Letter to the Editor

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Early Profound Secondary Autoimmune Thrombocytopenia Induced by Clopidogrel in a Patient with a Coronary Artery Stent

Koroner Arter Stent Hastasında Klopidogrel İlişkili Erken Derin Otoimmün Trombositopeni

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To the Editor,

Clopidogrel in combination with aspirin is commonly used for the prevention of thrombosis in patients with coronary artery stents [1]. Moreover, since being introduced clopidogrel has proven to be very safe, tolerable, and efficacious [2]. Indications for clopidogrel use are expanding, and include reduction of such cardiovascular events as myocardial infarction and stroke in appropriate patients. As the use of clopidogrel increases, uncommon side effects are encountered more frequently [3]. Autoimmune thrombocytopenia is an extremely rare adverse effect of clopidogrel therapy [4]. We report a case of autoimmune thrombocytopenia related to standard clopidogrel treatment in a patient 2 days after coronary stenting.

A 63-year-old male presented with acute inferior myocardial infarction, which was treated with primary stenting; heparin was administered periprocedurally. The patient was given aspirin (300 mg d^{-1} p.o.) and clopidogrel (75 mg d^{-1} p.o.), and 2 days later he developed diffuse petechiae that prompted evaluation. Physical examination did not reveal any signs of splenomegaly. Laboratory findings were as follows: platelet count: 7 x 10^9 L^{-1}; hemoglobin: 13.4 g dL^{-1}; leukocyte count: 4.7 x 10^9 L^{-1}. Peripheral blood smear showed severe thrombocytopenia without microangiopathic changes. The lactate dehydrogenase level, prothrombin time, and activated partial thromboplastin time were normal. The diagnosis of clopidogrel-associated autoimmune thrombocytopenic purpura was suspected.

Clopidogrel and aspirin were discontinued at the time of application. Intravenous methylprednisolone (1 g) was given daily. A total of 2 units of platelets were transfused in the first day of treatment. The patient responded in the third day of high dose steroid therapy, with stabilization of the platelet count (45 x 10^9 L^{-1}) and no new petechiae. According to the guidelines of The American Society of Hematology, bone marrow biopsy and aspiration were not performed because bone marrow examination is not recommended in cases of isolated thrombocytopenia highly suspicious for the diagnoses of immune thrombocytopenic purpura [5]. Aspirin was subsequently resumed in the third day of high dose steroid therapy and high dose steroid discontinued then oral methylprednisolone 1mg/kg was administered. 6 days later the platelet count was 132 x 10^9 L^{-1} while on oral steroid therapy Written informed consent was obtained from the patient for publication.

Thrombocytopenia is a rare, but dangerous adverse effect of clopidogrel, and encompasses thrombotic thrombocytopenic purpura (TTP), isolated thrombocytopenia,

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and autoimmune thrombocytopenia [2]. Autoimmune thrombocytopenic purpura is an immune regulation disorder in which autoantibodies cause platelet destruction [6]. Treatment targets the prevention of splenic platelet destruction, using such medications as corticosteroids, intravenous immunoglobulin, and azathioprine. Splenectomy is indicated when medical therapy fails [3]. The presented patient responded to high-dose steroid treatment. The patient's response to steroid therapy confirmed an autoimmune etiology, which together with the time frame suggested it was unlikely to have been related to heparin. Careful monitoring for hematologic adverse effects following clopidogrel use is essential for prompt diagnosis and treatment of this potentially life-threatening complication.

Conflict of Interest Statement

The authors of this paper have no conflicts of interest, including specific financial interests, relationships, and/or affiliations relevant to the subject matter or materials included.

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