ODU TIP DERGİSİ/ODU MEDICAL JOURNAL (ODU MED J) **April 2022;10(1):25-30**

OLGU SUNUMU/ CASE REPORT **DOI:** 10.56941/odutip.1260166

Localized Petechiae in the Anterior Chest Wall in a Patient with Thrombocytopenia

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Received: 10 March 2023, Accepted: 29 April 2023, Published online: 30 April 2023

Abstract

Thrombocytopenia is a very common hematological disorder that can be seen in many diseases such as splenomegaly diseases, infectious diseases, microangiopathic hemolytic anemias (TTP, HUS) that may occur due to drugs and malignant diseases infiltrating the bone marrow. Thrombocytopenia causes bleeding diathesis and causes petechial and purpuric rashes on the skin and mucous membranes. The petechial eruptions seen in thrombocytopenia are generally widespread throughout the body and are not limited to a single area. In this case report, we wanted to present a 78-year-old patient with thrombocytopenia, who had a diffuse and intense petechial rash on the anterior chest wall secondary to thrombocytopenia but did not have petechiae in other parts of the body.

Key Words: Localized petechial rash, thrombocytopenia, multiple myeloma

Trombositopenili Bir Hastada Göğüs Ön Duvarında Lokalize Peteşiler

Özet

Trombositopeni, ilaçlara, maling hastalıkların kemik iliğini infiltre etmesine bağlı oluşabilen, splenomegali yapan hastalıklar, enfeksiyöz hastalıklar, mikroanjiopatik hemolitik anemiler (TTP, HÜS) gibi birçok hastalıklarda görülebilen, klinikte çok sık rastlanılan hematolojık bir bozukluktur. Trombositopeni kanama diatezine neden olup cilt ve mukozalarda peteşial ve purpurik döküntülere neden olmaktadır. Trombositopenide görülen peteşial döküntüler genellikle tüm vücutta yaygındır, tek bir bölgeye sınırlı değildir. Bu olgu sunumunda 78 yaşında trombositopenisi olan ve trombositopeniye sekonder göğüs ön duvarında yaygın ve yoğun peteşial döküntü olmasına rağmen vücudun diğer kısımlarında peteşisi olmayan hastayı sunmak istedik.

Anahtar Kelimeler: Lokalize peteşial döküntü, trombositopeni, multiple myelom

Suggested Citation: Aydin HN, Ulkuden B, Kaya Y. Localized petechiae in the anterior chest wall in a patient with thrombocytopenia ODU Med J, 2023;10(1): 25-30

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INTRODUCTION

Thrombocytopenia is defined as platelet count less than 150 × 103 per μL (1). It may result from decreased platelet production, increased destruction, splenic sequestration, dilution, or intravascular aggregation (2). Increased platelet destruction is the most common cause of thrombocytopenia. It occurs when the rate of platelet destruction exceeds the rate of production. Platelet destruction is due to intracorporeal defects or extracorpuscular disorders. Decreased platelet production occurs in conditions that cause suppression of main cells or megakaryocytes in the bone marrow, such as myelosuppressive drugs, radiation, and aplastic anemia. Megakaryocytic hypoplasia or aplasia, ineffective thrombopoiesis, and defects in the mechanisms controlling thrombopoiesis cause decreased platelet production. Pure megakaryocytic aplasia or thrombocytopenia due to hypoplasia is a rare condition. Amegakaryocytic thrombocytopenia is usually associated with disturbances in other cell lines such as macrocytosis or dyserythropoiesis. Abnormal platelet distribution is seen as a result of platelets being retained in the enlarged spleen (3).

Patients with platelet counts greater than 50 × 103 per μL are usually asymptomatic. Patients with platelet counts of 30 to 50 × 103 per μL present as petechiae, purpura, ecchymosis. Bleeding can occur even with minimal trauma in platelet counts from 10 to 30 × 103/μL. Platelet count below 10 × 103 per μL may cause spontaneous bleeding and constitute a hematological emergency (1,2). Although thrombocytopenia is classically associated with bleeding, there are conditions in which bleeding and thrombosis may occur, such as antiphospholipid syndrome, heparin-induced thrombocytopenia, and thrombotic microangiopathies. Patients with isolated thrombocytopenia without systemic disease most likely have immune thrombocytopenia or drug-induced thrombocytopenia. In stable patients considered outpatient, the first step is to rule out pseudothrombocytopenia by collecting blood in a tube containing heparin or sodium citrate and repeating the platelet count. If thrombocytopenia is confirmed, the next step is to differentiate acute thrombocytopenia from chronic thrombocytopenia by obtaining or reviewing previous platelet counts. Hospitalization may be required in patients with acute thrombocytopenia. (2).

