Bullous Eruption of the Lower Limbs Following Equine Phenylbutazone Injection

Louise M. Toms-Whittle · James R. Hickey ·
Deirdre A. Buckley

Published online: 20 May 2010
© American College of Medical Toxicology 2010

This 50-year-old female stable owner, recently widowed, was found comatose with large intact blisters on the sole of the right foot, dorsum of the right foot, and the left shin.

What investigations would you consider?

Answer: Serum barbiturate, benzodiazepine, salicylate, and paracetamol levels.

Blood glucose, liver and renal function tests, full blood count, C-reactive protein, erythrocyte sedimentation rate, serum calcium, and thyroid function tests.

Coma blisters are most commonly associated with barbiturate and benzodiazepine overdose but may be seen in association with other pharmacological agents, in carbon monoxide poisoning or in association with coma following intracerebral events. The cause is obscure but they are thought to be partly due to tissue fluid accumulation related to immobility and to be partly due to skin hypoxia. Common sites are the buttocks, thigh, loins, and shins.

Case Report

Phenylbutazone is a potent nonsteroidal anti-inflammatory drug (NSAID), first introduced in 1952 for the treatment of arthritis. Due to a significant association with gastrointestinal hemorrhage and blood/bone marrow dyscrasias [1], since 1984 its use has been restricted to the treatment of ankylosing spondylitis. Despite the potential for similar effects in animals, “Bute” (equine phenylbutazone) remains widely used by veterinary, equine, and agricultural workers

[2]. We report a patient with a bullous eruption following self-injection of equine phenylbutazone.

A 50-year-old woman was admitted following attempted suicide. She had been unconscious for 20 h before being discovered. An injection site was noted at the left antecubital fossa, with surrounding inflammation. There was marked blistering of the sole and dorsum of the right foot, with further large intact blisters on the left shin. Serum paracetamol (<10 mg/l) and salicylate (105 mg/l) levels were unremarkable; aspartate aminotransferase (308 IU/l) and C-reactive protein levels (127 mg/l) were elevated. On day 5, her brother reported that she had self-injected crushed equine phenylbutazone and acepromazine tablets. The blisters healed in 3 weeks (Fig. 1); the patient received psychiatric care.

At therapeutic doses, phenylbutazone can cause morbilliform and urticarial eruptions, angioedema, photosensitivity, exfoliative erythroderma, erythema multiforme, Stevens-Johnson syndrome, and toxic epidermal necrolysis. Fixed

Fig. 1 Blisters de roofed at day 11

L. M. Toms-Whittle (✉) · J. R. Hickey · D. A. Buckley
Department of Dermatology, Great Western Hospital,
Swindon SN3 6BB, UK
e-mail: louise.toms-whittle@gwh.nhs.uk

drug eruption and acral hemorrhagic bullous eruption have been reported [3]. In overdose, phenylbutazone is one of the more toxic NSAIDs. Treatment is limited to supportive care; however, plasmapheresis may be used in severe cases.

Five previous cases of overdose with veterinary phenylbutazone have been reported [2, 4]. In all cases, the route of administration was oral, and none resulted in a bullous eruption. In our patient, the intravenous route of administration may have resulted in unusually high tissue levels of the drug, promoting bulla formation. The present case bears some similarities to the three patients reported by Millard, where blistering of the hands developed at therapeutic doses of phenylbutazone [3]. The distribution of the blisters in our patient may reflect a combination of factors: decreased peripheral blood flow while unconscious, lower limb edema, and pressure from footwear. We believe that

this striking blistering of the lower limbs represents a drug-induced bullous eruption, most likely caused by phenylbutazone.

References

1. Inman WH (1977) Study of fatal bone marrow depression with special reference to phenylbutazone and oxyphenbutazone. *Br Med J* 1:1500–1505
2. Carpenter SL, McDonnell WM (1995) Misuse of veterinary phenylbutazone. *Arch Intern Med* 155:1229–1231
3. Millard LG (1977) A haemorrhagic bullous eruption of the hands caused by phenylbutazone: a report of 3 cases. *Acta Dermatovenereol (Stockholm)* 57:83–86
4. Virji MA, Venkataraman ST, Lower DR, Rao KN (2003) Role of laboratory in the management of phenylbutazone poisoning. *J Toxicol Clin Toxicol* 41:1013–1024