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Original Article

P-Selectin autoantibody in newly diagnosed and persistent immune thrombocytopenic patients and its relation to glycoprotein IIb IIIa autoantibody

Hematology

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ABSTRACT

Background: An autoimmune bleeding disease called immune thrombocytopenia (ITP) can lead to an exceedingly low count of platelets of no more than 100 × 109/L due to enhanced antibody-mediated platelet clearance and elimination by antigen-presenting cells mostly in the spleen. There are numerous forms of antiplatelet glycoprotein autoantibodies shown in ITP patients, including P-selectin, GP1B, GP 9, GP 2B and GP 3A.

Objective: To assess the role of P-Selectin autoantibody in detecting response to treatment in patients with newly diagnosed primary ITP and patients with persistent primary ITP, and to evaluate association between P-Selectin autoantibody to GP IIbIIIa autoantibodies.

Methodology: A cohort study was conducted on 90 adult patients suffering from immune thrombocytopenia. They were divided according to type of thrombocytopenia into 45 adult patients with newly diagnosed primary ITP and receiving first-line corticosteroids treatment, and 45 adult patients with primary persistent ITP. Informed consent, detailed history, physical examination, and complete laboratory investigation, including measurements of platelet glycoprotein specific antibody and P-selectin autoantibody using enzyme-linked immunosorbent assay kits (ELISA) at the Hematology Unit of Ain Shams University hospital.

Results: Regarding P-Selectin autoantibody levels, there was a lack of statistical significance between the research cohorts. In both groups, the full response rate was considerably greater within patients who were anti-P-selectin negative (27.60.0%) than those who were anti-P-selectin positive (18. 40.0%). In addition, a highly noteworthy positive correlation between GP IIb and IIIa (ng/ml) and P-Selectin (pg/ml) was discovered by the current analysis.

Conclusion: detecting anti-P-selectin antibodies and GP IIbIIIa might be a useful technique for identifying individuals who are less receptive to medication.

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Keywords: Glycoprotein IIb IIIa autoantibody; Newly diagnosed ITP; persistent ITP; P-Selectin autoantibody.

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INTRODUCTION

An autoimmune bleeding disorder known as immune thrombocytopenia (ITP) has been characterized by an abnormally low count of platelets of beneath 100 × 10^9/L caused by enhanced antibody-mediated platelet clearance and elimination by antigen-presenting cells mostly in the spleen [1].

P-Selectin (CD 62P) belongs to the selectin family of adhesion receptors and is a type-1 transmembrane protein generated by activated both endothelial cells and platelets. P-selectin is found in α granules inside platelets. Within minutes of platelet activation, P-selectin is mobilized and translocated to the exterior plasma membrane, where it binds active platelets to monocytes and neutrophils. During inflammation, P-selectin is essential for the initial

recruitment of leukocytes as well as the recruitment and aggregation of platelets at the site of damage [2].

There are various forms of antiplatelet glycoprotein autoantibodies seen in ITP patients, including GPIb, GP IX, GP IIb IIIa, and P-selectin. Platelets are destroyed when these autoantibodies adhere to megakaryocytes and platelets. They may additionally trigger intramedullary platelet destruction or impede with megakaryocyte multiplication and development, resulting in higher destruction rate and inhibit platelet production. They can also activate the complement cascade, causing platelet phagocytosis. Anti-GP IIb IIIa autoantibodies account for roughly 75% of platelet autoantigens in ITP patients [3]. The identification of GP IIb IIIa autoantibody is useful for both diagnosis and therapy response monitoring of ITP patients [4].

Previous studies have suggested that the detection of platelet autoantibodies is not only helpful in diagnosing ITP but also in monitoring ITP patient responses to treatment [5]. Since there are few studies reporting the prognostic value of P-selectin autoantibody in predicting treatment response in ITP patients.

Thus, in this study, we analyzed the association between P-Selectin autoantibody to GP IIb IIIa autoantibodies and response to treatment in patients with newly diagnosed and persistent primary immune thrombocytopenia.

