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ORIGINAL ARTICLE

Frequency of Common Clinical & Laboratory Attributes in Newly Diagnosed Immune Thrombocytopenic Purpura

AISHA NASIR[1], AMNA SHOUKAT[2], HAFSA IQBAL[1], QURRA-TUL-AIN[3], AYESHA IQBAL[4], SHIZRA KALEEMI[5], TALHA LAIQUE[6*]
[1]*Department of Hematology, Jinnah Hospital, Lahore, Pakistan*
[2]*Department of Hematology, Shaikh Zayed Hospital, Lahore, Pakistan*
[3]*Department of Hematology, Nishtar Hospital, Multan- Pakistan*
[4]*Department of Hematology, Regional Blood Centre, Multan, Pakistan*
[5]*Department of Pathology, UOL Teaching Hospital, Lahore, Pakistan*
[6]*Department of Pharmacology, Allama Iqbal Medical College, Lahore-Pakistan*
Correspondence \to Dr. Talha Laique, Email: talhalaique51@gmail.com Tel:+92-331-0346682

ABSTRACT

Background: The adults ITP is often insidious & reveals diversity in the clinical course. These individuals usually seek medical help for muco-cutanaeous or subcutaneous bleeds, while the clinical picture can range from asymptomatic to life-threatening**.**
Aim: To determine the frequency of common clinical and laboratory attributes in newly diagnosed immune thrombocytopenic purpura. **Study Design**: Descriptive cross sectional**.**
Methodology: Present study was conducted at Pathology Department, Jinnah Hospital Lahore. A total of 95 patients with newly diagnosed immune thrombocytopenic purpura, age 20-50 years of both gender were included. Patients history of anticoagulant drugs or steroid use for last 1 month, CLD, CRF and post- radiotherapy or chemotherapy were excluded. After this, common clinical and laboratory attributes (hemorrhagic manifestations, hemoglobin levels, platelet count) in newly diagnosed immune thrombocytopenic purpura were noted. Data was analyzed using SPSS version 20. The chi-square tests was used to compare the groups. A p-value of 0.05 was considered significant. **Results:** Hemorrhagic manifestations in newly diagnosed immune thrombocytopenic purpura was found in 41 (43.16%) patients. The mean hemoglobin & platelets counts at presentation was 10.35 ± 1.43g/d l& 45.47 ± 2.07 x 10^9/l.
Conclusion: It was concluded that hemorrhagic manifestations in newly diagnosed immune1thrombocytopenic purpura were found in about half of the patients.
Keywords: Immune1Thrombocytopenic Purpura, Immunoglobulin and Platelet Count.

INTRODUCTION

Immune thrombocytopenia (ITP), formerly known as idiopathic or immune thrombocytopenic purpura, is an acquired bleeding diathesis resulting from premature destruction of platelet, reduced production of platelet or a1combination of1both.[1] Previously, ITP was referred to as idiopathic thrombocytopenic or immune thrombocytopenic purpura. The current name Immune1Thrombocytopenia keeps the well-known abbreviation "ITP" and recognizes the disorder's immune-mediated mechanism while enabling individuals to have little or no purpura or bleeding symptoms[2].

Isolated thrombocytopenia without a known cause or disease is referred to as primary ITP. Secondary ITP assumes the presence of a concurrent, underlying disease that causes thrombocytopenia through disrupting immune function. Autoimmune illnesses, lymphoproliferative disorders & chronic infections (e.g., Helicobacter pylori, human immune-deficiency or hepatitis C virus) are only a few examples of such conditions[3,4].

The adults ITP is insidious & reveals diversity in the clinical course. These individuals usually seek medical help for sub-cutanaeous bleeds, while the clinical picture can range from asymptomatic to life-threatening[5]. Platelet counts are a treatment indicator, they are not a good predictor of outcome of disease, nor is it the objective to reach normal platelets rather than to prevent1symptomatic bleeding[6]. Despite significant progress in the detailed aetiology, ITP continues to be a disease of exclusion.[7] In a study, clinical & analytical characteristics of newly diagnosed immune thrombocytopenic purpura in adults were as follows: At the time of diagnosis, 43.16 percent of patients showed hemorrhagic symptoms, whereas 56.8% were asymptomatic[8].

