Splenectomy is an important treatment option in patients with idiopathic thrombocytopenic purpura (ITP). We retrospectively analyzed 52 ITP patients splenectomized in our hospital in the past 31 years, and found that 4 factors might indicate a better prognosis: younger age ($p<0.011$), higher pre-operative minimum platelet count ($p=0.033$), lesser prednisolone dosage ($\leq 40 \text{mg/day}$) for maintaining the maximum platelet count before splenectomy ($p=0.013$); and the lowest platelet count $> 50 \times 10^9$/L within 14 days after splenectomy ($p<0.005$). Multivariate analysis showed that age and steroid dosage for maintaining the maximum platelet count pre-operatively were the predictive factors before splenectomy in the ITP patients who received splenectomy.

Splenectomy is an important treatment option for idiopathic thrombocytopenic purpura (ITP), especially in those patients refractory to corticosteroid therapy. Much effort has been devoted to trying to discover possible factors predictive of successful splenectomy, but the results are equivocal. In this study we analyzed the records of ITP patients splenectomized in our hospital during the past 31 years to discover the prognostic factors, if any.

Among 905 patients diagnosed with ITP in our hospital from 1970 to 2000, a total of 74 received splenectomy. Of them, 52 had data available for analysis (mean age: 35.3±19.5 years, range 4-69 years). Prednisolone was the first-line therapy in these patients and the dosage was 1 mg/kg body weight. The response to steroids was divided into 3 categories when the response could be maintained for $> 2$ months in the following conditions: complete (platelet count $\geq 100 \times 10^9$/L, prednisolone $\leq 10$ mg per day), partial (platelet count $\geq 50 \times 10^9$/L, prednisolone $\leq 15$ mg per day), and non-response (platelet count $< 50 \times 10^9$/L and/or prednisolone $> 15$ mg per day). Five patients showed partial response to steroids before splenectomy, 38 showed no response, and 9 patients could not be evaluated well because of incomplete records of the steroid dosage.

The criteria for evaluating the response to splenectomy were the same as above, except that the maintenance period was at least 3 months. Fisher's exact test and the Mann-Whitney test were used to calculate the difference ($p$ value) of the response to steroids according to different conditions.

After splenectomy, 25 patients (48.1%) and 11 patients (21.1%) had complete and partial responses, respectively; 16 patients (30.8%) had no response. Of them, 8 had a platelet count $< 200 \times 10^9$/L and 8 had a count of 20-50 $\times 10^9$/L. No bleeding episodes were recorded in these 16 patients. We then subdivided the 52 patients into responders (complete or partial) and non-responders, and found that gender, the time from diagnosis to splenectomy, hemoglobin concentration, white cell count, blood group, and the response to steroids were not significantly different between them (Table 1). However, among 52 patients, 21 patients (40.3%) had no response. Of them, 8 had a platelet count $< 200 \times 10^9$/L and 8 had a count of 20-50 $\times 10^9$/L. Blood group, the response to steroids, and age were not significantly different between them (Table 1).

When multivariate analysis was used to test the pre-operative parameters, we found that age and steroid dosage for maintaining the maximum platelet count were two predictive factors for ITP patients receiving splenectomy (Table 2).

With a median follow-up of 1,420 days (range 17-4,290) from the time of splenectomy, there were 5 and 0 relapses among complete and partial responders, respectively. The median time...
to relapse after surgery was 1,121 days (at 73, 1,361, 296, 3,833, and 40 days in the 5 relapsing responders). After treatment 3 of these relapsed patients, 2 treated with steroids and 1 with cyclophosphamide, achieved another complete response. The criteria for treating the post-splenectomized patients were platelet count <50 × 10^9/L and a bleeding tendency.

The prognostic factors of successful splenectomy in ITP patients have been of much interest for decades. Some have claimed that prognosis is correlated with PAIG levels, the site of splenic platelet sequestration, the pre-splenectomy response to corticosteroids, a younger age, a higher platelet count after splenectomy, and the response to intravenous immunoglobulin administration. Yet, others have not found the same correlations.

Our results and those of others, highlight different predictive factors which might not be universally accepted. We still seem a long way off discovering whether it is the heterogenous nature of ITP that counts, or whether there really are some universal predictive factors.

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