Steroid Responsiveness in Adults with Primary Immune Thrombocytopenia: a Single Center Study

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Background: *Primary immune thrombocytopenia (ITP) is a common life-threatening condition of a benign hematologic disease. The standard treatment is corticosteroids. Dismal study to determine response between groups of steroids in Thailand. Assessing the steroid response of each form of steroid may improve the outcome of ITP.*

Objective: *The objective is to determine the results of steroid administration in newly diagnosed or patients with relapsed primary ITP by comparing the response between prednisolone and dexamethasone.*

Material and Method: *The study is a retrospective, descriptive study. We have reviewed medical records of thirty-nine primary ITP patients taken between the years of 2007 to 2014 at the HRH Princess Maha Chakri Sirindhorn Medical Center. Data collections were of the personal demographics, disease characteristics, treatments, and the outcomes of treatments. The statistical analyses include the percentages, mean scores, and standard deviation. The Chi-square and Fisher's exact correlation were used to identify the categorical variables and to assess between the independent variables and outcomes. The ANOVA test confirmed the continuous variables. A p-value <0.05 was considered statistically significant.*

Results: *Data from the 39 patients have shown that the median age was 40.6 years (15 to 85 years). The female gender was a predominant factor. Twenty-seven patients (69.2%) were newly diagnosed ITP. Most of the patients (84.62%) experienced a history of bleeding in which skin bleeding was the major type (60.6%). There were 15 (38.5%) and 24 (61.5%) patients treated with prednisolone and dexamethasone, respectively. The history of bleeding (p = 0.02) and low platelet counts prior to treatment (p=0.04) were seen predominantly in the dexamethasone group when compared to the prednisolone group. The accumulation of levels of steroids were found to be higher in the dexamethasone group during the first week (p = 0.00), but no differences were seen between 2 and 4 weeks of treatment (p = 0.20, 0.14, and 0.19). The initial response to therapy in the dexamethasone group was 77.2%, and 88.9% in prednisolone group. However, the 1 to 4 week treatment outcomes were not different between either of the groups. Gender, age (less than 18 years), diagnoses of being a new case or a relapsed case and the type of corticosteroid have shown no effects on the outcomes of the treatments.*

Conclusion: *Dexamethasone and prednisolone provide equal clinical outcomes for the patients with ITP during the first month of the therapeutic regimens.*

Keywords: *Idiopathic thrombocytopenia, Response, Dexamethasone, Prednisolone*

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Primary Immune thrombocytopenia (ITP) is a life-threatening condition. The pathology of ITP is the destruction of platelets by the patients' immune system. The first line treatments of newly diagnosed ITP, according to American Society of Hematology guidelines from 2011[1], are corticosteroids. The early response rates of treatment for the first line drugs had shown no differences[1-3]. A methylprednisolone dose of 30 mg/kg/day for 7 days, high dose dexamethasone of 40 mg orally for 4 days, intravenous immunoglobulin, intravenous anti-D, intravenous corticosteroids for 1 to 3 days then oral corticosteroid for 4 to 21 days, and prednisolone at 1 mg/kg orally for 21 days; tapering off the corticosteroids were found in 95%, 90%, 80%, 80%, 80%, and 70 to 80%, respectively.

However, prolonged use of high dose, systemic, oral glucocorticoids can cause serious complications (*e.g.* diabetic mellitus, infection, adrenal insufficiency, etc). Several prospective cohort studies have shown that a short course of high dose dexamethasone can decrease the complications of steroids, provide a higher rate in early platelet response with sustained duration of the platelet response. A study done by Mazzucconi et al[4] has reported on

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the higher response of short course, high dose dexamethasone and an overall relapse-free survival rate of 90% at 15 months of treatment (platelet count >20 x 10^9/L). The study of Cheng et al[5] has shown that 42% of a high dose dexamethasone group had platelet counts of more than 50 x 10^9/L at 6 months after treatment, and did not need additional treatment for up to 2 to 5 years. Another study by Borst F et al[6] in newly diagnosed or recurrent ITP cites the use of high dose dexamethasone, orally at 40 mg per day for 4 days. This cycle of treatment repeated every 28 days for a maximum of 6 cycles, and was found to produce early platelet response (more than 50 x 10^9/L) in about 83% of patients treated and the remission duration was at 31 months after treatment. When using this regimen as a second-line treatment, it was found that remission presented in 50% of the patients when receiving the treatment for a period of 5 months.