PATIENTS AND METHODS

This prospective cohort study was conducted at hematology unit of internal medicine department, Ain Shams university hospital and Al-Zahraa university hospital. The research was approved by Ethical committee faculty of medicine for girls', Al-Azhar university, Egypt. The study included 45 adult patients with newly diagnosed primary ITP who respond to first line of therapy and 45 ITP patients with persistent primary ITP who resist to first line therapy. Explanation of the study's tools and objective to the participant, they give informed written consent.

Inclusion criteria:

Adult patients who were 18 years of age or older with primary ITP. Based on treat response, they were divided into two groups:

- **Group 1**: Included 45 adult patients with newly diagnosed primary ITP, who met the diagnostic criteria for newly diagnosed ITP set by the International Working Group (IWG) [6] and treated by first line therapy in the form of systemic corticosteroids 0.5-1 mg/kg/d [1].
- **Group 2:** Include 45 adult patients who have had primary ITP for more than three months but less than twelve months, who met the diagnostic criteria for persistent ITP set established by the IWG [6] , and treated by 2nd line therapy in the form of thrombopoietin receptor agonist (TPO-RAS) [1] Eltrombopag, the dose adjusted based on the platelet count response, 50 mg once daily. The goal is to maintain a platelet count ≥50,000/uL to reduce the risk of bleeding If after 2-3 weeks the platelet count is <50,000/uL, the dose may be increased. The maximum dose is 75 mg**.**

Exclusion criteria:

Patients have active cancers or significant comorbidities, patients with autoimmune disorders, such as SLE, and patients on anti-platelet medications, such as aspirin or non-steroidal anti-inflammatory drugs (NSAID) were excluded from the study.

Every patient had the following procedures: a thorough physical examination for demonstration of important signs as liver condition, bleeding disorders, pallor, lymphadenopathy and /or splenomegaly, medical history taken including drug history that may be implicated in thrombocytopenia, weight loss, arthritis, skin changes, bleeding tendency and lymph node swelling, and laboratory investigations.

Complete blood count (CBC), peripheral blood smears examination for pseudo thrombocytopenia, reticulocyte count, direct and indirect Comb's test for patient with hemolytic features, liver function markers (SGOT, SGPT), kidney function markers (urea, creatinine), antinuclear antibody (ANA), erythrocyte sedimentation rate (ESR), fasting and 2-hour-postprandial blood glucose. Serum antiplatelet GP IIb/IIIa and p-selectin autoantibodies were determined using enzyme-linked immunosorbent assay kits (Human P-Selectin antibody ELISA Kit and Human platelet membrane glycoprotein 2b3a antibody ELISA Kit, respectively). Based on P-Selectin autoantibody cutoff value 247.97 pg/ml, the studied patients in both groups were classified into positive P-Selectin (>247.97) and negative P-Selectin (247.97). According to the GP IIb/IIIa cutoff value 2.49 ng/ml the studied patients in both groups were classified into positive GP IIb/IIIa (>2.49) (ng/ml) and negative GP IIb/IIIa (2.49).

After six months of treatment, platelet counts were re-measured to assess the response to treatment, according to which the studied patients in both groups were divided into three groups based on the IWG [5]:

1. **Complete response:** Platelet count ≥100×109/L.
2. **Partial response (PR):** Platelet count 30-100 ×109/L ⁄µL or twice the platelet counts before the therapy.
3. **No response (NR):** Platelet count < 30×109 ⁄µL indicates.

Statistical analysis

The collected data was analyzed using SPSS Inc.'s statistical software for social sciences, version 23.0 (Chicago, Illinois, USA). The quantitative data was shown as mean ± standard deviation and ranges for parametric (normal) distributions; the median with inter-quartile

range (IOR) was used for non-parametric (non-normally distributed) variables. Additionally, monetary amounts and proportions were also used to depict qualitative elements. The normality of the data was checked using the Shapiro-Wilk and Kolmogorov-Smirnov tests correspondingly. The independent-samples t-test (t-test) of significance was used to compare two means, and the Mann Whitney U test (MW) was used to evaluate compare non-parametric data between two groups. When comparing more than two means, a one-way analysis of variance (ANOVA) in a single direction is used. Post Hoc test Tukey's test was used for assessing many variables sequentially. When the anticipated count in any cell was < 5, Fisher's exact test was utilized rather than the Chi-square test for comparing groups utilizing qualitative data. The Pearson's correlation coefficient (r) test was used to assess the degree of association between two sets of values.