CASE

A 78-year-old male patient was being followed up in the cardiology service because of right heart failure and peripheral edema. Upon detection of petechial rash in the physical examination of the patient, internal medicine consultation was requested. He was transferred to the internal medicine service to investigate the etiology of anemia and thrombocytopenia. In the

patient's anamnesis, there were red-colored rashes that occurred only on the chest and anterior face for the last 6 months, which were not found in other parts of the body. He had a history of chronic obstructive pulmonary disease, congestive heart failure, and atrial fibrillation. In her family history, the mother had hypertension. On physical examination, arterial blood pressure: 120/70 mmHg, Heart rate: 85/minute, Respiratory rate: 18/minute, Fever: 36.7 C. On general inspection, the patient was pale and orthopneic. Conjunctivae were pale on head and neck examination. In the respiratory system examination, petechial eruptions were found on the anterior chest wall, covering the entire anterior chest. There was no petechial purpuric rash elsewhere on the body. (Figure 1) On auscultation, there were rales and rhonchi in the lower zones of the lung.

No pathology was detected in the abdominal examination. Extremity examination revealed pretibial edema (Figure, 2). In the whole-body inspection examination, no petechial rash was found in any part of the body except the anterior chest wall. In the results of the blood analysis, Hg: 9.4 g/dl, MCV: 104 fL, platelet: 47 103/ µL, BK: 8.22 103/µL, BUN: 59 g/dl, CRE: 1.97 mg/dl, AST: 28 U/L, ALT: 13 U/L, INR: 1.38 sedimentation: 95 /hour. Folate and vitamin B12 levels were normal. Peripheral smear was performed from the patient with thrombocytopenia. Normochromic macrocytic erythrocytes were seen. No schistositis was observed. The platelet count was calculated as 40,000. The white blood cell count was consistent with the blood count and no atypical cells were seen. Dermatology consultation was requested for petechial eruptions on the anterior chest wall. Dermatology stated that the image is secondary to thrombocytopenia and that the petechial image can be seen in isolation in some skin structures. Biopsy was not considered necessary by the dermatologist for the patient with thrombocytopenia and petechia purpuric rash. Thoracic computed tomography (CT) and abdominal CT were performed in the patient whose malignancy was investigated. No malignant focus was found in the thorax and abdominal CT results. In the magnetic resonance imaging (MRI) requested from the patient, in the MRI of the pelvis; A suspicious image was detected in terms of metastases with heterogeneous medullary signals in the femoral head and neck. The patient was consulted to hematology. Serum protein electrophoresis and immunofixation were sent from the patient with suspected multiple myeloma, and bone marrow biopsy was performed. PET-CT was planned for the patient. As a result of serum protein electrophoresis, beta-2 globulin was detected as 32% (3.2-6.5). Monoclonal M protein was seen in serum protein electrophoresis.

In PET-CT, "Hypermetabolic mass lesion (malignancy?) in the right scapula that is

destroying the coracoid process. A 10 mm hypermetabolic lymph node (inflammatory pathologies? metastasis?) in the left axilla. 17x12 and 11x11 mm hypermetabolic nodular lesions (inflammatory pathologies?) in the left lung upper lobe apicoposterior segment. The possibility of malignancy cannot be completely excluded. Minimal hypermetabolic irregular density increase areas (inflammatory/sequelae changes?) were observed in both lungs, the most prominent being in the lower lobe superior segments, which had a nodular appearance in places".

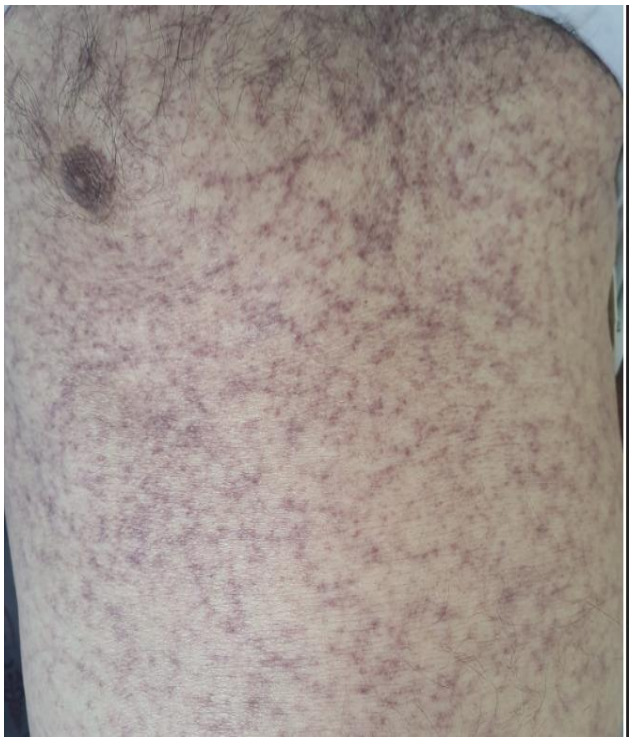

Figure 1. Anterior Chest Wall of Patient with Localized Petechial Rash

A diagnosis of multiple myeloma was made in the patient whose bone marrow biopsy revealed plasma cell infiltration.

