BCG-Vaccine-Induced Lupus vuigaris and Urticarial Vasculitis

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We have seen unusual adverse reactions to BCG vaccination in a 21-year-old man with personal and familial atopy. There was no history of tuberculosis nor exposure to individuals with known tuberculosis. BCG vaccination was performed because his tuberculin test was negative. One month later, the patient presented an urticarial eruption with joint pains and fever (38.5°C). The lesions lasted for 3 weeks. The clinical examination revealed a lupus vuigaris lesion at the place of the vaccination on the arm and multiple lymph node hypertrophy. Histological examination confirmed lupus vuigaris. Ziehl stain and culture were negative. In the urticarial lesion, there was a lymphocytic vasculitis with eosinophils around dermal vessels, without leukocytoclasia or necrosis. Direct immunofluorescence was negative. The checkup did not reveal any physical, medical, alimentary or other infectious (bacterial, viral or fungal) cause. Clinical and histological examinations, hyperleukocytosis (11,900 with 77.1% of neutrophils), increase in the erythrocyte sedimentation rate (25/60 mm) and decrease in C4 level (0.19 g/l) led to the diagnosis of urticarial vasculitis. Kidney function was normal. We considered that the etiology was probably an adverse reaction to BCG antigenic constituents. All lesions and symptoms cleared with the administration of rifampicin and isoniazid, with a 6-month follow-up.

BCG vaccine is composed of the living attenuated bacillus. Specific complications, such as lupus vuigaris, are rare. 56 cases of lupus vuigaris were reported from 1946 to 1982 [1]. The risk has been estimated at 5 per million. This complication corresponds to bacterial proliferation, although the presence of tubercle bacilli is rarely demonstrated in lesions or in culture from skin lesions [1]. Usually, there is no immune deficiency. On the other hand, urticaria is very uncommon after BCG vaccination. Only 2 cases have been reported. In the first case [2], the relationship with the vaccination is not obvious. In the second case [3], the patient developed recurrent urticarial eruptions after each administration of BCG as a therapy for acute myelomonocytic leukemia. In addition, ana-phylactoid reactions to BCG vaccination have been described [4], but dextran – as BCG constituent – rather than BCG bacillus was responsible for these reactions. Vasculitis after BCG was reported in other publications, but clinical appearance of urticaria has never been described.

References

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