Several studies have shown with the different rates in early, and sustained duration of response when comparisons of prednisolone and high dose dexamethasone. A prospective multicenter study, phase III, was done by Bae SH et al[7]. The response rate to the use of high dose dexamethasone at 40 mg per day orally for 4 days (repeating the treatment if platelets fell to less than 3 x 10^9/L in the first 6 months) was at 81.2%. When compared with the use of prednisolone at 1 mg/kg/days for 4 weeks, it showed that, at 28 days of treatment, a higher response rate (platelet >30 x 10^9/L) found in the prednisolone group to be at 68.2%. Three patients from the prednisolone group were excluded from the study due to contracting hyperglycemia and pneumonia. This is in contrast with the randomized prospective study of Mashhadi MA et al[8] that found a higher response rate in the high dose dexamethasone group. The response of treatment comparing between dexamethasone and prednisolone groups at one week, 3 months, 6 months, and one year were 100% vs. 80%, 96.7% vs. 56.6%, 89.9% vs. 53.3%, and 89.9% vs. 46.6%, respectively. There have been lower relapse rates and lower side effects found in the high dose dexamethasone group.

There was a small study about the duration of the response to treatment. This is a retrospective study done by Nakazaki et al[9], and showed no differences in the early response between types of steroids. However, they found that the prednisolone group had a longer duration of response than the high dose dexamethasone group. This is in contrast to a retrospective study that was done by Teramura et al[10] that had found no differences in the early response between high dose dexamethasone and prednisolone (86% vs. 87%); but on follow-up at 1 year, they found a longer sustained response of treatment with high dose dexamethasone (78% vs. 38%; $p = 0.008$). A randomized prospective trial done by Matschke J et al[11] had found no differences in the early response rates but did see a longer sustained duration of response in the dexamethasone group. This is the result of the response to the higher accumulation of glucocorticoids in the dexamethasone group as it suppresses the immune response more than has been seen in the prednisolone group.

Reported in a previous study done by Wanchai et al[12], the early response to corticosteroids had been at 77% but this study had not compared between the different types of steroids used. Another retrospective study done by Nattiya et al[13] at Srinakharin Hospital had found that a factor related with the disease progression was the response to the first line treatment. However, this study also did not compare between different groups taking different types of steroids. A prospective study, done by Praituan W et al[14], at Chulalongkorn Hospital did compare dexamethasone and prednisolone use and found a faster platelet rise in the dexamethasone group. It shows that lower accumulated doses of steroids in the dexamethasone group reduce the side effects of the treatment. As a result, the recommendation for dexamethasone as the first line treatment chosen for patients who require a faster rise in their platelet counts.

Dismal study was to determine response between groups of steroids in Thailand. The aim of this study is to review the response of corticosteroid treatments within 28 days by comparing the use of dexamethasone and prednisolone.

Material and Method

The inclusion criteria were patients who were more than 15 years of age, newly diagnosed with ITP or with relapsed or recurrent ITP in accordance to the International Working Group (IWG) criteria[15], and who required treatment of ITP (bleeding and/or a platelet count less than 30x10^9/L). We had excluded patients diagnosed with thrombocytopenia acquired from autoimmune disease, drugs, human immunodeficiency virus infection, hepatitis C infection, cancer, bone marrow disease, and those not meeting the indications for treatment for primary immune thrombocytopenia.

This is a retrospective, descriptive study conducted by collecting data from medical records at

the HRH Princess Maha Chakri Sirindhorn Medical center, Srinakharinwirot University from the period of January of 2007 to June of 2014. We collected data at diagnosis, and at the follow-up period of 28 days following their treatment.

The data collected were: age, gender, the underlying diseases, treatment regimens, response to treatments, and complete blood count (CBC) at day 7, 14, 21, and 28 of treatment. The ethics committee of Srinakarinwirot University, approved this current study (SWUEC-226/57E). A prednisolone dose of 1 mg/kg/day for 21 day, and then tapering. For dexamethasone dose of 20-40 mg/kg intravenous. If platelet counts in patients in the dexamethasone group had a rise of more than 100 x 10^9/L, they changed their treatment from dexamethasone to prednisolone.

