinoma</td>
<td>Straight or irregular</td>
<td>Irregular, complex</td>
</tr>
<tr>
<td>Fibrovascular cores</td>
<td>Prominent</td>
<td>Prominent</td>
<td>Rare</td>
<td>Present in papillomatous variant</td>
<td>Present on the surface</td>
<td>Present</td>
</tr>
<tr>
<td>Koilocytic atypia</td>
<td>Present at surface</td>
<td>Prominent and diffuse</td>
<td>Absent</td>
<td>Present in papillomatous variant</td>
<td>Present on the surface</td>
<td>Absent</td>
</tr>
<tr>
<td>Base</td>
<td>Regular, broad, and pushing</td>
<td>Regular or irregular and jagged</td>
<td>Type 16</td>
<td>Absent</td>
<td>Type 16</td>
<td>Absent</td>
</tr>
<tr>
<td>HPV</td>
<td>Type 6–12</td>
<td>Type 16</td>
<td>Absent</td>
<td>Absent</td>
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