RESULTS

Characteristics of the studied patients in both groups were shown in table (1). No statistically significant difference between newly diagnosed and Persistent ITP as regard age "years" and sex, with p-value (p>0.05). The mean age was 41.98±9.57 years in newly diagnosed ITP group and 43.58±7.84 years in persistent ITP group.

The mean of P-selectin (pg/ml) in newly diagnosed ITP group was 253.72±73.79, while in persistent ITP group it was 230.42±62.70, but insignificant difference between both groups (p-value p>0.05). The frequency of the patients with either positive or negative P-Selectin were non-significantly differed between patients with newly diagnosed ITP or persistent ITP (p-value =0.290). The GP IIbIIIa (ng/ml) was significantly higher in newly diagnosed ITP group (2.74±0.61) compared to persistent ITP group (2.25±0.59), (p-value p<0.001) (table 2). In newly diagnosed ITP group, there were statistically significant lower mean value of P-selectin (pg/ml) and GP IIbIIIa (ng/ml) in patients with complete response than those with either partial or no response), and in patients with partial response than those with no response (p < 0.05). (table 3). In persistent ITP group, there were highly statistically significant lower mean value of P selectin (pg/ml) and GP IIbIIIa (ng/ml) in patients with complete response than those with either partial or no response), and in patients with partial response than those with no response (p < 0.05) (table 4).

After six months of treatment, the platelet count was significantly higher in patients with negative P-selectin than those with positive P-selectin in both newly diagnosed ITO and persistent ITP (p-value (p<0.001) (table 5, figure 1). Table (6) revealed that the P-selectin was positively correlated with GP IIbIIIa (ng/ml) with p-value (p<0.05) and negatively correlated with Platelet (at base line) and platelet After 6 months of treatment, with p-value (p<0.05).

Table (1): Baseline characteristics of the studied groups

Demographic data		Newly diagnosed ITP (n=45)	Persistent ITP (n=45)	Sat. test	p-value
Age / years	Mean ± SD	41.98±9.57	43.58±7.84	t =-1.294	0.192
	Range	17-61	28-59		
Sex	Male	13 (28.9%)	11 (24.4%)	X^2= 0.227	0.634
	Female	32 (71.1%)	34 (75.6%)		
HB /gm	Mean ± SD	11.59±1.95	11.76±1.29	t =0.470	0.639
	Range	7.2-15	9.5-14.1		
WBCs / cmm^3	Mean ± SD	8.24±2.29	5.88±1.59	t =4.604	0.001*
	Range	4.2-15.1	3.1-10		
PT/ second	Mean ± SD	12.61±1.70	13.82±1.55	t =-3.546	0.001*
	Range	10.5-17.9	12-18		
PTT/ second	Mean ± SD	29.88±4.74	34.36±7.11	t =-3.519	0.001*
	Range	20.8-41.7	24.3-52.1		
INR	Mean ± SD	1.06±0.19	1.05±0.17	t =0.118	0.732
	Range	0.87-1.74	0.21-1.37		
Platelet (10^3 /cmm)	Median (IQR)	25 (14.5 - 41)	49 (40 - 63)	MW=4.96	0.001*
	Range	20 – 76	19 - 99		
Retics	Mean ± SD	1.14±0.28	1.10±0.21	t =0.739	0.462
	Range	0.7-2	0.7-1.6		
Creatinine mg/dl	Mean ± SD	0.90±0.21	1.02±0.25	t =-1.827	0.071
	Range	0.4-1.5	0.4-1.9		

ITP: Immune thrombocytopenia, WBC: White blood cells, PT: Prothrombin time, PTT: Partial thromboplastin time, INR: International normalization ratio, t: t-Independent Sample t-test, x2: Chi-square test. *: Significant p- value (<0.05)

Table (2): Comparison of P-Selectin and GP IIbIIIa autoantibodies levels between patients with newly diagnosed ITP and patients with persistent ITP