The International Working Group (IWG)[15] defines primary immune thrombocytopenia as a thrombocytopenia of less than 100 x 10^9/L, and it does not find any other causes for thrombocytopenia. Definition of primary ITP[15] as newly diagnosed ITP was defined at the time of diagnosis up to 3 months. Persistent ITP defined as the disease diagnosed at 3 months up until 12 months. Chronic ITP defined as the disease diagnosed more than 12 months prior. Corticosteroid dependence defined as having used corticosteroids to maintain platelets at more than 30x10^9/L to prevent bleeding. Severe ITP defined as bleeding symptoms seen in the initial visit or bleeding occurs after treatment and requires additional medication. Refractory ITP defined as severe ITP following a splenectomy. Those patients who responded and were did respond to treatment were defined as those who were not subjects of a splenectomy. The criteria for the response to treatment, according to the standards set by the IWG[15] are complete response (CR) which is defined as a platelet count $\geq$100 x10^9/L when measured on 2 occasions >7 days apart with the absence of bleeding. Normal response (R) is defined as a platelet count $\geq$30 x 10^9/L and a greater than a 2-fold increase in the platelet count from baseline as measured on 2 occasions >7 days apart with the absence of bleeding. No response (NR) is defined as a platelet count <30x 10^9/L or a less than 2-fold increase in the platelet count from baseline or with the presence of bleeding. Platelet counts need to be measured on two separate occasions at a period greater than 24 hours apart. The loss of a complete response, defined by a platelet count <100 x10^9/L is when measured on 2 occasions more than a day apart and/or with a presence of bleeding. A loss of complete response was defined by a platelet <30x10^9/L or less than a 2-fold increase in the platelet count from baseline or with the presence of bleeding.

The criterion for relapsed and recurrent ITP is defined as a patient whose disease recurs after remission[15]. The clinical course of ITP is defined as such[15]; complete remission (CR) is defined as a platelet count $\geq$100x10^9/L, chronic ITP is defined as a platelet count <100x10^9/L with sustained duration greater than 1 year since the last follow-up; failure is defined as death resulting from bleeding from ITP.

The clinical definition of bleeding as stated by the IWG[15] varies from, no clinical bleeding to severe bleeding. No signs of bleeding are categorized as no clinical bleeding. Mild bleeding is defined as bleeding gums and/or epistaxis. Moderate bleeding is defined as hypermenorrhea or menorrhagia, large purpura patches, hematemesis and hematuria. Severe bleeding is defined as life-threatening bleeding (*e.g.* intracranial hemorrhage or internal organ bleeding).

Statistical analysis

Descriptive analyses were performed to determined percentages, mean, and medians. Relationship between the two different types of corticosteroid treatment groups, the categorical variables of the two groups were analyzed by the Chi-square, Fisher's exact correlation. Relationship between the groups with different steroid treatments and the continuous variables were analyzed with the student's t-test. The *p*-value <0.05 was considered statistically significant.

Results

Data from the 39 patients presenting with ITP were reviewed from January 2007 to June 2014, the median age was at 40.6 years (15 to 85). Thirty patients (76.9%) were females and nine patients (23.1%) were males. Twenty-seven patients (69.2%) were patients who were newly diagnosed ITP. Most of the patients (84.62%) had experienced a history of bleeding in which skin bleeding was the major symptom (60.6%). All of the patients' characteristics are in Table 1.

The baseline characteristic of age, gender, newly diagnosed ITP or relapsed ITP have shown no differences between the two groups. Twenty-four patients (61.5%) treated with dexamethasone, and 15 patients (38.5%) treated with prednisolone as the first line drugs. We had found that the patients who presented with clinical signs of bleeding were in greater numbers of those treated with dexamethasone. Most of patients in dexamethasone group had shown clinical

Table 1. Baseline characteristics of patients with newly diagnosed ITP or relapsed ITP (n = 39)

