CASE REPORT

Extra Mammary Paget's Disease of Vulva—a Case Report

Than Singh Tomar¹ · Suchetha Sambasivan¹ · Rema Prabhakaran Nair¹ ·
Shaji Thomas¹ · Preethi T Ramadas¹

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Abstract Extra mammary Paget's disease (EMPD) is a rare condition involving the vulva, anogenital region, and axilla. Vulvar disease usually presents as a slow growing well-defined itchy plaque with crustations or ulcerations over the affected area in postmenopausal women. Well-established guidelines for diagnosis and management are not available for this rare condition. Our patient is a 64-year-old postmenopausal woman with a history of similar complaints of 2 years duration, not responding to multiple topical treatments. She was diagnosed with EMPD on incisional biopsy and treated with surgery at our centre.

Keywords Extra mammary Paget's disease · Vulva · Vulvar disease

Introduction

Extra mammary Paget's disease (EMPD) is a rare condition which presents as a raised itchy patch over the anogenital area, axillae, or vulvae. Because of rarity of this condition, no definitive treatment guidelines are available for diagnosis and management. Recent Cochrane review done on this disease noted that methods of diagnosis and treatment pattern differs significantly among physicians and surgeons; and definitive conclusion cannot be drawn based on available literature [1].

Case Report

A 64-year-old postmenopausal lady was evaluated by a general practitioner for complaints of an itchy pigmented papular lesion over the genitalia for 2 years duration. She had been treated with multiple topical treatments for the same complaints and did not respond. She was further evaluated with an incisional biopsy which was reported as Lichen planus and was referred to our center when she failed to respond to local treatment.

Local examination revealed an extensive, well-defined pigmented papular plaque over bilateral labia majora extending on to the labia minora, clitoris, and left labiocrural fold (Fig. 1a). Lesion was confined to skin. Per-speculum examination was normal. There was no significant inguinal lymphadenopathy. There were no other similar lesions noted elsewhere.

Investigations

The H&E sections of the biopsy taken from the lesion were reviewed at our center. It showed atypical cells in the basal layer of the epidermis with moderate amount of pale cytoplasm and vesicular nuclei and nucleoli. On IHC examination, these cells were positive for pan cytokeratin (AE1/AE3) gross cystic disease fluid protein (GCDFP) and carcinoembryonic antigen (CEA). These cells were negative for S100, HMB 45, CK20, and the high molecular weight CK 5/6, which rules out possibilities of malignant melanoma (S100 and HMB 45), pagetoid extension from transitional cell carcinoma, and colonic adenocarcinoma (CK20) and Bowen's disease (CK5/6) (Fig. 2). Based on these findings, a pathological diagnosis of EMPD was made. She was further evaluated with a bilateral mammogram, cervical smear, ultrasonography abdomen and pelvis, cystoscopy, and colonoscopy to rule out the possibility

✉ Than Singh Tomar
thansinghtomar111@gmail.com

¹ Regional Cancer Centre (RCC), Medical College Campus,
Trivandrum, Kerala 695011, India

Fig. 1 **a** Clinical appearance. **b** Surgical defect after excision. **c** Reconstruction. **d** Specimen

of synchronous lesions at respective sites. These investigations did not reveal any significant abnormality.

Differential Diagnosis

EMPD may mimic clinically more common conditions like irritant dermatitis, lichen planus, intertrigo, candidiasis, psoriasis, or Bowen's disease and remain undetected for prolonged periods.

Treatment

She was planned for surgery at our center. She underwent wide excision of the lesion with a 2-cm gross margin, which amounted to en bloc removal of the bilateral labia majora, minora, and clitoris [2] (Fig. 1b). The right labial defect was closed primarily and the superomedial upper thigh fasciocutaneous transposition flap was used for left labial

reconstruction (Fig. 1c). She was discharged uneventfully on postoperative day 5. Margins of resection were grossly clear (Fig. 1d) and final histopathologic examination was showing same morphology with margins of resection were free.

Discussion

EMPD was first described by R Crocker in the penis and scrotum in 1888 [3]. Vulvar EMPD is a rare condition and it accounts for less than 1 % of the vulvar malignancies with usual age of presentation at 60 years [4]. Precise source of origin is not well known; however, apocrine and eccrine ductal and glandular cells, pluripotent keratinocyte stem cells and Toker's cells have all been claimed [5]. EMPD is classified as primary (intraepidermal) or secondary (based on cell of origin) and these subtypes have been further subdivided based on site of origin into urothelial, anorectal and others [6]. The most

Fig. 2 **a** H&E stain, *arrow* showing atypical cells in the epidermis. **b** CK 5/6. **c** GCDFP. **d** CEA. **e** S-100. **f** HMB 45

common presenting symptoms of EMPD are pruritus and pink eczematoid lesions with hyperkeratosis. It may remain undiagnosed for prolonged periods of time because of its resemblance with more chronic conditions and slow progression. Incisional biopsy should be done on all suspicious lesions. EMPD shows large cells with pale staining abundant cytoplasm on H&E stain. Further IHC should be done to rule out melanoma (HMB 45, S 100). Other IHC markers useful in this condition are CEA, GCDFP 15, and cytokeratin 7 and 20. An associated underlying malignancy may appear in 12–33 % of the cases; therefore, all patients should be thoroughly investigated for occult primary malignancy [7]. Patients should be investigated to rule out other sites of disease like the breast, colon, and bladder by suitable investigations like colonoscopy, cystoscopy, and imaging. EMPD has potential to evolve further into invasive malignancy and can involve regional nodes and systemic metastases [8]. Surgical treatment is the main therapeutic modality used for this rare condition [1]. Mohs's micrographic surgery followed by radiation has been tried in this condition [9].

Topical treatment with 5 % imiquimod cream has been tried with 52.4 % complete response and 28.6 % partial response with mean duration of treatment more than 16 weeks [10]. MPD has been treated with other modalities like photodynamic therapy, CO₂ laser, topical 5 FU cream and combination of above mentioned therapies [11]. Recurrence rates are high for EMPD because of frequent subclinical extension of disease beyond visible margins, so all cases should be kept on follow-up to detect local or regional recurrence of disease.

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