Item		Newly diagnosed ITP n=45	Persistent ITP n=45	Stat. test	p-value
P-Selectin level (pg/ml)	Mean ± SD	253.72±73.79	230.42±62.70	t=1.46	0.148
	Range	144.07-614.95	140.58-570.52		
P-Selectin status	Positive	18 (40.0%)	23 (51.1%)	X^2 =1.12	0.290
	Negative	27 (60.0%)	22 (48.9%)		
GP IIbIIIa level (pg/ml)	Mean ± SD	2.74±0.61	2.25±0.59	t=3.338	<0.001*
	Range	1.58-5.61	0.99-5.33		
GP IIbIIIa status	Positive	33 (73.3%)	33 (73.3%)	X^2 =0.00	1.000
	Negative	12 (26.7%)	12 (26.7%)		

ITP: Immune thrombocytopenia, t: t-Independent Sample t-test, x^2: Chi-square test, *: Significant p- value (<0.05)

Table (3): Comparison of P-Selectin and GP IIbIIIa autoantibodies based on type of response in patients with newly diagnosed primary immune thrombocytopenia

Markers	Types of patient's response	Range	Mean ± SD	Stat. test	p-value	post hoc Tukey's test
P-Selectin autoantibody (pg/ml)	No response	224.28 - 614.95	375.87 ± 121.70	F = 11.20	<0.001*	p1 =0.001*
	Partial Response	144.07 - 335.01	240.61 ± 48.14			p2 =0.001*
	Complete response	182.66 - 246.89	215.99 ± 20.95			p3 =0.001*
GP IIbIIIa autoantibody (ng/ml)	No response	2.49 - 5.61	3.50 ± 1.21	F = 7.50	0.002*	p1 =0.002*
	Partial response	2.08 - 3.53	2.68 ± 0.32			p2 =0.002*
	Complete response	1.58 - 3.04	2.47 ± 0.44			p3 =0.002*

F: ANOVA test (Analysis of variance), p1: No response group vs. partial response group, p2: No response group vs. complete response group, p2: partial response group vs. complete response group, *: Significant p- value (<0.05)

Table (4): Comparison of P-Selectin (pg/ml) and GP IIbIIIa (ng/ml) autoantibodies based on type of response in patients with persistent primary immune thrombocytopenia

Markers	Types of patient's response	Range	Mean ± SD	Stat. test	p-value	post hoc Tukey's test
P-Selectin autoantibody (pg/ml)	No response	253 - 570.5	368.38 ± 144.39	F = 25.87	<0.001*	p1 =0.001*
	Partial response	192.7 - 292.7	240.81 ± 26.54			p2 =0.001*
	Complete response	140.6 - 229.3	191.91 ± 24.16			p3 =0.001*
GP IIbIIIa autoantibody (ng/ml)	No response	2.23 - 5.33	3.78 ± 1.63	F = 13.10	<0.001*	p1 =0.001*
	Partial response	1.39 - 3.12	2.17 ± 0.37			p2 =0.001*
	Complete response	0.99 - 2.96	2.02 ± 0.57			p3 =0.001*

F: ANOVA test (Analysis of variance), p1: No response group vs. partial response group, p2: No response group vs. complete response group, p2: partial response group vs. complete response group, *: Significant p- value (<0.05).

Table (5): Comparison of platelet count between positive P-Selectin and negative P-Selectin in patients with newly diagnosed immune thrombocytopenia and patients with persistent immune thrombocytopenia after 6 months of treatment

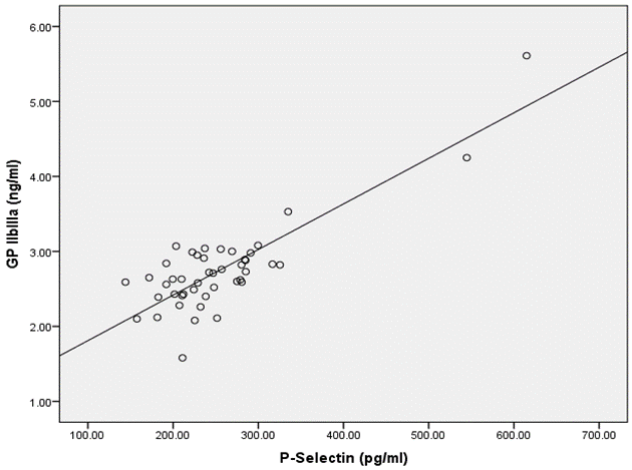
Group		No.	Platelet count (10^3 /cmm) after 6 months of treatment		Stat. test	p-value
			Range	Median (IQR)		
Newly diagnosed ITP	Positive P-Selectin	18	22- 87	37 (25.75-49.25)	MW = -4.694	0.001*
	Negative P-Selectin	27	26 – 16.5	90 (63 -123)		
Persistent ITP	Positive P-Selectin	23	21 -110	47 (33 - 63)	MW = -5.429	0.001*
	Negative P-Selectin	22	76-215	135.5 (114.75-178.5)		

