Dermatology and the acute patient

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Abstract

Dermatological conditions can present acutely in primary care or via the emergency department. In some cases, the problem is an acute exacerbation of a pre-existing dermatosis, but in many cases it is a *de novo* presentation and therefore poses a greater diagnostic challenge for the clinicians involved. Although life-threatening dermatoses are relatively rare, the morbidity associated with acute cutaneous disease is high. Early recognition and intervention is important in achieving disease control. This review aims to outline the most frequent and most important of these presentations.

Keywords Acute dermatosis; bullous disorders; drug eruptions; toxic epidermal necrolysis; toxic erythema; urticaria; vasculitis

Key points

- Consider eczema herpeticum as a cause of acute deterioration in a patient with atopic dermatitis
- Remember to request an ophthalmic assessment in cases of herpes zoster involving the first branch of the trigeminal nerve, to exclude a dendritic ulcer
- Always consider infection in cases of vasculitis with fever (blood cultures should be set up)
- Drug eruptions can persist for several days or weeks after withdrawal of the culprit drug
- Consider prescribing secondary prophylaxis with penicillin V after cellulitis of the lower leg
- Rapid deterioration of vital signs (especially development of hypotension) in a patient with lower leg cellulitis should raise the possibility of necrotizing fasciitis and the need for urgent surgical intervention

Acute inflammatory dermatoses

Urticaria/angioedema

Urticaria is one of the most common acute dermatology presentations. It is a type I hypersensitivity reaction. Although there can be a specific trigger (e.g. food, medication), the reaction is in many cases non-specific and may be associated with a low-grade infection, usually viral.[1] Blotchy, erythematous and oedematous patches and plaques develop on the body and are intensely itchy (hives) (Figure 1).

Angioedema: in more severe reactions, associated oedema can close the eyes or cause dramatic lip swelling, which is alarming for the patient. It is usually associated with food or drug hypersensitivity, but C1-esterase deficiency should also be considered. Treatment of most urticarial reactions is with simple antihistamines or occasionally, if the reaction is severe or prolonged, a short course of oral prednisolone. The condition is not life-threatening unless there are associated systemic symptoms of wheeze or laryngeal oedema, or signs of cardiovascular collapse.

Toxic erythema

This is a widespread acute, maculopapular erythema, which can be associated with a drug eruption[2] (see later) or infection. The history is key in determining the aetiology, and associated fever is common. Many toxic erythemas are associated with non-specific low-grade viral infections, but some specific patterns of viral exanthems are recognized, as follows.

Measles: characterized by a morbilliform macular erythematous rash, measles is becoming more frequent again owing to the low uptake of immunization over the past decade.

Fifth disease: erythema produces a slapped cheek appearance, with an associated reticulate erythema on the limbs. It is caused by erythrovirus (formerly parvovirus) B19 infection.

Acute eczema

Patients can present with an acute exacerbation of previous atopic dermatitis (often triggered by infection — bacterial or viral (see eczema herpeticum below) — or as a new presentation). The latter can be an acute exposure to a contact allergen (e.g. hair dye). Acute eczematous reactions on the palms and soles can be associated with extensive formation of vesicles, which can coalesce into large multi-loculated lesions (pompholyx) and cause significant functional impairment. However, in contrast to acute exacerbations of atopic eczema, the patient is usually systemically well and afebrile.

Scabies

This should always be excluded in any patient with extensive pruritus and minimal rash.

Psoriasis

Patients with psoriasis can also present with acute exacerbations. Distinct patterns are recognized.

Guttate psoriasis: the sudden eruption of multiple widespread very small plaques associated with a recent streptococcal infection. It is often the first presentation of psoriasis, although there

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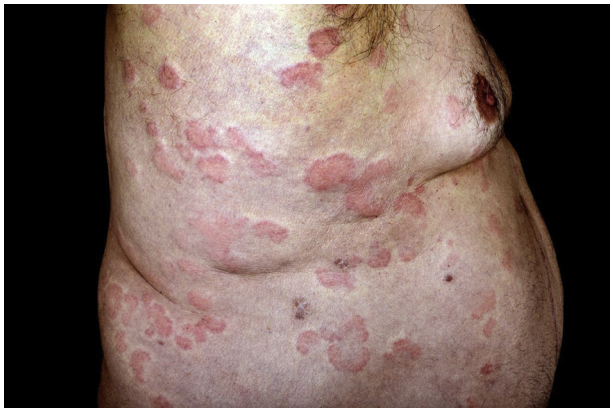

Figure 1 Blotchy, intensely itchy, erythematous and oedematous patches and plaques in urticaria. (Courtesy of King's College Hospital, London.)

