



## Dermatitis artefacta

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**Abstract** Dermatitis artefacta, also known as factitial dermatitis, is a condition whereby self-induced skin damage is the means used to satisfy a conscious or unconscious desire to assume the sick role. It is particularly common in women and in those with an underlying psychiatric diagnosis or external stress. The diagnosis is one of exclusion, and it is often difficult to confirm, with patients rarely admitting their role in the creation of their lesions. Treatment can be challenging, and management should adopt a multidisciplinary team approach composed of dermatologists and mental health professionals. We present a literature review of dermatitis artefacta, highlighted by a case report of a patient with bilateral ulcerations to the legs, which after thorough investigation represented dermatitis artefacta.

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### Introduction

Dermatitis artefacta (DA), also known as factitial dermatitis, is a condition whereby self-induced skin damage is the means used to satisfy a conscious or unconscious desire to assume the sick role. DA should be distinguished from malingering, in which skin damage may be inflicted for the purpose of secondary gain. Munchausen syndrome is similar to DA; however, in Munchausen syndrome, the patient usually exhibits an exaggerated highly dramatized story and has other organ involvement, along with a history of recurrent hospital attendances.<sup>1–3</sup> Different terminology has been used to describe self-inflicted cutaneous signs, and the European Society of

Dermatology and Psychiatry has produced recommendations whereby the term “factitious disorder” encompasses several previously coined conditions, including factitial dermatitis and dermatitis artefacta (Figures 1 and 2).<sup>2,4</sup>

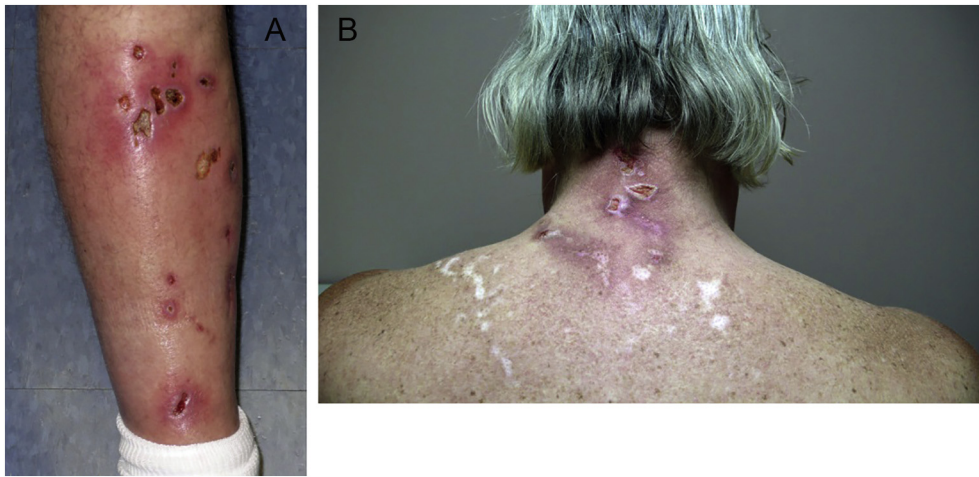
DA is more common than reported due to lack of recognition, along with diagnostic difficulty, with patients rarely admitting their role in the development of the cutaneous lesions. It is particularly common in women, patients in early adulthood, and in those with an underlying psychiatric diagnosis or external stress,<sup>3</sup> and is frequently observed in health care professionals. Common associated psychiatric findings include borderline personality disorder, dependency, and manipulative behavior. In addition, an affect incongruent with the severity of the presentation is often observed.