ITP: Immune thrombocytopenia, MW: Mann-Whitney, IQR: Interquartile range, *: Significant p- value (<0.05)

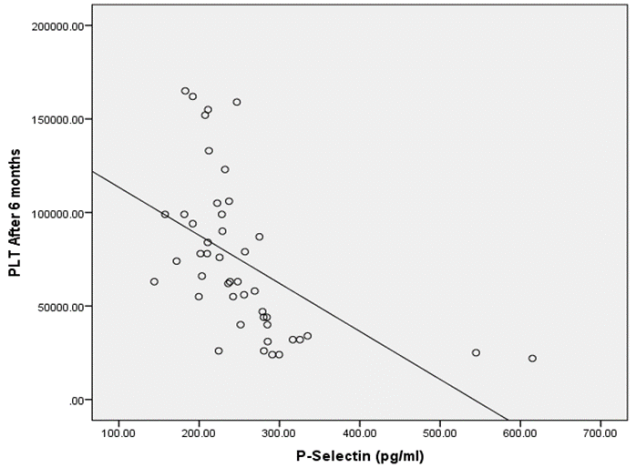
Table (6): Correlation study of P-Selectin (pg/ml) in patients with newly diagnosed immune thrombocytopenia and patients with persistent immune thrombocytopenia

Parameters	P-Selectin (pg/ml)		GP IIbIIIa (ng/ml)	
	r	p-value	r	p-value
Newly diagnosed IPT				
P-Selectin (pg/ml)			0.842	0.000*
GP IIbIIIa (ng/ml)	0.842	0.000 *		
Platelet (10^3 /cmm) at baseline	- 0.165	0.277	- 0.223	0.140
Platelet (10^3 /cmm) after 6 months of treatment	- 0.521	0.000 *	- 0.456	0.002*
Persistent IPT				
P-Selectin (pg/ml)			0.708	0.000*
GP IIbIIIa (ng/ml)	0.708	0.000*		
Platelet (10^3 /cmm) at baseline	- 0.446	0.002*	- 0.314	0.036*
Platelet (10^3 /cmm) after 6 months of treatment	- 0.597	0.000*	- 0.431	0.003*

ITP: Immune thrombocytopenia, r: Pearson correlation coefficient, *: Significant p- value (<0.05)

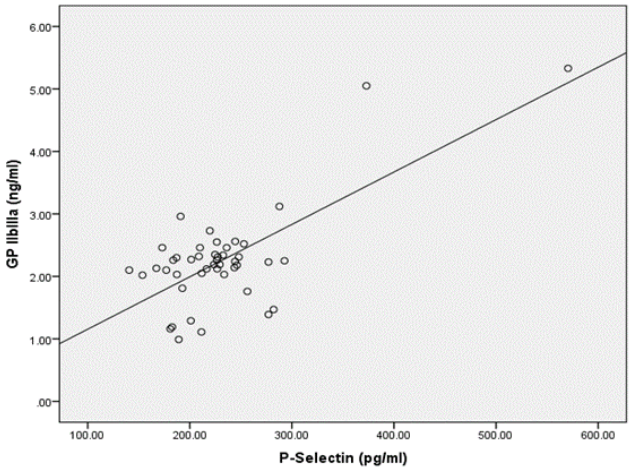


A: P-Selectin (pg/ml) with GP IIbIIIa (ng/ml)

