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Thrombocytopenic Purpura after Recombinant Hepatitis B Vaccine. A rare association

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Abstract

Thrombocytopenic purpura is a well-known entity. In some occasions appears associated to systemic disorders. We report an uncommon case of thrombocytopenic purpura after recombinant hepatitis B vaccine and analyzed the clinical and laboratory features. Initial treatment with corticosteroid was successful and the patient is in complete remission.

Text

Side effects of recombinant hepatitis B vaccine are infrequent, the most frequent being local reactions. Of the systemic reactions, neurological manifestations (polyradiculoneuritis, cerebellar ataxia, demyelination of the central nervous system, etc.) and the autoimmune type (polyarthritis, systemic lupus erythematosus, myalgia, ect) are the most notable. However, hematological autoimmune phenomena are very rare (Evan´s syndrome, autoimmune thrombocytopenia, autoimmune hemolytic anemia, etc.).[1-3] We describe the case of a patient with thrombocytopenic purpura diagnosed following administration of recombinant hepatitis B vaccine.

An 18 year old woman attended the emergency department with purpura of her limbs and buccal cavity which had been present for 10-15 days. Eight weeks previously, she had been given a second dose of recombinant hepatitis B vaccine (Recombivax HB, Pasteur Mérieux, MSD). On admission, the results of analytical tests were: white blood cell count $4.9x10^9$/L, hemoglobin 13.8 g/dL, platelet count $4x10^9$/L; prothrombin and active partial thromboplastin time normal, as were assays of biochemistry, C3, C4, rheumatoid factor, reactive C protein, immunoglobulins and protein electrophoresis. Antinuclear, antinative DNA, antimuscle flat and antimitochondrial antibodies were absent. Serological assays for hepatitis C virus, hepatitis A virus, cytomegalovirus, herpes simplex virus, parvovirus B19, human immunodeficiency virus, rubella virus, Ebstein-Barr virus and Toxoplasma were negative, antiHBs antibodies being positive (>10.000). Direct antiglobulin test was negative, assay for IgG and IgM antiplatelet antibodies was positive. Abdominal ultrasonography was normal. Bone marrow aspirate showed megakaryocytic hyperplasia. Oral corticosteroid treatment (prednisone 2 mg/k/day) was started. After seven weeks of treatment, the platelet count had risen to $267x10^9$/L, and the dose of prednisone was gradually reduced. Six months after the end of treatment, the platelet count remained normal.

Very few cases of thrombocytopenia associated with recombinant hepatitis B vaccine have been described. In our patient, the disorder occurred eight weeks after administering the second dose of vaccine, as in other published cases.[4,5] Response to treatment was slow - it took seven weeks for the platelet count to rise. This is not in agreement with the hypothesis of Ronchi et al. in which the shortest latency time is associated with the lowest platelet count and longest duration of thrombocytopenia.[2] Treatment with high doses of corticosteroid seems to be effective to rise the platelet count in most of the cases, although in several reports was necessary therapy for long time. The relation between the use of

recombinant hepatitis B vaccine and thrombocytopenic purpura is difficult to demonstrate, but they may be associated when there is no other known cause and the latency time is appropriate. Few reports about this have been published. However, we consider that vaccines, included recombinant hepatitis B vaccine, and thrombocytopenic purpura is an association that can not be forgotten.

References

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