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CASE REPORT

Essential Thrombocytosis Following Multiple Psychic Traumas

Rezvan Sadr Mohammadi[1], Mehrdad Mahdian[2], Reza Bidaki[3*], Seyed-Ali Mostafavi[4,5]

1. Department of Clinical Psychology, Kar Higher Education Institute of Rafsanjan, Rafsanjan, Iran
2. Trauma Research Center, Kashan University of Medical Sciences, Kashan, Iran
3. Department of Psychology, Rafsanjan University of Medical Sciences, Rafsanjan, Iran
4. Psychiatry Research Center, Roozbeh Hospital, Tehran University of Medical Sciences, Tehran, Iran
5. Iranian Petroleum Industry, Health Research Institute (IPIHRI), NIOC Central Hospital, Tehran, Iran

Abstract

The associations between exposure to traumatic events and psychiatric disorders such as posttraumatic stress disorder (PTSD), depression, and anxiety have been established. It is important that clinicians notice to this phenomenon and avoid from inappropriate interpretations and additional laboratory tests. Here, a case of 45-year-old man with Essential thrombocytosis developed after multiple psychic traumas was introduced.

Key words: Stress disorders, post-traumatic; thrombocytosis; case management; case reports

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Introduction:

Essential thrombocytosis (ET) is a hematological disease that may causes venous thrombosis in different parts of the body. ET was determined by abnormal megakaryocyte proliferation with a rare incidence of 2.5 to 7 per 1,000,000 population (1-3). It can be associated with both thrombosis and hemorrhage (2, 3). Thrombocytosis describes with elevated platelet count above 450 × 103/mm3, which can be primary including ET or secondary including iron deficiency, infection, blood loss, and malignancy (2). In previous literatures the associations between exposure to traumatic events and psychiatric disorders such as posttraumatic stress disorder (PTSD), depression, and anxiety have been established. Also a relationship between depression, anxiety, stress and neurochemical functioning impairment was determined in previous studies (4). Recent investigations have suggested that responses to traumatic stressors also appear to have a physiological foundation that could result in disorders of immune function and complete blood cell count. Rises in leukocyte, lymphocyte and T-cell counts as well as changing in cell mediated immune system have been reported, too (5, 6). In this report a case of a 45-year-old man with ET which developed after multiple psychic traumas was reported.

Case presentation:

A 45-year-old married man, employee of agriculture faculty, referred to psychiatric emergency department after experiencing a stressful situation. He had a cystic mass in his right inguinal area about 6 months ago. His mother died due to ovarian cancer lasted during 24 years and his younger aunt deceased because of gastric cancer lasting for 8 years. Patient's uncle has also been treated for chronic lymphocytic leukemia (CLL) since 2007. The patient was previously well until his cyst concerned as malignancy and involved in obsessions. After visiting it was found that there is a simple infectious cyst cured following appropriate antibiotic use. Shortly later, he experienced headaches that were different from the previous ones; a pulsating severe headache in occipital area that was accompanied with neck muscles' spasm and exacerbate with head movement. This headache had not responded to conventional analgesics. He didn't have a history of joint pain, bleeding or other symptoms. He didn't use any drug in recent months. The patient was visited again (Blood pressure=130/100 mmHg, Pulse rate=78/minute, Respiratory rate= 13/minute, Temperature=36.8C°) and serum laboratory test requested for him. The results were normal except for platelets count that was 1,150,000/µl. Blood smear showed an increased megakaryocyte and normal for other type of blood cells. Abdomino-pelvic ultrasonography didn't present any additional findings. The patient's stress exacerbated and obsessive thoughts came back in his mind again and his professional performance affected. He was constantly distracted and had problem for concentration. His physician ordered new tests again while his platelet count was unexpectedly increased to 1,630,000/µl. The patient consulted with a psychiatrist. After one session consultation and using stress reduction techniques, the symptoms gradually disappeared by means of appropriate

***Corresponding Author:** Reza Bidaki; Department of Psychiatry, Moradi Hospital, Moalem St, Rafsanjan, Iran.
Phone: +983915230081; Fax: +983915230086. Email: Reza_Bidaki@yahoo.com
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exercise and nutritional diet. Bone marrow aspiration was suggested to him but he didn't accept.

Discussion:

Thrombocytosis is usually observed in a variety of underlying conditions, which may cause an acute and temporary rise in platelets count (such as major surgery, trauma and acute hemorrhage), more persistent thrombocytosis (like chronic infection and inflammation, iron deficiency or neoplasia), or even a lifelong permanent increase in platelet count (2, 7, 8). Reactive thrombocytosis is a condition that levels of thrombopoietin, IL-6, other cytokines, or catecholamines would be risen (9, 10). Boscarino, J. A. reported a distorted immune and neuroendocrine systems following PTSD (11). Patients with positive PTSD were more likely to have abnormally high leukocyte, lymphocyte, and T-cell counts. Some other studies have reported changes in complete blood cell count, profile of blood lymphocytes, leukocytes and immune system as well as increased level of inflammatory cytokines following PTSD (11-13). As well Glover, D. A. and *et al.* reported altered immune function and lymphocyte in patients following PTSD (14). Morath, J. *et al.,* also declared that chronic PTSD is associated with clinically elevated T-cells, hypersensitive immune responses, and the presence of biological markers. PTSD is consistent with a wide range of inflammatory diseases (15) one of which may be thrombocytosis. Although altered lymphocyte and immune functions have been known in patients with PTSD, essential thrombocytosis is a rare phenomenon. This report has introduced an individual exposure to traumatic stress which has currently lower social support with higher rates of post-traumatic stress and associated disorders. Here, the patient had multiple psychic traumas. Although our case was asymptomatic, he didn't have stable thrombocytosis and always had a platelet count more than 450,000 /µl with a rising trend. He was exposed to an emotional shock or a distressful situation that produced a significant impression, especially on the subconscious mind. The thrombocytosis may be rarely occurred following the stress of related disorders like PTSD. It is important for clinicians to notice this phenomenon and avoid from inappropriate interpretation and additional laboratory tests.

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