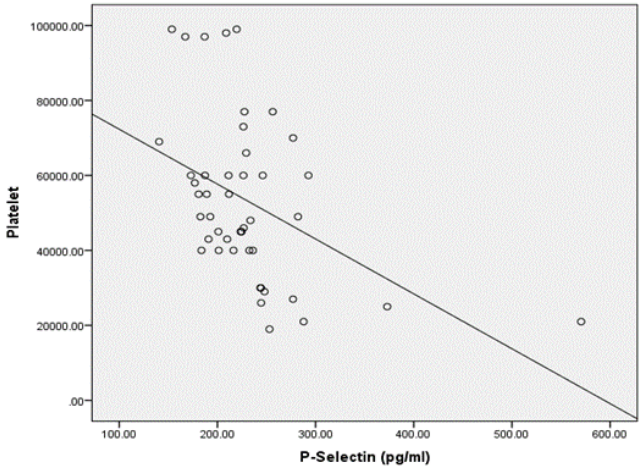


B: P-Selectin (pg/ml) with Platelet /10^3 /cmm after 6 months of treatment

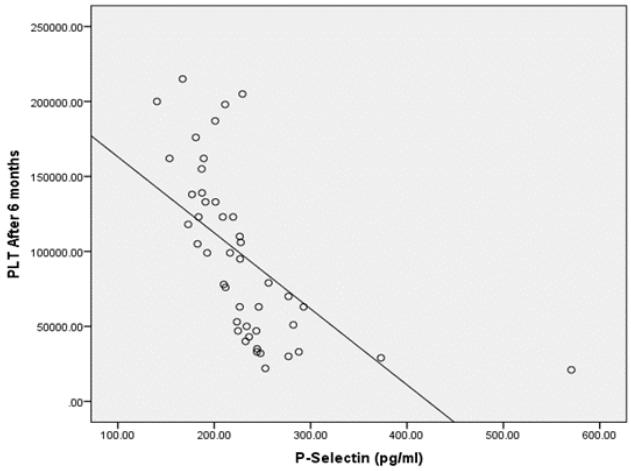
Figure (1): Correlation of P-selectin autoantibody with GP IIbIIIa and platelet count in patients newly diagnosed immune thrombocytopenia



A: P-Selectin (pg/ml) with GP IIbIIIa (ng/ml)



B: P-Selectin (pg/ml) with platelet / 10^3 /cmm at baseline



c: P-Selectin (pg/ml) with platelet /10^3 /cmm after 6 months of treatment

Figure (2): Correlation of P-selectin autoantibody with GP IIbIIIa and platelet patients with persistent immune thrombocytopenia

DISCUSSION

Immune thrombocytopenia (ITP) is an acquired autoimmune disorder characterized by a low platelet count (platelet count of less than 100,000/µL) due to an unbalanced interaction between effective and regulatory immune cells, resulting in an increased platelet clearance along with an impairment of thrombopoiesis [6]. Based on disease duration, ITP is classified

as newly diagnosed (0–3 months), persistent (>3–12 months), and chronic (>12 months) [7]. Previous studies have suggested that the detection of platelet autoantibodies is not only helpful in diagnosing ITP but also in monitoring ITP patient responses to treatment [5]. Since there are few studies reporting the prognostic value of P-selectin autoantibody in predicting treatment response in ITP patients. Thus, in this study, we analyzed the association between P-Selectin autoantibody to GP IIb IIIa autoantibodies and response to treatment in patients with newly diagnosed and persistent primary immune thrombocytopenia.

Our study found There were no statistically noteworthy deviations in the demographic data (age "years"; p=0.192) and sex (p=0.634) between the groups that were evaluated. The included patients' mean ages was 41.98±9.57, with a range of 17–61 in group I, and 43.6-3.8, with a range of 28–59 in group II. 13 (28.9%) men and 32 (71.1%) females made up group I of the included patients. Group II had 11 (24.4%) males and 34 (75.6%) females and this in line with Wang et al. [8].and Hou et al. [9].

In terms of the examined groups' platelet counts, persistent ITP had a significantly higher platelet count (p-value < 0.001) than newly diagnosed ITP and this in line with Wang et al [8]., Hu et [10]., and Ruan et al [11]. we also discovered that patients who were anti-P-selectin positive had a considerably lower median platelet count than individuals who were anti-P-selectin negative, this implies that P-selectin autoantibodies may influence the pathophysiology of ITP and platelet degradation. The P-Selectin autoantibody level did not differ statistically significantly (p-value = 0.148) across the groups under investigation. Group II's mean P-Selectin autoantibody was 230.42±62.70, whereas group I's was 253.72±73.79.