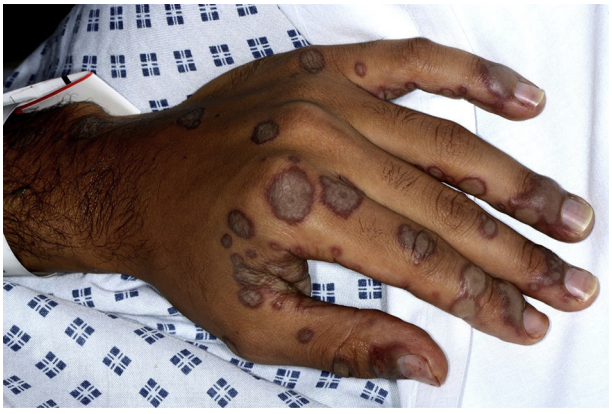

Figure 2 Targetoid lesions of erythema multiforme. (Courtesy of King's College Hospital, London.)

can be a family history. It can be self-limiting, but responds well to ultraviolet B phototherapy.

Acute generalized pustular psoriasis: this is a medical emergency. The patient is acutely unwell with friable erythematous and oedematous skin, studded with pinpoint sterile pustules. These are fragile and easily eroded to leave areas of denuded skin that are vulnerable to secondary infection. Treatment is with systemic agents and careful supportive nursing care. Complications include pulmonary oedema and capillary leak syndrome, and the condition carries a significant mortality. Generalized pustular psoriasis can be caused by the injudicious use of potent topical corticosteroids or the sudden withdrawal of systemic corticosteroids; both are always best avoided in psoriasis.

Erythroderma

Generalized erythema of the skin can be caused by acute exacerbations or pre-existing skin disease (e.g. eczema, psoriasis, pityriasis rubra pilaris). It can also occur as a new phenomenon associated with a drug reaction, infection or cutaneous lymphoma, or as a paraneoplastic phenomenon. The treatment depends on the cause, but the condition is associated with significant physiological disturbance, and attentive supportive care is required.

Erythema multiforme

Targetoid erythematous lesions occur especially on distal sites, palms and soles. Infection, especially with herpes simplex virus (HSV), is the most common cause. It is usually self-limiting (Figure 2).

Erythema nodosum

In this condition, acute, firm, painful areas of subcutaneous swelling develop on the limbs, usually the shins. A reactive immune complex-mediated condition, it can be associated with a wide variety of disorders, including sarcoidosis, infection, drugs and inflammatory bowel disease.

Pyoderma gangrenosum

This is a rapidly developing, acutely painful area of ulceration with a characteristic purplish overhanging edge. It is associated with inflammatory bowel disease, connective tissue disorders and haematological malignancies. The condition is occasionally triggered by trauma, but must be distinguished from necrotizing fasciitis, as debridement is contraindicated and causes the condition to extend. Treatment is with high-dose immunosuppression and treatment of the underlying condition.

Drug reactions

Drug reactions are common and can take many forms from localized (fixed drug eruption) to generalized. The most common patterns are:

- **Toxic erythema**[2] – see above.
- **Drug reaction with eosinophilia and systemic symptoms** – referred to as **DRESS**, this pattern of drug reaction is characterized by erythema, significant oedema, particularly facial, peripheral eosinophilia, lymphadenopathy and transaminitis.[3] Fever is common. The spectrum of causal agents is wide, but antibiotics and anticonvulsants are the most frequent causes. Withdrawal of the culprit drug and treatment with systemic corticosteroids is required, but the reaction can be quite prolonged.
- **Acute generalized exanthematous pustulosis** – sheets of superficial pinpoint pustules appear on a background erythema. The condition can be localized or generalized and is most commonly associated with an antibiotic reaction. The eruption should be distinguished from generalized pustular psoriasis.

Stevens–Johnson syndrome/toxic epidermal necrolysis (TEN)

Erythema multiforme-like cutaneous lesions and erosions occur, associated with involvement of the mucous membranes. Nomenclature depends on the extent of involvement/epidermal detachment. In TEN, widespread areas of epidermal detachment and necrosis occur (Figure 3). Mortality is high, and specialist care with intensive care unit support is required.[4] Drug reactions are most commonly implicated.

Vasculitis

Inflammation of cutaneous blood vessels is manifest as widespread palpable, purpuric lesions, most commonly on the legs