Worsening of psoriasis with rituximab therapy

Sirs,

We read with great interest the article by Markatseli and co-workers which appeared in the November-December 2009 issue of *Clinical and Experimental Rheumatology* dealing with the development of psoriasis after rituximab therapy (1). We have observed the worsening of the skin lesions in a patient with pre-existing psosiasis after treatment with rituximab that we would like to describe briefly here.

The patient, a 70-year-old man suffering from psoriasis for 20 years was referred to us for the evaluation of a mechanical low back pain of 3-month duration in March 2007. There was no history of inflammatory spinal pain, peripheral arthritis, peripheral enthesitis or dactylitis. Physical examination showed no limitation of spine movement and no signs of inflammation in his peripheral joints and entheses. He had a severe psoriasis involving the majority of his skin surface. Spine x-rays showed findings of spondylosis. The patient told us that his skin disease had been treated with different local therapies with scarce results till the beginning of cyclosporine therapy in 2004. Unfortunately, the drug was stopped in 2005 when the patient developed a diffuse large B cell, CD20+ lymphoma (DLBCL).

In March 2006, the patient started a chemo-immunotherapy programme: he received 6 courses of CHOP (cyclophosphamide 750mg/m^2, adriamycin 50mg/m^2, vincristine 1.4mg/m^2, and methylprednisolone 50mg/m^2 followed by 25mg of prednisone orally per day for 5 days) associated with rituximab at 375mg/m^2. The R-CHOP therapy was administrated every 2 weeks (dose-dense schema) and was followed by a complete remission. Psoriasis improved and cleared completely in the months following the end of the therapy. However, the skin disease relapsed at the beginning of 2007.

Considering a previous report on a patient affected by psoriasis and non-Hodgkin lymphoma (NHL), suggesting the efficacy of rituximab in both diseases (2), we decided to restart in our patient the administration of rituximab alone notwithstanding the DLBCL was in complete remission. We reasoned that the administration of cyclosporine could have been associated with an increased risk of lymphoma relapse. Then, after having obtained the patient's informed consent, we planned a new course of rituximab therapy. The drug was given at a dose of 375mg/m^2 once a week for 4 weeks with the aim to assess its efficacy on psoriasis. Before starting treatment, PASI was 16.2 (Fig. 1A). Unfortunately, psoriasis worsened in the following weeks. Two weeks after the end of rituximab therapy, PASI was 29.6 (Fig. 1B). The patient had no adverse reaction during the treatment.

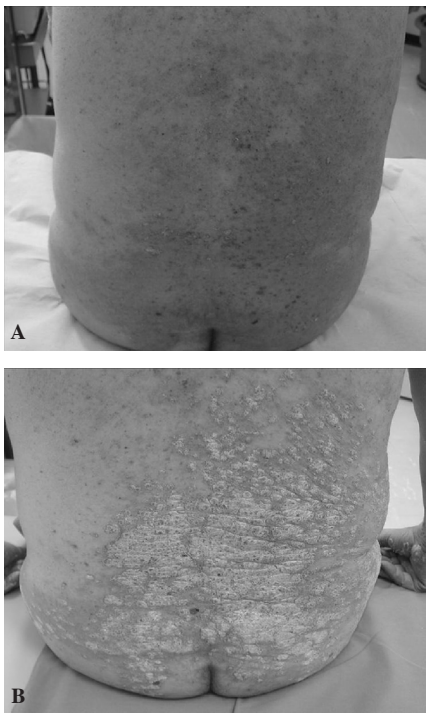

Fig. 1. Psoriasis before (**A**) and after therapy (**B**) with rituximab.

