JK SCIENCE pISSN: 0972-1177

ORIGINAL ARTICLE

Retrospective Analysis of Elderly Patients with Idiopathic Thrombocytopenic Purpura

Megha Sharma, Subhash Bhardwaj

Abstract

Background Idiopathic or immune thrombocytopenic purpura (ITP) is defined as the presence of an isolated low platelet count (thrombocytopenia) with no bone marrow abnormalities, in the absence of any other causes of thrombocytopenia. The incidence of ITP is estimated to be 2 to 5 per 100 000 persons in the general population. ITP is often diagnosed in elderly individuals, typically presenting as a chronic disease (60-80%) with insidious onset or different hemorrhagic expression patterns. The objective of the present study was to evaluate ITP in elderly and to assess the risk of bleeding. **Material & Methods** A retrospective analysis of the 40 consecutive patients over a period of 5 years from May 2015 to March 2020 in Govt Medical College,Jammu was done. Diagnosis of ITP was mainly based on patient's history,physical examination,peripheral blood counts , peripheral smear examination and bone marrow examination. **Results** The study comprised a total of 40 patients, out of which 26 were females(65 %) and 14 male patients(35 %) with female to male ratio of 1.8:1. Maximum number of cases were seen in age group 65-70 yrs followed by 70 - 75 yrs with the mean age of presentation being 70 year. Bone marrow examination in such cases revealed normal or increased number of megakarocytes.

Conclusion This study involved elderly ITP patients (>65 years old) Our results confirm that age influences the hemorrhagic pattern of ITP expression.

Key Words

ITP,Platelets,elderly

Introduction

Idiopathic or immune thrombocytopenic purpura (ITP), also currently called primary immune thrombocytopenia (PIT), is defined as the presence of an isolated low platelet count (thrombocytopenia) with no bone marrow abnormalities, in the absence of any other causes of thrombocytopenia.[1] ITP is an autoimmune disease involving the peripheral and central opsonization of platelets by auto-antibodies, which are directed against different surface glycoproteins and cause their premature destruction by the reticulo-endothelial system. [2] The incidence of ITP is estimated to be 2 to 5 per 100 000 persons in the general population. [3-6] ITP is a heterogeneous disorder with variable clinical symptoms and remains a diagnosis of exclusion of other causes of thrombocytopenia.[7]

ITP is often diagnosed in elderly individuals, typically presenting as a chronic disease (60-80%) with insidious onset or different hemorrhagic expression patterns, and

PG Dept. of Pathology, GMC Jammu J&K India

Correspondence to: Dr Megha Sharma, Deptt of Pathology GMC, Jammu J&K India

Manuscript Received:1/9/2021; **Revision Accepted**: 1/12/21

Published Online First: 10 April 2022

Open Access at: https://journal.jkscience.org

Cite this article as: Sharma M, Bhardwaj S. Retrospective Analysis of Elderly Patients with Idiopathic Thrombocytopenic Purpura. JK Science 2022;24(2):104-107

has proven resistant to various therapies (80%). [8] Compared to patients less than 40 year of age, those greater than 60 have been reported to have a higher incidence of major hemorrhagic complications of ITP and a higher ITP-related mortality. Bleeding events are often unpredictable, and patients with ITP, even in the setting of severe thrombocytopenia, may not exhibit bleeding beyond bruising and petechiae.[9-11] However, more serious bleeding, ICH has been reported in 1.4% of adults [11] Adults with ITP have a 1.3- to 2.2-fold higher mortality than the general population due to cardiovascular disease, infection, and bleeding. [12] The etiology of ITP in adults is as yet unknown, with ITP diagnosis based solely on exclusion of other causes, and its clinical course is variable and unpredictable. [1] Some recent research indicates that an impaired production of the glycoprotein hormone thrombopoietin (TPO), which serves to increase platelet production, may contribute to the reduction in circulating platelets. [13] Although this disease is considered to be primarily observed in young adults, with females predominantly affected, ITP does occur in the elderly. [14]

The objective of the present study was to evaluate ITP in elderly and to assess the risk of bleeding.

Material and Methods

We performed a retrospective analysis of the 40 consecutive patients that met inclusion criteria over a period of 5 years from May 2015 to March 2020 in Govt Medical College,Jammu. For each case, the following information was collected: age, gender,and clinical characteristics; complete blood count and bone marrow aspiration analysis.

Diagnosis of ITP was mainly based on patient's history,physical examination,peripheral blood counts , peripheral smear examination and bone marrow examination. The patients were categorised on the basis of bleeding severity.

The severity of bleeding ; 1=petechiae; 2=ecchymosis or dripping with moderate blood\loss; 3=bleeding of mucous membranes with copious blood loss without sequellae; 4=bleeding of mucous membranes or the parenchyma with debilitating blood loss and sequellae

Inclusion criteria:

1.thrombocytopenia

2.absence of evidence for dysplasia in peripheral smear

3.no previous treatment with corticosteriods or immunosuppressants

Exclusion criteria:

1.patients on medications like corticosteroids, antiplatelets and immunosupprents

2. presence of dysplasia in lineage apart from megakaryocytic.