In our study, we observed that 18 (40.0%) patients in group I and 23 (51.1%) patients in group II had only P-Selectin-positive antibodies with no statistical significance., And this in line with Wang et al [8].

When comparing glycoprotein IIbIIIa in group, I (mean = 2.74±0.61, range = 1.58-5.61) and group II (mean glycoprotein IIbIIIa = 2.25±0.59, range = 0.99-5.33), there was a very statistically significant (p<0.001) rise in GPIIbIIIa autoantibody levels.

Additionally, we noticed that 33 (73.3%) of the patients in group I and 33 (73.3%) of the patients in group II had only GPIIbIIIa-positive antibodies with no statistical significance and this is in line with Wang et al [8].

Concerning PLT count the rise in the median PLT value after six months was 95000 (47000-135500) in Group II compared to 63000 (40000-99000) in Group I nevertheless, there was no statistically significant distinction Between the two groups (p>0.05).

In Accordance of treatment response, group I had 9 patients (20.0%) who experienced complete response, 30 patients (66.7%) who experienced partial response, and 6 patients (13.3%) who did not react to therapy. However, in group II, 4 (8.9%) patients did not react to therapy, whereas 20 (44.4%) patients had CR and 21 (46.7%) patients had a partial response. with a p-value (p<0.05) with statistically significant difference. and findings were in line with Wang et al [8].

Regarding the relationship between the level of p-selectin autoantibody and response to treatment in the studied groups. There was a statistically significant lower mean value of P-selectin (pg/ml) and GPIIbIIIa (ng/ml) in patients with complete response to treatment after 6 months, with p-value (p<0.001) in Group I and group II and this in line with Wang et al [8] and Hu et al [10] This data was consistent with the potential that anti-P-selectin antibody identification may be exploited to identify individuals who were less vulnerable to therapy

In both groups, our study showed that individuals who tested negative for anti-P-selectin (n = 27; 60.0%) had a significantly higher rate of response (CR) than those who were anti-P-selectin positive (n = 18; 40.0%). The p-value (p0.001) showed that the reaction was poorer in individuals who tested positive for anti-P-selectin and this was in line with the findings of Wang et al [8] and Hu et al [10].

Additionally, our study showed that patients who were GPIIbIIIa negative (12 (26.7%) in group I and 12 (26.7%) in group II have CR rate greater than those who were anti-GPIIbIIIa positive 33 (73.3%) in group I and 33 (73.3%) in group II, with a p-value of less than 0.001. These results were consistent with Zeng et al [12], Chen et al [13], and Song et al [14], but in contrast to Wang et al [8] and Ruan et al [11] which can be explained by: In Wang study they included only newly diagnosed ITP and ignored the statement of anti-GPIIbIIIa antibodies in persistent ITP also, Three months following the start of therapy, treatment responses were assessed., As a result, the Wang research produced different outcomes for us. Moreover, our findings align with other studies.

P-Selectin (pg/ml) and GP IIbIIIa (ng/ml) in (group I) revealed positive correlation that was highly statistically significant, with a p-value (p<0.05) between P-Selectin (pg/ml) and GP IIbIIIa (ng/ml). Furthermore, a negative correlation that is statistically significant (p-value < 0.05) was found between PLT count after 6 months and P-Selectin (pg/ml) and GP IIbIIIa (ng/ml) in (group II). This conclusion aligns with the findings of Wang et al [8], about PLT count after 6 months and P-Selectin, this data was consistent with the potential that anti-P-selectin antibody identification may be exploited to identify individuals who were less vulnerable to therapy

With regard to the association between P-Selectin (pg/ml) and GP IIbIIIa (ng/ml) in (group II), our research showed a statistically significant positive correlation with a p-value of less than 0.05. Additionally, there was a statistically

significant negative connection ($p<0.05$) between P-Selectin (pg/ml), Platelet count at baseline and PLT count after 6 months in (group II). Furthermore, after six months, there existed a statistically noteworthy negative connection ($p<0.05$) between GP IIbIIIa (ng/ml), Platelet (base line), and PLT after six months.