Characteristic	No. of patients (%)	Treatment		
	Total	Prednisolone (%)	Dexamethasone (%)	*p*-value
Age mean (range)	40.6 (15 to 85)	40.2 (18 to 69)	40.83 (15 to 85)	0.92
Sex				
Female	30 (76.9)	12 (40)	18 (60)	
Male	9 (23.1)	3 (33.3)	6 (66.7)	1.00
Case				
New case	27 (69.2)	8 (29.6)	19 (70.4)	0.15
Relapse	12 (30.8)	7 (58.3)	5 (41.7)	
Underlying disease				
None	25 (64.1)	11 (44)	14 (56)	0.15
DM	2 (5.1)	1 (50)	1 (50)	0.63
HT	1 (2.6)	1 (100)	0 (0)	0.39
HT and DM	3 (7.7)	2 (66.7)	1 (33.3)	0.33
DM, HT, DLP, CKD	1 (2.6)	0 (0)	1 (100)	0.62
Others	7 (17.9)	0 (0)	7 (100)	0.04
Bleeding				
Yes	33 (84.62)	10 (30.30)	23 (69.70)	0.02
No	6 (15.38)	5 (83.3)	1 (16.7)	
Clinical presentation				
No bleeding	6 (15.4)	5 (83.3)	1 (16.7)	0.02
Mild bleeding	25 (64.1)	6 (24.1)	19 (76)	0.01
Moderate bleeding	8 (20.5)	4 (50)	4 (50)	0.69
Bleeding site				
Skin	20 (60.6)	5 (25)	15 (75)	0.08
Oral mucosa	2 (6.06)	1 (50)	1 (50)	0.63
Skin and oral mucosa	6 (18.18)	2 (33.33)	4 (66.67)	0.58
Menstruation	5 (15.15)	2 (40)	3 (60)	0.65
ANA				
Negative	23 (59)	7 (30.4)	16 (69.6)	0.22
1: 80	12 (30.8)	6 (50)	6 (50)	0.26
1: 160	2 (5.1)	1 (50)	1 (50)	0.63
1: 640	2 (5.1)	1 (50)	1 (50)	0.63

mild bleeding, and skin had been the major site of bleeding. The steroid treatments had not shown any differences for the group with moderate bleeding. The patients who were asymptomatic received prednisolone in greater numbers than those treated with dexamethasone (Table 1).

The baseline of the platelet counts was different between two groups. The dexamethasone group had a mean platelet count significantly less than that seen in the prednisolone group (Table 2). The mean accumulated dose of steroids between the two groups, in the first week, found to be significantly higher in the group with dexamethasone than in the prednisolone group. However, the mean dosages of steroids were not different two to four weeks later (Table 3).

If platelet counts in patients in the dexamethasone group had a rise of more than $100x10^9$/L, they changed their treatment from dexamethasone to prednisolone. Regarding the patients receiving dexamethasone, the mean change of treatment was done at 7.63 days (range, 3 to 24 days), and a median change of steroids was executed at day 6 after starting their treatment.

Early response rates found to be higher in the dexamethasone group (77.2%) than had been seen in the prednisolone group (88.9%) (Table 4).

There were no differences in platelet response after treatment at days 7, 14, 21 and 28 in both groups (Table 2). The accumulation dosages of steroids had no differences in treatment at days 7, 14, 21 and 28

Table 2. Platelet counts at the time of diagnosis and treatment (n = 39)

Duration	Total platelet count (cell/uL) (n = 39)	Treatment		
		Prednisolone (n = 15)	Dexamethasone (n = 24)	*p*-value
Diagnosis				
Mean ± SD	15,435±13,461.05	20,933±11,841	12,000±13,490.74	0.04
Median	10,000	19,000	65,000	
Range	1,000 to 58,000	5,000 to 47,000	1,000 to 59,000	
Day 7				
Mean ± SD	119,000±84,149.87	155,444±80,078.26	104,091±82,891.73	0.13
Median	112,000	160,000	104,000	
Range	2,000 to 316,000	26,000 to 273,000	2,000 to 318,000	
Day 14				
Mean ± SD	171,960±187,868.63	177,375±109,754.19	169,412±218,289.39	0.92
Median	130,000	155,000	100,000	
Range	2,000 to 876,000	47,000 to 401,000	2,000 to 876,000	
Day 21				
Mean ± SD	121,111±105,156.96	112,667±97,084.16	122,800±109,830.52	0.88
Median	93,000	108,000	93,000	
Range	1,000 to 371,000	18,000 to 212,000	1,000 to 371,000	
Day 28				
Mean ± SD	138,470.6±87,962.54	136,928±75,507.99	139,550±97,645.69	0.93
Median	132,000	117,500	144,000	
Range	2,000 to 314,000	13,000 to 258,000	2,000 to 314,000	

