Case Reports

AN UNUSUAL COMPLICATION OF PHENYLBUTAZONE THERAPY—TOXIC EPIDERMAL NECROLYSIS

C. J. VAS, B.Sc., M.B., B.Ch., B.A.O.

Central Middlesex Hospital*

PHENYLBUTAZONE has manifold side and toxic effects. The purpose of this article is to record an unusual complication—Toxic Epidermal Necrolysis, first described thoroughly by A. Lyell in 1956—and an effective but hitherto unrecorded method of management.

Case Report

Mrs. E. C., aged 56 years, admitted to the Central Middlesex Hospital on March 26, 1962, with a history of osteo-arthritis in the right knee about March 6, necessitating phenylbutazone 100 mg. t.d.s. One week later she developed a red, itchy rash on the arms; on the ninth day felt ill, lethargic, and her body and limbs ached. After three days the rash spread to her chest, trunk and thighs. Simultaneously ulcers appeared in her mouth and vagina which healed about the fourteenth day; but the rash then involved her whole body excluding the palms and soles of feet. First the skin was erythematous and then tender. Epidermolysis—the loosening of the epidermis on the dermis causing it to wrinkle—and flaccid blisters appeared later. The latter could be moved by digital pressure. Sheets of epithelium were then shed, resulting in exposure of a raw red surface akin to a scald (Figs. 1 and 2). On admission more than 90% of body surface showed the different phases described above but her mucous membranes were minimally involved. There were no other abnormalities. The oral temperature was 101°F. The blister fluid was acellular but a week later cultured *Staph. pyogenes*. There was no relevant previous, family or social history and nothing to suggest contact dermatitis.

Toxic epidermal necrolysis was diagnosed and assumed due to phenylbutazone. The management and treatment consisted of nursing on an Esmay turning frame, provision of metabolic requirements, the administration of corticosteroids and antibiotics. The skin lesions healed and she was discharged on April 19, 1962. She was seen a month later when no scars were visible.

Discussion

On admission the differential diagnosis consisted of erythema multiforme, Stevens-Johnson syndrome, pemphigoid and toxic epidermal necrolysis. However, the ingestion of phenylbutazone and the clinical progression resulting in a scald-like appearance were diagnostic of toxic epidermal necrolysis.

Nursing is the most important single item in the management of this difficult problem. The patient was nursed on an Esmay turning frame (Stryker frame) which enabled her to be turned at two-to-three-hour intervals, thus alternating the pressure-

FIG 1.—Lower limb on admission.

FIGS. 2 and 3.—Photographs taken two weeks after admission.

*Present address: The General Infirmary, Great George Street, Leeds, 1.

FIG. 4.—Stryker frame—photograph taken prior to turning of patient.

bearing areas effectively (Figs. 3 and 4). The patient was nursed in the manner of open treatment for burns which has not been reported before in the management of this condition. While the patient was lying supine, the blisters on the exposed surface were at first destroyed and the exudate periodically dried with a hair-dryer. This was repeated after the patient was turned. To avoid adherence of the dressings lining the canvas sheets of oiled silk and/or polythene, themselves non-adherent, were placed next to the skin and external to this were placed pads of gamjee to absorb the exudate. The turning frame enabled micturition and defaecation without causing the patient any pain or inconvenience and reduced the amount of hard work and energy expended by the nursing staff.

The metabolic requirements were assessed by studying fluid balances, electrolyte changes, variations in haemoglobin and packed cell volume together with the clinical picture. Our patient was given a high protein diet mainly as oral fluids. Parenteral therapy has to be resorted to in cases with severe involvement of the mouth and oesophagus.

Penicillin V was administered when the blister fluid cultured sensitive *Staph. pyogenes*. Cicatrin powder was used topically over purulent areas in the gluteal regions.

The indications for the use of corticosteroids in this condition have been questioned (Overton, 1962). Some advocate small amounts of steroids to cover the period of toxicity during the first week or two of the illness. Prednisone 10 mg. thrice daily was administered and terminated after three weeks. Anabolic steroids have also been advocated and were used in our case.

Since Lyell's paper which incriminated phenylbutazone in one of four cases, reports of similar cases have appeared. Other causes include dapsone, sulphonamides, salicylates, penicillin and phenolphthalein (Gold 1962, Brown and Ridge 1961).

This condition is rare as only 16 cases have been described. It is possible that some cases are mistakenly diagnosed as Stevens-Johnson syndrome as happened prior to Lyell's report. This condition may also be associated with other toxic effects due to incriminated drugs (Dugois, Mazare and Gagnaire, 1961).

A note of caution on the use of phenylbutazone will not be out of place as 100,000 patients receive the drug weekly in Britain (Brit. med. J. 1962). The drug should be stopped at the first appearance of a rash, but the withdrawal of the drug may not prevent progression of the complication and indeed the complications may even arise after the cessation of therapy. The various skin complications of phenylbutazone therapy are: purpura, toxic erythema, erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis and exfoliative dermatitis—the latter two may have fatal results.

Summary

A case of toxic epidermal necrolysis due to phenylbutazone is described together with an effective but an unreported method of nursing and the treatment discussed. A plea for caution in the administration of phenylbutazone is made.

My thanks are due to Dr. G. B. Dowling, F.R.C.P., and Dr. H. T. H. Wilson, F.R.C.P., for their encouragement and advice. My thanks are also due to M. H. Flint, Esq., F.R.C.S., of Mount Vernon Hospital for his advice with the management of this case.

Finally, my appreciation is due to the nursing staff for their devoted attention and splendid work. The photographs are supplied through the courtesy of the Photographic Department of Central Middlesex Hospital.

REFERENCES

- BRIT. MED. J. (1962): **1**, 460. Annotation. Figures supplied by Messrs. Geigy Pharm. Co., Ltd.
 BROWN, S. C., and RIDGE, E. (1961): Toxic Epidermal Necrolysis, *Brit. med. J.*, **1**, 550.
 DUGOIS, P., MAZARE, Y., and GAGNAIRE, J. (1961): Purpura and Lyell's Syndrome caused by Abuse of a Long-acting Sulphonamide, *Lyon med.*, **93**, 195.
 GOLD, S. (1962): Skin Reactions to Ingested Drugs, *Proc. roy. Soc. Med.*, **1**, 45.
 LYEELL, A. (1956): Toxic Epidermal Necrolysis—An Eruption Resembling Scalding of the Skin, *Brit. J. Derm.*, **68**, 355.
 OVERTON, J. (1962): Case Presentation: Section of Dermatology, Royal Society of Medicine, *Ibid.*, **74**, 102.