Only careful monitoring may be necessary in moderate cases, but very low counts or significant bleeding may require therapy with corticosteroids, IV immunoglobulin or immunosuppressive medications. Splenectomy, or the surgical removal of the spleen, may be required for refractory ITP. In cases of severe bleeding and a low platelet count, the transfusion of platelet transfusions may be used. The body may make unusually big platelets as a way of compensating[9]. As in the previous years, prevalence of immune thrombocytopenia in adults is seen very common in our population, so there must be a need of identification of the common clinical and laboratory attributes between primary and secondary immune1thrombocytopenic purpura. The identification of these features associated with different types of immune thrombocytopenic purpura may help the clinicians for early diagnosis and treatment of this disease in order to reduce the morbidity and mortality of these particular patients.

The objective of the study was to determine the frequency of common clinical and laboratory attributes in newly diagnosed immune thrombocytopenic purpura.

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METHODOLOGY

Present study was conducted at Pathology Department, Jinnah Hospital Lahore after approval from Ethical Committee. A total of 95 patients with newly diagnosed immune thrombocytopenic purpura, age 20-50 years of both gender were included. Patients history of anticoagulant drugs or steroid use for last 1 month, CLD, CRF and post- radiotherapy or chemotherapy were excluded. After this, common clinical and laboratory attributes (hemorrhagic manifestations, hemoglobin levels, platelet count) in newly diagnosed immune thrombocytopenic purpura were noted.
Statistical Analysis: All data was analyzed through SPSS version 20.0. Age was presented as mean ± SD. Gender, type of ITP (primary/secondary), place of living (rural/urban), hypertension, common clinical and laboratory attributes (hemorrhagic manifestations, hemoglobin levels, platelet count) were presented as frequency and percentage. The chi-square test was applied. A p-value of 0.05 was considered significant.

RESULTS

Total 95 patients were enrolled. The mean age was 38.76±7.12 years with age range 20 to 45 years. Majority of the patients 64(67.37%) were between 36 to 50 years of age. There were 55(57.89%) were female and 40(42.11%) were males as shown in Table-1**.**

Table-1: Parameter Of All Subjects (n=95)

Variables	Groups	Frequency	%age
Gender	Male	40	42.11
	Female	55	57.89
Age (yrs)	20-35	31	32.63
	36-50	64	67.37
	Mean+SD	38.76±7.12	

Distribution of patients according to type of ITP, place of living and HTN as shown in Table-2.

Table-2: Distribution of patients according to ITP, Place of Living & HTN

Variables	Groups	Frequency	%age
Type of ITP	Primary	49	51.58
	Secondary	46	48.42
Place of Living	Rural	36	37.89
	Urban	59	62.11
Hypertension	Yes	60	63.16
	No	35	36.84

Hemorrhagic manifestations in newly diagnosed immune thrombocytopenic purpura was found in 41(43.16%) patients. The average hemoglobin at presentation was 10.35 ± 1.43g/dl, while average platelets count was 45.47 ± 2.07 x 10^9/l. Stratification of hemorrhagic manifestations with respect to age groups and gender, type of ITP, place of living and HTN as shown in Table-3 There were no significant relationship with them except gender (P< 0.05).

Table-3: Stratification of hemorrhagic manifestations with respect to different variables

Variables		Hemorrhagic Manifestations		P-value
		Yes	No	
Age (Years)	20-35	11	20	
	36-50	30	34	0.29
Gender	Male	12	28	
	Female	29	26	0.027*
Type of ITP	Primary	19	30	
	Secondary	22	24	0.373
Place of Living	Rural	15	21	
	Urban	26	33	0.819
Hypertension	Yes	15	20	
	No	26	34	0.964

*Statistically significant

Stratification of hemoglobin levels with respect to age groups and gender, Place of living Type of ITP and Hypertension as shown in Table-4. Type of ITP and Place of Living only significant with hemoglobin level.