Table 3. Accumulation of the dose of steroids between the 2 groups (n = 39)

Duration	Average steroid doses (mg/kg/day of prednisolone)		
	Prednisolone (n = 15)	Dexamethasone (n = 24)	*p*-value
Week 1			
Mean ± SD	0.88±0.34	3.31±1.27	0.00
Range	0.1 to 1.3	0.8 to 5.1	
Week 2			
Mean ± SD	0.93±0.29	1.22±0.82	0.20
Range	0.2 to 1.3	0.0 to 3.5	
Week 3			
Mean ± SD	0.85±0.26	1.27±1.05	0.14
Range	0.2 to 1.3	0.3 to 4.4	
Week 4			
Mean ± SD	0.73±0.29	1.15±1.17	0.19
Range	0.1 to 1.0	0.3 to 5.1	

(Table 3).

Eleven patients who had shown no response to first line treatments had to change to the second line treatment; two patients from the prednisolone group and nine patients from the dexamethasone group with a predominance of a lack of response seen in the dexamethasone group. The second line treatments include; cyclophosphamide, azathioprine, intravenous immunoglobulin (IVIG), and colchicine were five (45.45%), three (27.27%), two patients (18.18%), and 1

Table 4. Comparison of the outcomes between both groups

	Response	Total	Treatment		
			Prednisolone (n = 15)	Dexamethasone (n = 24)	*p*-value
Day 7 (n = 31)	CR	22 (71)	8 (88.9)	14 (63.6)	0.33
	R	3 (9.7)	0 (0)	3 (13.6)	
	NR	6 (19.4)	1 (11.1)	5 (22.7)	
Day 14 (n = 25)	CR	17 (68)	7 (87.5)	10 (58.8)	0.22
	R	3 (12)	1 (12.5)	2(11.8)	
	NR	5 (20)	0 (0)	5 (29.4)	
Day 21 (n = 18)	CR	8 (44.4)	2 (66.7)	6 (40)	0.41
	R	6 (33.3)	0 (0)	6 (40)	
	NR	4 (22.2)	1 (33.3)	3 (20)	
Day 28 (n = 34)	CR	22 (64.7)	9 (64.3)	13 (65)	
	R	9 (26.5)	4 (28.6)	5 (25)	0.94
	NR	3 (8.8)	1 (7.1)	2 (10)	

No response; NR (platelet <30x10^9/L), Response; R (platelet >30 to 100x10^9/L), Complete response; CR (platelet >100x10^9/L)

Table 5. Factors associated with the steroid response of patients with newly diagnosed or relapsed ITP at day 28 (n = 28)

Characteristic	Total (%)	Response		
		No complete response (%)	Complete response (%)	*p*-value
Age				
<18	2 (7.1)	2 (100)	0 (0)	0.10
≥18	26 (92.9)	7 (26.9)	19 (73.1)	
Gender				
Female	21 (75)	6 (28.6)	15 (71.4)	0.40
Male	7 (25)	3 (42.9)	4 (57.1)	
Case				
New case	20 (71.4)	8 (40)	12 (60)	0.17
Relapse	8 (28.6)	1 (12.5)	7 (87.5)	
Initial treatment				
Prednisolone	13 (46.4)	3 (23.1)	10 (76.9)	0.29
Dexamethasone	15 (53.6)	6 (40)	9 (60)	

patient (9.1%), respectively. The median time for the addition of the second line treatment was 7 days (range, 4 to 18 days; mean 9.78 days). All of the patients who received IVIG were patients who had splenectomies (one patient receiving prednisolone and one patient receiving dexamethasone).

The sustained duration of response and side effects were not subjected to analysis in this study. The factors of gender, age, of a new or recurrent case showed no relation to the complete response seen at day 28 of the treatment (Table 5).

