Chronic Papillomatous Dermatitis in a Patient with a Urinary Ileal Diversion: A Case Report and Review of the Literature

Pooja H Rambhia¹,²*, Ruzica Z Conic¹,², Kord Honda¹,² and Danyelle Dawes¹,²

¹Case Western Reserve University School of Medicine, Cleveland, USA
²Department of Dermatology, University Hospitals Cleveland Medical Center, Cleveland, USA

Keywords
Chronic papillomatous dermatitis, Stoma dermatitis, Peristomal skin

Abbreviations
Chronic Papillomatous Dermatitis (CPD), Human Papilloma Virus (HPV)

Introduction
Gastrointestinal surgical procedures result in approximately 100,000 ostomies per year in the United States, with over 10,000,000 people living with intestinal stomas [1]. Proper use and management of a stoma appliance relies heavily on peristomal skin integrity; however abdominal stoma patients can develop various dermatologic complications including allergic contact dermatitis, mechanical dermatitis from appliance stripping, infections, pyoderma gangrenosum and irritant contact dermatitis. Peristomal irritant contact dermatitis is partially attributed to leakage around the stoma due to ill-fitting ostomy equipment. Chronic exposure of peristomal skin to urine and fecal matter can manifest as an acanthomatous inflammatory reaction, known as Chronic Papillomatous Dermatitis (CPD). CPD has been classically associated with urostomies, while few ileostomy-associated CPD reports exist [1]. Specifically, it has been attributed to the alkaline pH of urine mechanical irritation and epidermodysplasia verruciformis Human Papilloma Virus (HPV) types [2]. 9.5% of stoma patients reportedly develop CPD after the stoma has been present for an average of 6.5 years [3].

Histopathological descriptions of CPD have ranged broadly in various urologic and wound care literatures including hyperkeratotic stenosis, stomal keratinization, pseudoverrucous, pseudoepitheliomatous, acanthomatous epidermal hyperplasia and reactive acanthosis. The majority of CPD lesions have been previously described to fall under the realm of reactive changes resulting from a chronic irritant contact dermatitis. Furthermore, the lack of CPD reports in dermatologic literature, and the rarity of specifically ileostomal associated CPD cases indicate a need for further clinical and histologic description (Table 1). To this end, we report a case of ileostomy-associated CPD and a review of the literature for clinical and therapeutic interest (Figure 1).

Case Presentation
A 74-year-old Caucasian male was referred to dermatology for an exophytic, peristomal skin lesion suspected to be peristomal dermatitis. Patient history was significant for prostate cancer treated with Cyber Knife radio surgery and subsequent cystoprostatectomy with ileal conduit urinary diversion and nephrectomy. One year later, the patient presented with a 3 cm tender, flesh-colored, exophytic papillomatous nodule around the ostomy site. The mass progressively enlarged until the primary stoma site was completely occluded, necessitating catheter insertion proximal to the ostomy site for urine release. Shave biopsy of the nodule was performed to exclude neoplastic growth.

*Corresponding author: Pooja H Rambhia, Department of Dermatology, University Hospitals Cleveland Medical Center, 2085 Cornell Road, Cleveland, OH 44106, USA, Tel: 516-870-8632, E-mail: phr17@case.edu

Received: June 30, 2017; Accepted: September 09, 2017; Published online: September 11, 2017

Microscopic examination revealed papillomatosis and massive parakeratosis with significant regular epidermal hyperplasia and vertical papillary dermal fibrosis with pallor of upper layer keratinocytes. There was a mild superficial lymphocytic, neutrophilic and eosinophilic perivascular infiltrate with foci of occasional neutrophil exocytosis. These histopathologic findings were consistent with CPD. The nodule was excised and the patient was advised to perform vinegar soaks of the affected area. No complications were noted following the advised vinegar soaks.

**Discussion**

We report a case of CPD, a distinct cutaneous eruption comprised of exuberant, wart-like papules due to stomal site chronic irritant contact dermatitis. Similar

![Table 1: Clinical and histopathologic characteristics of chronic papillomatous dermatitis reports: Review of the literature.](image-url)
lesions are described as hypertrophic scarring, hyperkeratotic stenosis, stomal keratinization, pseudoepitheliomatous hyperplasia, and reactive acanthosis in urologic and wound care literature [1,4]. Stomal irritant reactions have similar histopathologic features, though clinical appearance is contingent on stoma type and source of irritation. The higher incidence of CPD with urostomies reported in the literature may be due to larger cutaneous surface area exposed to urine irritation. Ileostomies contain high concentrations of degradative enzymes and bile acids, which can lead to severe dermatitis and erosions [1].

HPV’s role in the etiology of CPD has been contended. HPV can lead to a number of benign and malignant epithelial tumors, due to viral integration and expression of oncoproteins E6 and E7 [5,6]. The resulting genomic instability has been theorized to be involved in the development of rare-stoma related cutaneous pathologies [3]. Ileostomal-associated papillomatous lesions have been reported positive for epidermodysplasia verruciformis HPV strains, as well as HPV-16 [5]. Still, the role of HPV in CPD remains unclear as not all lesions are positive for HPV and cutaneous symptoms resolve following removal of irritant source [5]. Furthermore, amongst reported cases of HPV-positive CPD, clinical presentation, histopathology, and treatment do not differ from HPV negative CPD cases [2,3,5]. As such, HPV testing was not performed, as it would not have altered patient care. Nevertheless, the potential spread of cutaneous HPV to mucosal surfaces of the intestine highlight the need for timely diagnosis of peristomal lesions.

Primary management involves refitting the stomal apparatus and reducing bag change intervals. If urine leakage occurs due to a receding stoma, convex-backed appliances can lengthen urostomies and stop leakage. Construction of a protruding stoma, i.e. classic Brooke ileostomy, can be used to prevent effluence of stomal contents [7]. Non-invasive treatment includes topical silicone, hydrocortisone and 5-fluorouracil creams [8]. Vinegar soaks at each bag change may be effective in resolution of lesions [2]. If CPD lesions result in stoma stenosis, extirpation and revision may be indicated. Maintaining stomal hygiene is necessary to minimize irritant dermatitis from fecal and urinary soiling.

Recognition and awareness of peristomal lesions among dermatologists, urologists and wound care specialists is necessary to improve patient quality of life.
Conflict of Interest Disclosure

None to declare.

Funding Source

PHR and RZC are supported by the NIH 5 T32 AR 7569-22 National Institute of Health T32 grant.

References