Table-4: Stratification of hemoglobin levels with respect to different variables

Variables		Hemoglobin Level	P-value
		Mean ± SD	
Age (Years)	20-35	45.32 ± 2.27	
	36-50	45.55 ± 1.98	0.623
Gender	Male	45.33 ± 2.15	
	Female	45.67 ± 1.98	0.422
Type of ITP	Primary	44.94 ± 1.97	
	Secondary	46.04 ± 2.04	0.009*
Place of Living	Rural	44.94 ± 1.91	
	Urban	45.80 ± 2.11	0.05*
Hypertension	Yes	45.67 ± 2.04	
	No	45.14 ± 2.12	0.237

*Statistically significant

DISCUSSION

Idiopathic or immune1thrombocytopenic purpura (ITP) is an acquired bleeding diathesis caused by premature platelet death, decreased platelet production, or a combination of both.[10-12] ITP affects people of all ages. Children's cases range from 1.9 to 6.4 per 100,000 per year, whereas adults' cases average 3.3 per 100,000 per year.[13] Children and adult onset ITP have fundamentally different laboratory results and clinical aspects, according to retrospective data, consensus report, expert opinion & textbooks[12,14].

The mean age of 38.76 ± 7.12 years. Majority of the patients 64 (67.37%) were between 36 to 50 years of age. Out of 95 patients, 55 (57.89%) were female and 40(42.11%) were males with female. In our study, of hemorrhagic manifestations in newly diagnosed immune thrombocytopenic purpura was found in 41 (43.16%) patients. The average hemoglobin at presentation was 10.35 ± 1.43g/dl.

Clinical & laboratory characteristics of newly diagnosed in one study of immune thrombocytopenic purpura in adults were as follows: mean haemoglobin at presentation was 11.681.75g/dl, whereas average platelet count was 46.2127.45x109/l. At the time of diagnosis, 43.16 percent of patients showed hemorrhagic symptoms, whereas 56.8% were asymptomatic. Platelets 20x109/l were found in 24.45 of the patients[7].

A population-based cohort of newly presenting individuals with 16 years of age with ITP or platelet counts of fewer than 50x109/L was studied prospectively. Bone marrow testing confirmed the diagnosis of ITP in 245 individuals & the median follow-up was 60 months. The annual incidence rate was 1.6 cases /100,000[15].

Mucocutaneous bleeding is the most prevalent clinical manifestation associated with thrombocytopenia; virtually all bleeding occurred when platelet counts were less than 30x109/l.[16] According to the Inter-continental Cooperative Immune Thrombocytopenia Study Group, 23% of adults had active bleeding at the time of diagnosis.[12] In research on older ITP patients from the U.K. and China, a rather significant prevalence of bleeding was found; 72 percent and 87.8% of patients[17,18].

It would seem fair to assume that people with major bleeding symptoms have different platelets than those who don't. This question was investigated in a trial that looked at platelet function in adult ITP patients to see if it was linked to bleeding risk. Previous research has shown that measuring platelet function can help identify individuals who are at the greatest risk of bleeding[16,19].
Limitations: Our study had limitations like financial constraints, lack of resources, short duration of study and lack of genetic workup.

CONCLUSION

It was concluded that hemorrhagic manifestations in newly diagnosed immune thrombocytopenic purpura was found in about half of the patients. So, we recommend that early diagnosis and treatment of this disease should be done in order to reduce the morbidity and mortality of these particular patients.

Authors' Contribution: AN&AS: Conceptualized the study, analyzed the data, and formulated the initial draft, **HI&QUA:** Contributed to the proof reading, **AI,SK&TL:** Collected data.
Conflict of Interest: None to declare
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