Our experience suggests that the B-cell depletion induced by rituximab has no positive effect on psoriasis. The positive results obtained on the skin lesions of our patient after the first course of rituximab therapy was very probably due to the CHOP regimen which includes a relevant dose of cyclophosphamide. The same happened in the case reported by Singh and Weinberg (2). In the second course we used the rituximab regimen used in haematology (375mg/m^2 intravenously once a week for 4 weeks) (3), which is different from that used in rheumatoid arthritis (two 1000mg intravenous injections separated by 2 weeks) (4, 5). The lower dose of rituximab in the haematological regimen allowed us to avoid the 100mg methylprednisolone intravenously given to rheumatoid arthritis patients as a measure to reduce the frequency and severity of infusion reactions. The patient had no adverse reaction and we did not use methylprednisolone, which might have had confounding positive effects on psoriasis. Recently, Mielke *et al*. reported the case of patient with NHL who developed psoriasis and psoriatic arthritis after rituximab therapy (6).

Ours is the first case in which rituximab was purposely administered in monotherapy with the aim to assess its efficacy on psoriasis. The deterioration of psoriasis after B cell depletion induced by rituximab is in accordance with the new appearance of psoriasis in the patient treated with rituximab by Markatseli *et al*., and in the three treated by Dass and co-workers (7). Taken together, new appearance and deterioration suggest that, with all probability, there will be a limited place for rituximab in the therapy of the various manifestation of psoriatic disease (8) even if a case of psoriatic arthritis successfully treated with rituximab has recently been reported (9).

I. OLIVIERI, *MD[1], consultant, director*
S. D'ANGELO, *MD[1], researcher*
P. LECCESE, *MD[1], researcher*
D. VERTONE, *MD[2], researcher*
A. OLIVIERI, *MD[2], consultant, director*

[1]Rheumatology Department of Lucania and Madonna delle Grazie Hospital, Matera, Italy; [2]Oncology and Haematology Department, San Carlo Hospital, Potenza, Italy.

Address correspondence to: Dr. Ignazio Olivieri, Rheumatology Department of Lucania, Ospedale San Carlo, Contrada Macchia Romana, 85100 Potenza, Italy.
E-mail: ignazioolivieri@tiscalinet.it

Competing interests: none declared.

References

1. MARKATSELI TE, KALTSONOUDIS ES, VOULGARI PV, ZIOGA A, DROSOS AA: Induction of psoriatic skin lesions in a patient with rheumatoid arthritis treated with rituximab. *Clin Exp Rheumatol* 2009; 27: 996-8.
2. SINGH F, WEINBERG JM: Partial remission of psoriasis following rituximab therapy for non-Hodgkin lymphoma. *Cutis* 2005; 76: 186-8.
3. COIFFIER B, LEPAGE E, BRIERE J *et al*.: CHOP chemotherapy plus rituximab compared with CHOP alone in elderly patients with diffuse large-B-cell lymphoma. *N Engl J Med* 2002; 346: 235-42.
4. EMERY P, FLEISHMANN R, FILIPOWICZ-SOSNOWSKA A *et al*.: FOR THE DANCER STUDY GROUP: The efficacy and safety of rituximab in patients with active rheumatoid arthritis despite methotrexate treatment: results of a phase IIb randomized, double-blind, placebo controlled, dose ranging trial. *Arthritis Rheum* 2006; 54: 1390-400.
5. COHEN SB, EMERY P, GREENWALD MW *et al*.; FOR THE REFLEX TRIAL GROUP: Rituximab for rheumatoid arthritis refractory to anti-tumor necrosis factor therapy: a result of a multicenter, randomized, double-blind, placebo-controlled, phase III trial evaluating primary efficacy and safety at twenty-four weeks: *Arthritis Rheum* 2006; 54: 2793-806.
6. MIELKE F, SCHNEIDER-OBERMEYER J, DÖRNER T: Onset of psoriasis with psoriatic arthropathy during rituximab treatment of non-Hodgkin lymphoma. *Ann Rheum Dis* 2008; 67: 1056-7.
7. DASS S, VITAL EM, EMERY P: Development of psoriasis after B cell depletion with rituximab. *Arthritis Rheum* 2007; 56: 2715-8.
8. SCARPA R, AYALA F, CAPORASO N, OLIVIERI I: Psoriasis, psoriatic arthritis, or psoriatic disease? *J Rheumatol* 2006; 33: 210-2.
9. COHEN JD: Successful treatment of psoriatic arthritis with rituximab. *Ann Rheum Dis* 2008; 67: 1647-8.