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Original article

Idiopathic thrombocytopenic purpura in elderly patients: A study of 47 cases from a single reference center ☆

Samira Daou [a], Laure Federici [a], Jacques Zimmer [b], Frédéric Maloisel [c], Khalid Serraj [a], Emmanuel Andrès [a,*]

[a] *Department of Internal Medicine, Hôpitaux Universitaires de Strasbourg, France*
[b] *Laboratory of Immunogenetics and Allergology, Centre de Recherche Public de la Santé (CRP-Santé), Luxembourg*
[c] *Department of Onco-Hematology, Hôpitaux Universitaires de Strasbourg, France*

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Abstract

Background: Idiopathic thrombocytopenic purpura (ITP) is often diagnosed in the elderly, but no specific guidelines exist for such patients. We describe our experience with ITP management in elderly patients and analyze the therapeutic response.
Methods: We retrospectively reviewed a cohort of 47 consecutive elderly ITP patients (≥60 years old) followed in a single reference center. We specifically analyzed the clinical characteristics, therapies used, patient response rates, and side effects.
Results: The mean age of the 47 patients was 66 (range 60–82) years; 31 patients were female. Their initial presentation included bleeding limited to the skin ($n=10$, 21%) and bleeding at one or more other sites ($n=26$, 56%); 11 patients (23%) were asymptomatic. The mean platelet count was 52×10^9/L (range $1–120\times10^9$/L). After 1 and 6 months, the overall response rate was: 61% and 33% with corticosteroids ($n=43$), 80% and 50% with splenectomy ($n=10$), and 14% and 60% with danazol ($n=15$), respectively. Side effects of these therapies were reported in 100% of these elderly ITP patients, 60% and 50% with these drugs, respectively. No response was reported using IVIg. One case of fatal sepsis was noted after splenectomy.
Conclusions: The results confirm (1) that age influences the hemorrhagic pattern of ITP expression, response, and adverse effects of conventional ITP therapies, and (2) that danazol has the potential to be an effective therapeutic alternative to splenectomy in elderly ITP patients.

Keywords: Idiopathic thrombocytopenic purpura; Elderly; Age; Corticosteroids; Splenectomy; Danatrol

1. Introduction

Idiopathic thrombocytopenic purpura (ITP) is an autoimmune disease that involves peripheral and central opsonization of platelets by auto-antibodies directed against different surface glycoproteins, leading to their premature destruction by the reticulo-endothelial system [1,2]. The etiology of ITP in adults is unknown (a diagnosis of ITP remains one of exclusion) and the clinical course is variable and unpredictable [3,4]. Although this disease is generally considered to be a disease of young adults (female predominance), it does occur in the elderly [5,6].

Practice guidelines for ITP management have been published by the *American Society of Hematology* [7] and by the *British Committee for Standards in Haematology General Haematology Task Force* [8], but no specific

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* Corresponding author. Service de Médecine Interne, Clinique Médicale B, Hôpital Civil, Hôpitaux Universitaires de Strasbourg, 1 place de l'Hôpital, F-67091 Strasbourg Cedex, France. Tel.: +33 3 88 11 50 66; fax: +33 3 88 11 62 62.
E-mail address: emmanuel.andres@chru-strasbourg.fr (E. Andrès).

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guidelines exist for elderly patients. Recent studies suggest that patient age may influence the therapeutic response and the toxicity associated with treatment [9,10]. In this report, we describe our experience with ITP management in a group of 47 elderly patients and analyze the therapeutic response.

2. Patients and methods

2.1. Selection of patients

The study was conducted retrospectively among 47 elderly patients (≥60 years) who, in the period between 1985 and 2000, were consecutively diagnosed with ITP at the Departments of Internal Medicine and Onco-Hematology of the University Hospital of Strasbourg (France), a reference center. During the same period, more than 200 young patients (<60 years old) with ITP were followed (partial data published in [11]). The diagnosis of ITP was mainly based on the patients' history, physical examination, complete blood cell count, examination of peripheral venous blood smear, and bone marrow aspiration [7]. All patients had platelet counts below 150×10^9/L for at least two consecutive blood counts without other clinical or biological findings that could explain it. We excluded cases with no idiopathic immune thrombocytopenias [1,7,8], such as those induced by drugs, infectious agents, or related to other diseases, e.g., systemic lupus erythematosus, antiphospholipid syndrome, lymphoma, or myelodysplasia.

