Case Report

Vulvar Pyogenic Granuloma in a Postmenopausal Woman:
Case Report and Review of the Literature

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1. Introduction

Although pyogenic granulomas (PG) are common and benign vascular proliferations of the skin and mucous membranes, they are relatively rare on the vulva.

2. Case Report

A 57-year-old G7P7 postmenopausal woman presented with a 3-year history of a foul smell and bleeding lesions in the genital region. A gynecologic examination revealed multiple large papillomatous, pedunculated, and lobulated lesions that were cherry-red and infective in appearance. There was a 2-cm lesion at the upper intersection of the labia majora, a 2-cm lesion on the right labium majus, and a 4-cm lesion on the clitoris (Figure 1). There was no vaginal or cervical pathology. An ultrasound examination revealed a normal uterus and adnexa. The patient complained of itching, and the lesions were asymptomatic, except for occasional bleeding. All lesions were excised and sent for histopathological examination, which revealed an ulcerated polypoidal structure with extensive proliferation of vascular channels lined by a single layer of endothelium. The histopathological features were consistent with PG.

Conclusion. The present case is the first case of multiple pyogenic granulomas on the vulva in a postmenopausal woman.
Figure 1: Appearance of multiple pyogenic granulomas of the vulva.

Figure 2: Postoperative view of the vulva.

Figure 3: The vascular channels lined by a single layer of endothelium surrounded with lymphomononuclear cells (hematoxylin and eosin stain, original magnification ×100).

viruses were negative. There was no palpable inguinal or pelvic lymphadenopathy.

All lesions were excised and sent for histopathological examination (Figure 2), which revealed an ulcerated polypoidal structure with extensive proliferation of vascular channels lined by a single layer of endothelium (Figure 3). The intervening stroma, consisting of collagen, was infiltrated by lymphomononuclear cells. The histopathological features were consistent with PG. There was no noticeable recurrence until six months after the excision.

3. Discussion

Although it is believed that PG is a reactional benign lesion formed due to minor trauma and/or chronic low-grade local irritation [6–8], its etiology is still unclear. Recently, it has been considered to be a reactive hyperproliferative vascular response to a variety of stimuli, rather than a neoplastic or infectious process [9]. Minor traumas or underlying cutaneous diseases could cause an excessive local production of angiogenic growth factors or cytokines, which could be an important factor in the pathogenesis of PG [10, 11]. It has been reported that minor trauma related to zipper accidents, sexual intercourse, and circumcision has played an important role in the etiology of PG of the male genitalia [9]. In a case presented by Gupta et al. [4], although they did not definitely know whether the pruritic disease itself or excoriation trauma was the stimulus for the angiogenesis, they thought that the disease had precipitated the PG. In our case, a history of itching due to atrophy of the vulva as a result of menopause could cause chronic irritation and, as a result, hasten the growth of lesions (Table 1).

Although PGs are seen in every age group, a higher frequency of PG is observed in the second decade of life [6], with a female predilection of 2:1 [12], probably because of the vascular effects of female hormones (high estrogen and progesterone) [7]. There is a study in which estrogen and progesterone receptor positivity has been demonstrated in mucosal PGs [13]. However, in a case of cutaneous PG during pregnancy reported by Rumelt et al. [14] and in a study of 21 cutaneous PGs reported by Nichols et al. [15], estrogen and progesterone receptors were found to be negative. In another study, the distribution of cutaneous PGs were found to be equal in both sexes, and the researchers concluded that estrogen had no effect on the development of cutaneous PGs [16]. As seen from the reports, cutaneous PGs are not associated with hormonal status [14–16]. As our case was the first vulvar (cutaneous) case in the postmenopausal period, we think it supports the hypothesis that estrogen does not play a role in the etiology of cutaneous PGs.

Although PG usually occurs as a single lesion [4], there were multiple lesions in the present case. Pyogenic granulomas of the vulva reported in the literature are all multiple [4, 5]. Although multiple eruptive PGs can occur after excision or in the presence of underlying cutaneous pathology [16, 17], there were no predisposing factors in our case or in other cases of multiple vulvar lesions presented in the literature [4, 5]. Pyogenic granuloma lesions may be seen in any size from a few millimeters to a few centimeters [3]. Most are small, less than 5 mm in diameter, and grow
Table 1: Reports of pyogenic granuloma of vulva.

<table>
<thead>
<tr>
<th>Cases</th>
<th>Age</th>
<th>Trauma?</th>
<th>Number of lesions (multiple or single)</th>
<th>Location</th>
<th>Symptom</th>
<th>Treatment</th>
<th>Recurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gupta et al.</td>
<td>21</td>
<td>Itching</td>
<td>Multiple</td>
<td>Labia majora</td>
<td>Bleed</td>
<td>Total excision</td>
<td>No</td>
</tr>
<tr>
<td>Kaur et al.</td>
<td>7</td>
<td>No</td>
<td>Multiple</td>
<td>Labia majora, minora, and introitus</td>
<td>Bleed</td>
<td>Total excision</td>
<td>No</td>
</tr>
<tr>
<td>Our case</td>
<td>57</td>
<td>Itching</td>
<td>Multiple</td>
<td>Labia majora and clitoris</td>
<td>Bleed</td>
<td>Total excision</td>
<td>No</td>
</tr>
</tbody>
</table>

rapidly over several weeks [18]; however, the vulvar lesions in our case and in the other two cases were large lesions [4, 5] (Table 1).

**Conclusion**

To the best of our knowledge, ours is the first case of multiple pyogenic granulomas on the vulva in a postmenopausal woman. It is difficult to make conclusions regarding the prevalence and risk factors for vulvar PG with the few reported cases that there are. However, obstetricians should keep in mind the diagnosis of PG in cases of multiple rapidly growing, lobulated, erythematous, bleeding lesions of the vulva.

**Consent**

Written informed consent was obtained from the patient for publication of this case report and any accompanying images. A copy of the written consent is available for review by the Editor-in-chief of this journal.

**Conflict of Interests**

The authors declare that they have no conflict of interests.

**References**