CONCLUSION

Our study's attempts to interpret that anti-P-selectin and anti-GP IIb/IIIa could influence ITP patients' responses and are associated with poor response to treatment indicating the prognostic values of both antibodies which could enable prompt modifications to the therapeutic approach. Therefore, GP IIbIIIa and anti-P-selectin antibody detection may be useful tools for identifying individuals who respond less well to treatment. The potential significance of P-selectin autoantibody and GP IIbIIIa autoantibody in determining future therapy for ITP should be evaluated. More excellent prospective studies with bigger sample sizes and longer durations are required.

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الملخص العربى

ماده البيتا سيليكتين في مرضي نقص الصفائح الدموية المناعي الذين تم تشخيصهم حديثا والذين لم يستجيبوا للعلاج وعلاقته بمضادات الجليكوبروتين

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ملخص البحث

الخلفية: نقص الصفائح الدموية هو اضطراب المناعة الذاتية يتميز بانخفاض غير طبيعي في عدد الصفائح الدموية أقل من 100 × 10^9 / لتر، الناتج عن زيادة إزالة الصفائح الدموية بوساطة الأجسام المضادة وإزالتها بواسطة الخلايا المناعية في الطحال بشكل أساسي وهناك عده أنواع من البروتينات السكرية لغشاء الصفائح الدموية في مرضي نقص الصفائح الدموية من أهمها ماده البيتا سيليكتين وأنواع مختلفه من الجليكوبروتين.

الهدف: اكتشاف دور مضادات البيتا سيليكتين في تنبؤ الاستجابة للعلاج لمرضي نقص الصفائح الدموية الذين تم تشخيصهم حديثا والذين لم يستجيبوا للعلاج (نقص الصفائح الدموية المستمر) ثم مقارنه مستوى الجسم المضاد الذاتي البيتا سيليكتين مع مستوى الجسم المضاد الذاتي الجليكوبروتين.

الطرق: اجريت هذه الدراسة على90 يعانون من مرض نقص الصفائح الدمويه. تم تقسيمهم طبقا لتاريخ تشخيص المرض الى عدد 45 مريضا تم تشخيصهم حديثًا بمرض نقص الصفائح الدموية الأولى ويتلقون علاج الخط الأول الكورتيزون و 45 مريضاً بمرض نقص الصفائح الدموية المستمر. تم الحصول على موافقة كتابية للاشتراك في الدراسة ومراجعة التاريخ المرضي والدوائي والفحص الاكلينيكي وعمل التحاليل المخبرية بما في ذلك اختبار الأجسام المضادة الخاصة بالبروتين السكري في الصفائح الدموية وكذلك اختبار الاجسام المضادة لمادة البيتا سيلسكتين باستخدام تقنية الممتزج المناعي المرتبط بالأنزيم .

النتائج: فيما يتعلق بمستويات الأجسام المضادة لمادة البيتاسيليكتين كان هناك نقص في الأهمية الإحصائية بين مجموعات البحث. في كلا المجموعتين، كان معدل الاستجابة الكاملة أكبر بكثير لدى المرضى الذين كانت نتيجة مضادات البيتاسيليكتين لديهم سلبية مقارنة بأولئك الذين كانت نتيجة مضادات البيتاسيليكتين لديهم ايجابية بالإضافة إلى ذلك، تم اكتشاف وجود علاقة إيجابية جديرة بالملاحظة بين مضادات البيتاسليكتين ومضادات الجليكوبروتين من خلال هذه الدراسة.

الاستنتاجات:وجدت دراستنا ان مضادات البيتاسيليكتين ومضادات الجليكوبروتين هما عاملان يؤثران على استجابة مرضي نقص الصفائح الدموية للعلاج ولذلك فان التحليل المبكر لهذه المضادات قد يفيد في تحديد المرضي الأقل استجابا للعلاج.

الكلمات المفتاحية: مضادات الجليكوبروتينات السكرية، نقص الصفائح الدموية حديث التشخيص، نقص الصفائح الدمويه المستمر، مضادات البيتا سليكتين.

الباحث الرئيسي

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