2.2. Study procedure

We performed a retrospective analysis of the 47 consecutive eligible cases. All analyzed data were obtained from the patients' files. Patient information was also obtained from relatives or from their personal physician. For each case, the following data were checked: age, gender, clinical characteristics, complete blood count, and bone marrow aspiration examination (available in 45 patients); drugs administered, including dose, route, start date, and withdrawal date; and outcome and mortality rate.

The severity of bleeding was classified into four categories, as follows: 0 = no bleeding; 1 = petechiae; 2 = ecchymoses and/or dripping with moderate loss of blood; 3 = bleeding of mucous membranes with copious loss of blood without sequela; and 4 = bleeding of mucous membranes and/or the parenchyma with debilitating loss of blood and sequela [12,13].

2.3. Response criteria

We analyzed the response to corticosteroids, intravenous immunoglobulins (IVIg), splenectomy, and danazol. Criteria for response to treatment were defined as follows: (1) a complete response (CR) was defined as a platelet count that rose to a normal level (platelet count $>150\times10^9$/L) after treatment; (2) a partial response (PR) was defined as a platelet count of $50–150\times10^9$/L after treatment; and (3) no response (NR) was defined as a platelet count below 50×10^9/L after treatment [14]. Patients whose initial platelet counts were below 50×10^9/L were also considered to have a PR if the number of platelets was twofold higher after treatment [14].

3. Results

3.1. Characteristics of the patients

Forty-seven patients aged 60 years or older were analyzed. Their mean age was 66 (range 60–82) years; 11 patients were older than 75 years. The ratio of males to females was 16:31. Their initial presentation included thrombocytopenia revealed by a routine blood count in 11 patients (23%), bleeding limited to the skin in 10 cases (21%), and bleeding at one or more other sites in 26 patients (56%; Table 1). At diagnosis, 14 patients (30%) had a bleeding severity score of 3 or 4. Twelve patients (26%) were treated with anticoagulant or anti-platelet agents because of cardiac diseases. Only four of these patients (33%) were asymptomatic. The mean platelet count was 52×10^9/L (range $1–120\times10^9$/L). For symptomatic patients, the mean platelet count was 42×10^9/L; for the others, it was 91×10^9/L.

3.2. Response to treatment

Four patients, referred to the hospital for isolated thrombocytopenia detected on routine laboratory examination or mild purpura, were free of any treatment ('wait and see policy'). These patients were spontaneously cured.

Corticosteroid therapy with prednisone or prednisolone was the initial treatment in 34 patients (72%). Thirty-one subjects received oral corticosteroids at a daily dose of 0.25 to 2 mg/kg per day, followed by a tapering of the dose. The maximum duration of therapy was 2 months. Three patients were treated with a bolus of methylprednisolone, between 0.25 and 1 g/day for 3 consecutive days, then switched to oral corticosteroids. Initially, a response (CR + PR) was obtained in 21 patients (61%), with the remaining patients

Table 1
Characteristics of the 47 elderly ITP patients

Clinical manifestations	Number of patients
Asymptomatic	11 (23%)
Mild hemorrhagic manifestations	18 (38.5%)
o Cutaneous purpura	10
o Epistaxis or gingivorrhage or conjunctival hemorrhage	8
Severe or deep hemorrhagic manifestations	18 (38.5%)
o Gastrointestinal hemorrhage	6
o Hematuria	4
o Brain hemorrhage	3
o Oral hemorrhage (oral hemorrhagic vesicles or bulls)	2
o Muscular hematoma (femur fracture)	2
o Metrorrhagia	1