Discussion

In our study, we found that females were the majority of patients with ITP. This accounts for 76.9 % of the subjects. This is similar to the study done by Nattiya et al[13] in Thailand. The mean age was at 40.6 years at 39.91% as seen in the same study. The mean

age of ITP was younger than has been seen in European patients[16].

The most common bleeding presenting was in the mild bleeding category that accounted for 64.1% of the subjects. This result is similar to the results found from the Nattiya et al[13] study that had seen a total of 59.57%.

The early response of steroid treatment in the dexamethasone group was found to be 77.2%. This is lower than had been seen in a study from foreign countries[1-3] that was 90%. The prednisolone group showed a total 88.9% in the early response; that is higher than was seen in the foreign countries study[1,2] which showed results as 70 to 80%. The majority of patients who presented with bleeding problems treated were with dexamethasone which explains the lower platelet response seen in this group.

During 28 days of treatment, complete response, response, and non-response results were found to be 51.69%, 30.34%, and 17.98%, respectively. Although this is similar to the results from the Nattiya et al[13] study, the results differed from the foreign study. There were no differences in the 'complete response category' seen at day 28 of the treatment in either group. The prednisolone, and dexamethasone groups were 92.9%, and 90%, respectively. These results are similar to a randomized prospective trial done by Matschke J et al[11], and another study from Chulalongkorn University, Thailand[14]. However, it was different from a prospective, multicenter phase III trial study from Bae SH et al[7] and another study done by Mashhadi MA et al[8] that had found a greater response in the dexamethasone group during the first month of treatment.

We found that none of the factors such as gender, cases of recurrent ITP and the type of steroid related with complete response during the first month of treatment. This is similar to the results of some previous studies[11,14]. We found no differences in the response to treatment based on age (<18 years or >18 years of age) and this is similar to a study done by Mazzucconi MG et al[4].

When we analyzed, we had found that the dexamethasone group had to be changed to second line drugs more frequently than seen in the prednisolone group. This may be the result of a greater incidence of bleeding seen in the dexamethasone group. As our patient population was predominantly in the dexamethasone group, we are unable to reach a definitive conclusion that the dexamethasone group requires a change to second line drugs in greater percentages than those in the prednisolone group.

The limitations of our study is that this is a retrospective study with a small sample; data collection was solely from medical records, and only patients treated in the HRH Princess Maha Chakri Sirindhorn medical center were involved in this study.

Conclusion

Dexamethasone and prednisolone may provide indistinguishable clinical outcomes for the patients with ITP during the first month of the therapeutic regimens.

What is already known on this topic?

The first line treatment of ITP is corticosteroids.

What this study adds?

The gender, age less than 18 years, being a new case or a relapsed one and the type of corticosteroid showed no effects on the treatment outcomes. There were no differences seen between dexamethasone and prednisolone to platelet response during first month of treatment.

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Potential conflicts of interest

None.

References

1. Neunert C, Lim W,Crowther M, Cohen A, Solberg LJr, Crowther MA. The American Society of Hematology 2011 evidence-based practice guideline for immune thrombocytopenia. Blood 2011; 117: 4190-207.
2. Cuker A, Cines DB. Immune thrombocytopenia. Hematology Am Soc Hematol Educ Program 2010; 2010: 377-84.
3. Provan D, Stasi R, Newland AC, Blanchette VS, Bolton-Maggs P, Bussel JB, et al. International consensus report on the investigation and management of primary immune thrombocytopenia. Blood 2010; 115: 168-86.
4. Mazzucconi MG, Fazi P, Bernasconi S, De Rossi G,

