

Short Communication

Positive patch test in vancomycin allergy

N. BERNEDO, I. GONZÁLEZ, G. GASTAMINZA, M. AUDICANA, E. FERNÁNDEZ AND D. MUÑOZ

Department of Allergy, Hospital Santiago Apóstol, C/Olaguibel 29, 01004 Vitoria, Spain

Key words: vancomycin; antibiotics; medicaments; drug fever; positive patch test; delayed hypersensitivity; cross-reactivity; cutaneous adverse drug reactions. © Munksgaard, 2001.

Vancomycin is a glycopeptide antibiotic active against Gram-positive micro-organisms such as methicillin-resistant *Staphylococcus aureus* and coagulase-negative staphylococci (1).

Case Report

A 39-year-old man, with no personal history of allergy and on haemodialysis for a year, contracted a staphylococcal infection of the arteriovenous fistula, and therapy with i.v. vancomycin was begun. After 3 weeks of treatment, the patient developed a high fever and a cutaneous eruption, which responded to corticosteroids and antihistamines. 4 days later, the fever and rash reappeared, with pruritus and hypotension, such that cefotaxim, gentamicin and, later, rifampicin were added, but the fever persisted and blood cultures remained negative. A drug reaction was suspected and daily haemodialysis was therefore carried out to filter out vancomycin, thus resolving the symptoms.

Physical examination showed a fever of 39.5°C, a pruriginous macular exanthem on the trunk and lower extremities, and palpebral and lip oedema. There was a leucocytosis, with a normal neutrophil count. Skin tests (prick and intradermal) with vancomycin and teicoplanin (Targocid®) were negative at immediate and delayed readings. However, patch tests with both drugs were positive: vancomycin 0.005% aq. + at D2 and ++ at D4; teicoplanin 4% aq. – at D2 and + at D4. 20 controls were tested, with negative results.

Comment

The commonest adverse effects of vancomycin are the “red man syndrome” (2, 3) and spasms and muscular pains (4), both due to histamine release related to its rapid infusion. Among other well-known side-effects (5, 6) are hypersensitivity reactions such as maculopapular rash, urticaria, drug fever (5), vasculitis (7), anaphylaxis (8, 9), IgA bullous dermatosis (10) and Stevens-Johnson syndrome or toxic epidermal necrolysis (4, 11).

In other delayed hypersensitivity reactions associated with vancomycin, patch tests have either not been done or been negative. We conclude that the positive patch test in our patient confirms delayed hypersensitivity and, furthermore, that the positivity to teicoplanin suggests cross-reactivity (12), both drugs being similar in structure.

References

1. Sherris J C. *Microbiología Médica*. Doyma. 1993.
2. Wallace M R, Mascola J R, Olfield E C 3rd. Red man syndrome: incidence, etiology and prophylaxis. *J Infect Dis* 1991; 164: 1180–1185.
3. Khurana C, De Belder M A. Red-man syndrome after vancomycin: potential cross-reactivity with teicoplanin. *Postgrad Med J* 1999; 75: 41–43.
4. Padial M A. Reacciones adversas tardías con antibióticos glucopéptidos. *Sociedad Madrid-Castilla La Mancha de alergia e inmunología clínica. Sesiones interhospitalarias* 1997–1998: 23–29.
5. Shahar A, Berner Y, Levi S. Fever, rash, and pancytopenia following vancomycin rechallenge in the presence of ceftazidime. *Ann Pharmacother* 2000; 34: 263–264.
6. Farwell A P, Kendall R G Jr, Vakil R D, Glew R H. Delayed appearance of vancomycin-induced neutropenia in a patient with chronic renal failure. *South Med J* 1984; 77: 664–665.
7. Marshall C, Street A, Galbraith K. Glycopeptide-induced vasculitis-cross-reactivity between vancomycin and teicoplanin. *J Infect* 1998; 37: 82–83.
8. Johnson J R, Burke M S, Mahowald M L, Ytterberg S R. Life-threatening reaction to vancomycin given for noninfectious fever. *Ann Pharmacother* 1999; 33: 1043–1045.
9. Polk R E. Anaphylactoid reactions to glycopeptide antibiotics. *J Antimicrob Chemother* 1991; 27 (Supp 1B): 17–29.
10. Bernstein E F, Schuster M. Linear IgA bullous dermatosis associated with vancomycin. *Ann of Intern Med* 1998; 129: 508–509.
11. Vidal C, González A, Fuente R. Toxic epidermal necrolysis due to vancomycin. *Ann Allergy* 1992; 68: 345–347.
12. McElrath M J, Goldberg D, Neu H C. Allergic cross-reactivity of teicoplanin and vancomycin. *Lancet* 1986; 1: 47.