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ORIGINAL

Is there a relationship between penile vasculogenic erectile dysfunction, platelet functions and eosinophil count?

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KEYWORDS
Penile vasculogenic erectile dysfunction;
Eosinophil count;
Mean platelet volume;
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Abstract
Purpose: Blood count parameters of patients referring with penile vasculogenic erectile dysfunction (ED) were examined in this study. It was investigated whether eosinophil count (EC), platelet count (PC) and mean platelet volume (MPV), values among the suspected predictive parameters which may affect vascular functions, have a contribution on ED pathology or not.
Materials and methods: Patients referring erectile dysfunction complaint were evaluated. Depending on the medical story, ED degree was determined by measuring International Index of Erectile Function (IIEF). Values such as hormones, complete blood count and other laboratory markers were examined. Penile doppler ultrasonography (PDU) was performed in patients suspected to have vasculogenic ED. According to PDU result, patients with vascular deficiency were included in the penile vasculogenic ED group and patients with normal results were included in the control group. 49 patients participated in the study from the penile vasculogenic ED group and 30 patients from the control group. Intergroup comparisons were performed using the Mann–Whitney *U* test and the chi-square (χ^2) test was used to assess the relationship between categorical variables within the patient groups.
Results: Low IIEF score in vasculogenic ED group compared to the control group and high EC, MPV and PC values were detected to be statistically significant ($p < 0.001$, $p = 0.026$, $p = 0.009$,

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$p = 0.029$, respectively). No statistically significant difference was observed among the two groups when age, white blood cells, red blood cells or hemoglobin values are considered ($p = 0.332$, $p = 0.235$, $p = 0.127$, $p = 0.696$, respectively).
Conclusion: High MPV value and platelet count showing the platelet functions and high eosinophil count are important factors which may play a role in penile vasculogenic ED etiopathogenesis.

PALABRAS CLAVE
Disfunción eréctil vasculogénica del pene;
Conteo de eosinófilos;
Volumen plaquetario medio;
Conteo de plaquetario;
Ultrasonografía Doppler peneana

Existe una relación entre la disfunción eréctil vasculogénica del pene, las funciones de plaquetas y el conteo de eosinófilos?

Resumen
Propósito: Los parámetros de conteo de sangre de los pacientes referidos con disfunción eréctil (DE) vasculogénica del pene fueron examinados en este estudio. Se investigó si los valores de conteo de eosinófilos (CE), el conteo de plaquetas (CP) y el volumen plaquetario medio (VPM), entre los parámetros predictivos sospechados de afectar las funciones vasculares, contribuyen a la patología de DE o no.
Materiales y métodos: Se evaluó a los pacientes referidos con quejas de DE. Dependiendo de su historial médico, el grado de DE fue determinado midiendo el índice internacional de función eréctil (IIFE). Se examinaron los valores de hormonas, el conteo total de sangre y otros valores de laboratorio. Se utilizó la ultrasonografía Doppler peneana (UDP) en pacientes en los que se sospechaba DE vasculogénica. Según el resultado de la UDP, los pacientes con deficiencia vascular fueron incluidos en el grupo de DE vasculogénica del pene y los pacientes con resultados normales fueron incluidos en el grupo de control. En el estudio participaron 49 pacientes en el grupo de DE vasculogénica del pene y 30 pacientes en el grupo de control. Las comparaciones intergrupales fueron realizadas utilizando el test U de Mann-Whitney y el test de la chi cuadrado (χ^2) para analizar la relación entre los variable categóricos en los grupos de pacientes.
Resultados: Resultados bajos de IIFE en el grupo de DE vasculogénica comparados con el grupo de control y resultados altos de CE, VPM y PC fueron detectados como estadísticamente significativos ($p < 0{,}001$, $p = 0{,}026$, $p = 0{,}009$ y $p = 0{,}029$, respectivamente). No se observó ninguna diferencia significativa estadísticamente entre los 2 grupos cuando se consideraron los valores de edad, glóbulos blancos, glóbulos rojos y hemoglobina ($p = 0{,}332$, $p = 0{,}235$, $p = 0{,}127$ y $p = 0{,}696$, respectivamente).
Conclusión: Unos valores altos de VPM, un conteo de plaquetas que muestra las funciones de plaquetas y un conteo alto de eosinófilos son factores importantes que pueden desempeñar un papel en la etiopatogenia de la DE vasculogénica del pene.

Introduction

Erectile dysfunction (ED) is among common diseases. It was predicted that 322 million people will have ED around the world in 2025.[1] In studies made on males between forty and seventy years of age, the prevalence was found 69.2% in Turkey and 52% in United States of America.[2,3] Erectile dysfunction is difficulty in obtaining and maintaining adequate erection for a satisfactory sexual performance and the stability of this condition.[4] Penile erection occurs due to psychological, neural, vascular and endocrine factors and a healthy interaction among them. Erectile dysfunction occurs due to problems in all these factors. ED has a prevalence increasing with age. Since penis has a special vascular network, vascular causes play an important role in ED etiology. These causes are divided into three categories as arteriogenic ED, venogenic ED and mixed vasculogenic ED.[4]

A metaanalysis made presented strong proofs demonstrating that ED is related to the increase in death risk caused by increased cardiovascular disease (CVD), coronary artery disease, stroke and all reasons.[6] Evidences showing that ED is an early finding for coronary artery and peripheric vascular disease gradually increase.[4]

Platelets play an important role in the atherosclerosis formation phase. Mean platelet volume (MPV) is a significant demonstrator of platelet activity and platelet function reflecting platelet production speed and platelet stimulation. MPV is a potential indicator for thrombocyte

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