The ethical clearance was obtained from the institutional ethical committee under no IEC/GMC/2021/609 with registration no C-202 .

Results

In this report, we describe our observations on ITP in elderly patients.

The study comprised a total of 40 patients, out of which 26 were females(65 %) and 14 male patients(35 %) with female to male ratio of 1.8:1 as shown in table 1.

Maximum number of cases were seen in age group 65-70 yrs followed by 70 - 75 yrs with the mean age of presentation being 70 years as depicted in table 2

The initial presentations included: thrombocytopenia revealed by routine blood count or bleeding limited to the skin (bleeding score between 0 to 2) in 15 cases (70 %) and severe cutaneous bleeding or visceral bleeding (potentially life-threatening) in one or more other sites (bleeding score 3) in 6cases (15 %) .

The mean platelet count was 36.2 x 109 /L (range: 1-120). No alterations in erythrocytic or leukocytic series were found. Bone marrow examination in such cases revealed normal or increased number of megakarocytes without any pathological alterations in erythroblastic,granulocytic and lymphocytic series.

Table1. Sex Wise Distribution of ITP Cases in Elderly

SEX	No of cases
FEMALES	26(65%)
MALES	14(35%)
TOTAL	40

Table 3. Clinical Presentations in Elderly ITP Cases

Clinical manifestations	No of cases
Asymptomatic	6(15%)
Mild hemorrhagic manifestations	20(50%)
Cutaneous purpura	
Mucosal bleeding	
Bleeding after minor trauma	8(20%)
Severe hemorrhagic manifestations	6(15%)
GI hemorrhage	
Hematuria	
Muscular hematoma	
Brain hemorrhage	

Clinical history revealed no other underlying disease at the time of diagnosis, responsible for thrombocytopenia and in none of them enlargement of lymph nodes,spleen or liver was observed.

Discussion

ITP is often diagnosed in elderly individuals, typically presenting as a chronic disease with different hemorrhagic expression patterns, as we have described in this study. The patients reviewed in our study exhibited more severe hemorrhagic manifestations than those observed in younger patients This was also well-documented in the case controlled study of Michel *et al* [15] in which, the median platelet count on diagnosis did not significantly differ between the younger and elderly patients, yet bleeding symptoms were more frequently observed in the older patients than in the controls (82% versus 68%,p=0.007), and the median bleeding score was significantly higher in the elderly. [15] This finding was also consistent with the study by Andres *et al* [16] while in the study by Bizzoni *et al.* [17], age did not appear to influence the hemorrhagic symptoms. It is worth noting that age itself (>65 years) is a criterion for the bleeding score published by Khella. [18] Despite the absence of cerebral hemorrhagic signs in our series, it is to note that, in the literature, the clinical picture is more severe with respect to the pediatric and adult subjects. [19] this is probably related to the weakness of the elderly subjects, polymedicated, with the consumption of drugs such as anticoagulants and/or antiplatelet agents.The mean age in our study was observed to be 70 yrs. Zulficar *et al*, have done work on ITP diagnosed in those over 65 yrs old, with 41 identified cases,with an average age of 76.5 yrs.[20] Similar, Bizzoni *et al*. retrospective study, which involved 178 patients (mean age: 72 years) , of Daou *et al.* [21], which included a series of 47 patients with ITP, all over 60 years old and Michel et al. case-controlled study [15], evaluating 55 elderly patients (mean age: 77.8 years) also concluded the same finding.

Table 2. Age Wise Distribution of ITP Cases in Elderly

AGE GROUP	No of cases
60-65 yrs	4
65-70 yrs	18
70-75 yrs	13
>75 yrs	5

Significant associations were found for platelet count and gender. At diagnosis 55% of women had bleeding symptoms, compared to 23% of men.This is in condarance with a study by Bizonni *et al.* [17] Whereas, in a study by Segal and Powe , an annual ITP incidence rate of 1.6 per 100 000 patients was reported with no gender difference except in the 45-59-year-old group, where the incidence was higher in women. [22]

The likelihood of a spontaneous remission from ITP is age related, with 1-year remission rates of 74% in children ,1 year of age, 67% in those between 1 and 6 years of age, and 62% in those 10 to 20 years of age.[23,24] Natural history data in adults are less well studied, with reports of 20% to 45% of patients achieving complete remission by 6 months; identifying spontaneous remissions beyond 6 months is more difficult secondary to the use of disease-modifying therapies. [25]

Conclusion

This study involved elderly ITP patients (65 years old) Our results confirm that age influences the hemorrhagic pattern of ITP expression This is why it is suggested that further studies with larger sample sizes and controlled clinical designs are required to improve treatment efficiency for elderly ITP patients.

Financial Support and Sponsorship
Nil.

Conflicts of Interest
There are no conflicts of interest.