When assessing a patient with DA, a detailed history should be sought. This will aid in determining any underlying stress, social issues, or underlying psychiatric illness. The dermatologic clinical features can be wide ranging, may display different temporal pathology, and demonstrate irregular geometric features. Different techniques and instruments may be

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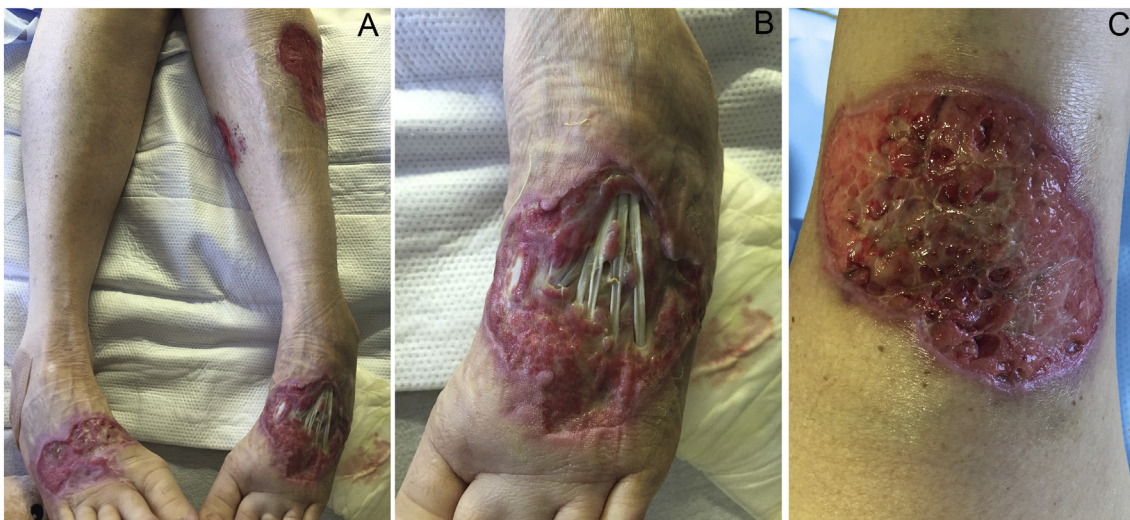


**Fig. 1** (A) Dermatitis artifacta. Note the characteristic punched-out lesions with sharp borders. (B) Dermatitis artifacta: although there is healing at the edges of some lesions and even healing of others, the patient has continued to dig at the roundish lesion.

employed by the patient to induce the cutaneous signs, including heat, ice-cold or boiling water, chemicals, or overzealous skin manipulation with fingernails. Several anatomic sites may be involved but the sites are usually confined to areas within easy reach. Cutaneous manifestations vary widely, occurring on a background of normal-appearing skin and may include ulcerations with irregular, jagged borders, erythematous plaques, hyperpigmentation, erosions, burns, bullae, purpura, or ecchymosis, as well as excoriations and lichenification.<sup>3,5</sup> A classification for artefactual lesions with five categories has been proposed, of which the last two are specific for DA (Table 1).<sup>6</sup>

A detailed differential diagnosis should be employed before making a diagnosis of dermatitis artefacta (Table 2). DA frequently manifests in the form of ulcers and has been known to masquerade as pyoderma gangrenosum (PG).

PG, considered to be a disorder of impaired neutrophil function, is an important mimicker of DA. It initially presents as an erythematous papule, rapidly progressing to a deep painful ulcer with an erythematous-violaceous undermined border. Conversely, PG may also be incorrectly diagnosed; a review of 240 patients initially diagnosed as PG revealed that 40% were subsequently found to have an alternate diagnosis.<sup>7</sup> As such, the clinician should maintain an open mind when formulating a differential diagnosis, while remaining cognizant of disease mimickers and reexploring the diagnosis where appropriate. In addition, a retrospective case review of patients with DA who attended a dedicated psychodermatology clinic observed that 32% of the cases were children under the age of 16 years.<sup>8</sup> It is, therefore, important that there is a low threshold for excluding sexual or physical abuse as a possible cause of the cutaneous pathology.



**Fig. 2** The patient has dug (A, B) her foot until the tendons are showing, while she has permitted some healing (C) of another lesion.