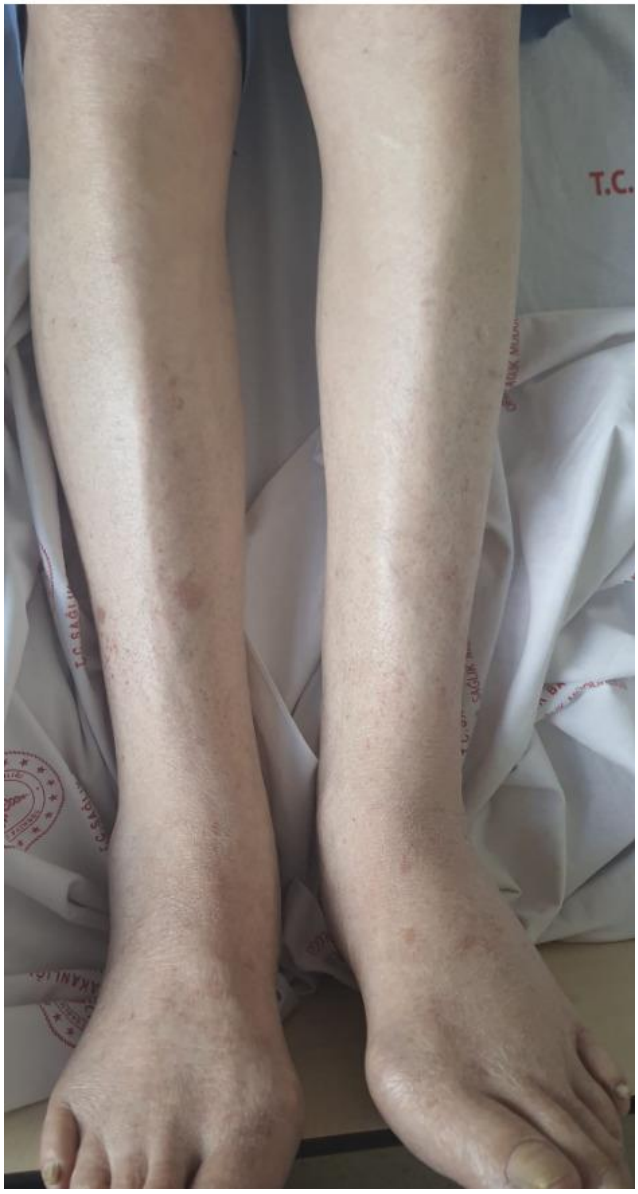

Figure 2. Legs of A Patient with A Localized Petechial Rash (An Area of Body Parts Without a Rash)

DISCUSSION

Petechiae, purpura and ecchymosis; are skin lesions that occur as a result of extravasation of erythrocytes and erythrocyte products. These lesions are called petechiae when they are smaller than 2 mm, purpura when they are 2-10 mm in size, and ecchymosis when they are larger than 1 cm (4). Petechiae occurring after

thrombocytopenia are generally common and are not localized.

There are case reports of localized petechial eruptions in the literature. st. Clair et al. reported a petechial rash due to acutely ruptured dermal capillaries in the distal extremity following the application of a tourniquet-like force to one extremity. It is mentioned that this condition, called the Rumpel-Leede (R-L) phenomenon, is a rare condition in which dermal capillaries rupture acutely after a tourniquet-like force is applied to an extremity (5). In another publication, it was mentioned that R-L phenomenon may develop after tourniquet application due to an underlying vascular disease. It is mentioned that some diseases may be a risk factor for the R-L phenomenon and may predispose to dermal capillary fragility. The Rumpel-Leede phenomenon has been noted in patients with diabetes mellitus, acute or chronic hypertension, and thrombocytopenia (6).

Again, Lee et al. reported that healthy infants with localized purpura and/or petechiae without fever are more likely to have a benign etiology. They mentioned that the possible cause of localized petechiae may be due to a tourniquet case (diaper as an example) (7). Boureau et al. reported that Staphylococcus aureus infection caused localized vascular purpura in the right leg 7 years after vascular prosthesis was inserted. They mention that this case is a rare complication that occurs as an acute infection 7 years after the primary surgery (8).

Bhalla et al.'s skin biopsy of a purpuric lesion localized on the arm in a patient with pityriasis rosea; They found that there was an acanthotic epidermis with mild hyperkeratosis, mild spongiosis and parakeratosis (9).

In another publication by Amlie-Lefond et al., they described a 13-year-old female patient with right frontal high-grade glioma and complex partial seizures who developed localized purpura after 23 months of monotherapy with an antiepileptic agent, lamotrigine. This case study is the second report of localized purpura after long-term lamotrigine therapy, suggesting that this may be an atypical lamotrigine-induced drug reaction. (10)

CONCLUSION

Localized thrombocytopenia cases in different conditions have been mentioned in the literature and different mechanisms for their formation have been explained. In our case, unlike these, a patient with thrombocytopenia developed as a result of multiple myeloma bone marrow infiltration had atypical petechiae rash that developed only on the anterior chest wall.

Ethics Committee Approval: Consent form was obtained from the patient.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept: HNA, BU, YK. Design: HNA, BU, YK. Literature search:

HNA, BU, YK. Data Collection and Processing: HNA, BU, YK. Analysis or Interpretation: HNA, BU, YK. Written by: HNA, BU, YK.

Conflict of Interest: The authors declared no conflict of interest

Financial Disclosure: The authors declared that this study has not received no financial support.

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