References

1. Godeau B Immune thrombocytopenic purpura: major progress in knowledge of the pathophysiology and the therapeutic strategy, but still a lot of issues. Presse Med 2014;43: 47-8.
2. Semple JW. Immune pathophysiology of autoimmune thrombocytopenic purpura. Blood Rev 2002;16:9-12.
3. Abrahamson PE, Hall SA, Feudjo-Tepie M, Mitrani-Gold FS, Logie J. The incidence of idiopathic thrombocytopenic purpura among adults: a population based study and literature review. Eur Journal Haematol 2009;83(2):83-9.
4. Schoonen WM, Kucera G, Coalson J. Epidemiology of immune thrombocytopenic purpura in the General Practice Research Database. Br Journal Haematol 2009;145(2):235-44.
5. Terrell DR, Beebe LA, Vesely SK, Neas BR, Segal JB, George JN. The incidence of immune thrombocytopenic purpura in children and adults: a critical review of published reports. Am J Hematology 2010;85(3):174-18
6. Yong M, Schoonen WM, Li L. Epidemiology of paediatric immune thrombocytopenia in the General Practice Research Database. Br J Haematol 2010;149(6):855-64.
7. Cines DB, Bussel JB, Liebman HA, Luning Prak ET. The ITP syndrome: pathogenic and clinical diversity. Blood 2009;113(26):6511-21
8. Vianelli N, Valdre` L, Fiacchini M, De Vivo A,Gugliotta L, Catani L, Lemoni RM, Poli M, Tura S. Longterm follow-up of idiopathic thrombocytopenic purpura in 310 patients. Haematologica 2001;86:504-9
9. Neunert CE, Buchanan GR, Blanchette V. Relationships among bleeding severity, health-related quality of life, and platelet count in children with immune thrombocytopenic purpura. Pediatr Blood Cancer 2009;53(4):652-4
10. Psaila B, Petrovic A, Page LK, Menell J, Schonholz M, Bussel JB. Intracranial hemorrhage (ICH) in children with immune thrombocytopenia (ITP): study of 40 cases. Blood 2009;114(23):4777-83.
11. Neunert C, Noroozi N, Norman G. Severe bleeding events in adults and children with primary immune thrombocytopenia: a systematic review. J Thromb Haemost 2015;13(3):457-64.
12. Frederiksen H, Maegbaek ML, Nørgaard M. Twenty-year mortality of adult patients with primary immune thrombocytopenia: a Danish population-based cohort study. Br Journal Haematol 2014;166(2):260-7
13. Bussel JB, Lakkaraja M. Thrombopoietic agents: there is still much to learn. Presse Med 2014; 43: 69-78.
14. Rodeghiero F, Ruggeri M. ITP and international guidelines: what do we know,what do we need? Presse Med 2014; 43: 61-7
15. Michel M, Rauzy OB, Thoraval FR, Languille L, Khellaf M. Characteristics and outcome of immune thrombocytopenia in elderly:results from a single center case-controlled study. Am J Hematol 2011;86:980-4.
16. Andrès E, Zimmer J, Noel E, Kaltenbach G, Koumarianou A, Maloisel F. Idiopathic thrombocytopenic purpura: a retrospective analysis in 139 patients of the influence of age on the response to corticosteroids, splenectomy and danazol. Drugs Aging 2003;20:841-6.
17. Bizzoni L, Mazzucconi MG, Gentile M, Santoro C, Bernasconi S, Chiarotti F, *et al*. Idiopathic thrombocytopenic purpura (ITP) in the elderly: clinical course in 178 patients. Eur J Haematol 2006;76:210-16.
18. Khellaf M, Michel M, Schaeffer A, Bierling P, Godeau B. Assessment of a therapeutic strategy for adults with severe autoimmune thrombocytopenic purpura based on a bleeding score rather than platelet count. Haematologica 2005;90: 829-32.
19. Andrès E, Federici L, Zimmer J, Daou S, Ciobanu E. Traitement du purpura thrombopénique idiopathique du sujet âgé. Med Ther 2008; 14 : 25-31.
20. Zulfiqar AA, Novella JL, Mahmoudi R, Pennaforte JL, Andres E Treatment in idiopathic thrombocytopenic purpura in the elderly: About a retrospective study. Geriatr Psychol Neuropsychiatr Vieil 2016; 14: 151-7.
21. Daou S, Federici L, Zimmer J, Maloisel F, Serraj K. Idiopathic thrombocytopenic purpura in elderly patients. A study of 47 cases from a single reference center. Eur J Intern Med 2008. 19: 447-51.
22. Segal JB, Powe NR. Prevalence of immune thrombocytopenia: analyses of administrative data. J Thromb Haemost 2006; 4:2377-83.
23. Bennett CM, Neunert C, Grace RF. Predictors of remission in children with newly diagnosed immune thrombocytopenia: data from the Intercontinental Cooperative ITP Study Group Registry II participants. Pediatr Blood Cancer 2018;65(1):23.
24. Imbach P, K¨uhne T, M¨uller D. Childhood ITP: 12 months follow-up data from the prospective registry I of the Intercontinental Childhood ITP Study Group (ICIS). Pediatr Blood Cancer 2006;46(3):351-6.
25. Schifferli A, Holbro A, Chitlur M, Intercontinental Cooperative ITP Study Group (ICIS). A comparative prospective observational study of children and adults with immune thrombocytopenia: 2-year follow-up. Am J Hematol 2018;93(6):751-9.