**Table 1** Classification of artefactual lesions

- 1: Lesions produced consciously for a secondary gain that is consciously desired (malingering)
- 2: Lesions produced consciously in response to the demands of a delusional belief (monosymptomatic hypochondriasis)
- 3: Lesions produced by repetitive actions such as picking, scratching, or rubbing (obsessive-compulsive disorder)
- 4: Lesions produced consciously or unconsciously to satisfy a psychologic need that is not consciously understood (dermatitis artefacta)
- 5: Lesions produced on another to satisfy a psychologic need of the perpetrator that is not consciously understood (Munchausen’s by-proxy)

Adapted from Koblenzer C.S. Neurotic excoriations and dermatitis artefacta. *Dermatologic Clin.* 1996;14:447-455.<sup>6</sup>

Although DA may be suspected on the first consult, it is a diagnosis of exclusion. As such, appropriate considerations should be sought while not investigating inappropriately and failing to address the underlying etiology.

Histologic evaluation of the edge of an ulcer may provide useful clinical information and aid in excluding other differential diagnoses. There are no specific histopathologic features specific for DA; however, the presence of epidermal multinucleated ( $\geq 5$ ) keratinocytes has recently been highlighted as an important finding that, while not specific, when used in conjunction with other histologic features (eg, epidermal necrosis, subepidermal blisters, and the clinical findings), may be suggestive of DA<sup>9</sup> (Table 3). In addition, epidermal multinucleated keratinocytes are rarely present in the other differential diagnoses.

Management of DA is challenging. A dogmatic, aggressive approach can lead to breakdown of the physician-patient relationship; therefore, a nonconfrontational interaction should be employed. Appropriate investigational exploration with subsequent explanation of the findings in a nonjudgmental manner is advised. A joint approach with both dermatology and mental health professionals is recommended and has shown to have beneficial outcomes.<sup>8</sup> Table 4 highlights the main management modalities that may be employed.

Patients should initially be managed with topical regimens, with input from dermatology nurses. This may include bathing

**Table 2** Common differential diagnoses of dermatitis artefacta

Differential diagnosis
Contact dermatitis (allergic/irritant)
Pyoderma gangrenosum
Infection: bacterial/viral/fungal
Drug eruption
Vasculitis
Panniculitis
Carcinoma, eg, squamous cell carcinoma
Immunobullous disorders
Sexual/physical abuse (especially in children)

**Table 3** Examples of histologic features in dermatitis artefacta

Examples of histologic features in dermatitis artefacta
Epidermal necrosis
Blistering—subepidermal; intraepidermal
Foreign body granuloma(s)
Epidermal multinucleated keratinocytes ( $\geq 5$ )

of the affected skin with soap-free products, using bland emollients, and considering antimicrobial topicals, which may be administered under occlusion to aid clinical improvement, prevent further manipulation, and, if improvement occurs, further support the diagnosis. In addition, the use of aluminum foil in the dressing has been suggested, with disruption to the foil providing an important clue to dressing manipulation by the patient.<sup>3</sup> Although certain medications, such as selective serotonin reuptake inhibitors and antipsychotics (eg, risperidone, aripiprazole, pimozide), may help,<sup>3,8,10,11</sup> the mainstay of treatment is to manage the underlying issues that are causing the presenting clinical features. Cognitive behavioral therapy may be employed, with the overall aim of targeting the underlying problematic behavioral patterns or issues with self-esteem and self-confidence.<sup>12</sup> Cognitive behavioral therapy may also aid in bringing the patient’s associated thoughts and emotions to conscious awareness and seek to modify these in a positive way. Relaxation therapy and psychotherapy may also be beneficial. Long-term prognosis may even be positive, with a recent study demonstrating 72% of their patients showing a marked improvement or complete resolution of their cutaneous features.<sup>8</sup> In nearly all cases, there will be an underlying psychologic issue that once addressed, accepted by the patient, and then subsequent tailored management employed, both the physician and the patient should witness clinical improvement with enhanced patient cooperation.

### An illustrative patient

Recently we encountered a case of dermatitis artefacta in a patient presenting with multiple cutaneous ulcers.

**Table 4** Management of dermatitis artefacta

Management of dermatitis artefacta
Topical regimens (eg, soap-free products, bland emollients)
Occlusive bandaging +/- with aluminum foil
Topical antimicrobials (if clinically indicated)
Psychotropic therapy: SSRI; antipsychotics
Cognitive behavioral therapy
Relaxation therapy
Psychotherapy
Multidisciplinary team approach
SSRI, selective serotonin reuptake inhibitor.

A 56-year old woman, formerly a nurse, presented with painful, gradually enlarging ulcers present for 3 weeks on the upper and lower extremities. She reported two previous milder episodes of ulcerations within the past 5 years, which resolved without intervention. She described a sensation as though her “skin was melting off.” Despite presenting with these features, the patient seemed strikingly unperturbed by the severity of her wounds. The patient-reported medical history was inconsistent with medical records and included ulcerative colitis, systemic lupus erythematosus, breast cancer, duodenal cancer, celiac disease, depression, and hypothyroidism. Further exploration of the medical history revealed a diagnosis of borderline personality disorder. Review of systems was notable for subjective fevers, chills, weakness, and joint pain.

Clinical observations revealed that the patient was afebrile and in no acute distress. On physical examination there were multiple well-demarcated ulcers with rolled edges and minimal surrounding erythema on her left bicep, right forearm, right thigh and hip, medial and lateral left calf, and the dorsum of her feet bilaterally (Figure 2A). There was no mucosal involvement. Exposed tendons, granulation tissue and fibrinous exudate were present within the ulcer on the dorsum of her left foot (Figure 2B), with a prominent central eschar within the ulcers on the left calf (Figure 2C). There was no obvious purulent drainage from any of the ulcers.

Punch biopsy for hematoxylin and eosin staining revealed completely denuded epidermis, dermal congestion and edema, acute inflammation, leukocytoclastic vasculitis, and subcutaneous fatty tissue necrosis. Direct immunofluorescence was negative. Subsequent excisional biopsy, obtained from the border of the ulcer on the right thigh, revealed focal ulceration, necrosis, evidence of both acute and chronic inflammation, granulation tissue, and polarizable foreign material. Stains of gram, acid-fast bacilli and Grocott-Gomori methenamine silver were negative for microorganisms. Comprehensive vasculitis, hypercoagulable, and infectious workups were unremarkable. An initial culture from the wound on the left foot grew methicillin-susceptible *Staphylococcus aureus*, which was thought to be a contaminant. Three subsequent wound cultures were negative.

Discrepancies arose between the investigational results and the patient-reported history. Serum ANA was negative, calling into question the purported claim of a medical history of systemic lupus erythematosus. Additionally, the patient reported a history of duodenal bulb cancer that required resection; however, examination of her abdomen revealed an absence of incisional scars, and CT imaging revealed normal-appearing bowel with no evidence of prior manipulation.

The ulcerations continued to progress despite administration of an oral steroid at a dose of 60 mg. An ulcer on her left calf deepened significantly within a time span of 24 hours. The ulcers on the dorsum of her feet required debridement and skin grafting. Additionally, the ulcer on her right thigh required a split-thickness skin graft. Unna boots were recommended to

provide a physical barrier against further manipulation. The patient was discharged soon after surgery and was subsequently lost to follow-up.

## Conclusions

DA is a rare cutaneous condition that must be considered when the clinical presentation is atypical and investigations do not yield an alternate diagnosis. Patients may be consciously unaware of the signs they are eliciting and usually have a history of underlying stress or psychologic disorder. DA is a diagnosis of exclusion, and appropriate investigations should be performed to rule out disease mimickers. While histopathologic features are usually nonspecific, the presence of  $\geq 5$  multinucleated keratinocytes may be a useful finding in correlation with the clinical picture.

Management of DA is challenging, and different modalities may be employed, including topical therapies, oral medications, and cognitive behavioral therapy; adopting a multidisciplinary team approach has been shown to be beneficial in allowing patients to come to terms with their illness in an open, nonjudgmental environment.

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