Leone G, Gugliotta L, et al. Therapy with high-dose dexamethasone (HD-DXM) in previously untreated patients affected by idiopathic thrombocytopenic purpura: a GIMEMA experience. Blood 2007; 109: 1401-7.
5. Cheng Y, Wong RS, Soo YO, Chui CH, Lau FY, Chan NP, et al. Initial treatment of immune thrombocytopenic purpura with high-dose dexamethasone. N Engl J Med 2003; 349: 831-6.
6. Borst F, Keuning JJ, van Hulsteijn H, Sinnige H, Vreugdenhil G. High-dose dexamethasone as a first- and second-line treatment of idiopathic thrombocytopenic purpura in adults. Ann Hematol 2004; 83: 764-8.
7. Bae SH, Ryoo HM, Lee WS, Joo YD, Lee KS, Lee JH, et al. High dose dexamethasone vs. Conventional dose prednisolone for adults with immune thrombocytopenia: a prospective multicenter phase III trial. (ASH annual meeting abstracts). Blood 2010; 116: Abstract 3687.
8. Mashhadi MA, Kaykhaei MA, Sepehri Z, Miri-Moghaddam E. Single course of high dose dexamethasone is more effective than conventional prednisolone therapy in the treatment of primary newly diagnosed immune thrombocytopenia. Daru 2012; 20: 7.
9. Nakazaki K, Hosoi M, Hangaishi A, Ichikawa M, Nannya Y, Kurokawa M. Comparison between pulsed high-dose dexamethasone and daily corticosteroid therapy for adult primary immune thrombocytopenia: a retrospective study. Intern Med 2012; 51: 859-63.
10. Teramura M, Ishiyama M, Kazama H, Yoshinaga K, Shiseki M, Mori N, et al. Comparison a high-dose dexamethasone and prednisolone for initial treatment of adult primary immune thrombocytopenia. OJBD 2012; 2: 85-9.
11. Matschke J, Bei Benhirtz HM, Vester I, Hertenstein B, Eisele L, Lax H, et al. A randomized trial of daily prednisolone versus dexamethasone in treatment naive patients with idiopathic thrombocytopenic purpura. (ASH annual meeting abstracts). Blood 2013; 122: Abstract 325.
12. Wanachiwanawin W, Visudhiphan S, Pinankijagum A, Vatanavicharn S. Therapy of chronic idiopathic thrombocytopenic purpura in adults: experiences from Thailand. Southeast Asian J Trop Med Public Health 1993; 24 (Suppl 1): 71-5.
13. Teawtrakul N, Sirijerachai C, Chansung K. Idiopathic thrombocytopenic purpura in adults at Srinagarind hospital: 9 years review. Srinagarind Med J 2012: 27: 43-8.
14. Praituan W, Rojnuckarin P. Faster platelet recovery by high-dose dexamethasone compared with standard-dose prednisolone in adult immune thrombocytopenia: a prospective randomized trial. J Thromb Haemost 2009; 7: 1036-8.
15. Rodeghiero F, Stasi R, Gernsheimer T, Michel M, Provan D, Arnold DM, et al. Standardization of terminology, definitions and outcome criteria in immune thrombocytopenic purpura of adults and children: report from an international working group. Blood 2009; 113: 2386-93.
16. Rodeghiero F, Besalduch J, Michel M, Provan D, Grotzinger K, Thompson G. Treatment practices in adults with chronic immune thrombocytopenia - a European perspective. Eur J Haematol 2010; 84: 160-8.

การตอบสนองต่อสเตียรอยด์ในผู้ป่วยผู้ใหญ่ที่มีภาวะเกล็ดเลือดต่ำจากอิมมูโน

นิศา มะเครือสี, น้ำใส ภู่เกียรติ

ภูมิหลัง: ภาวะเกล็ดเลือดต่ำจากอิมมูโน เป็นภาวะที่ฉุกเฉินและอันตรายต่อผู้ป่วยถ้าไม่ได้รับการรักษาที่ทันท่วงทีภาวะนี้เกิดจากอิมมูโนหรือภูมิคุ้มกันของร่างกายมาทำลายเกล็ดเลือด การรักษาที่เป็นแนวทางหลักคือการให้ยาสเตียรอยด์ สำหรับในประเทศไทยมีการศึกษาค่อนข้างน้อยที่เปรียบเทียบการตอบสนองของยาสเตียรอยด์แต่ละชนิด ดังนั้นในการศึกษาครั้งนี้จึงมีวัตถุประสงค์เพื่อดูการตอบสนองต่อยาแต่ละชนิดซึ่งจะมีความสำคัญต่อการรักษาภาวะเกล็ดเลือดต่ำจากอิมมูโน

วัตถุประสงค์: ศึกษาข้อมูลการตอบสนองของการรักษาหลักระหว่างกลุ่มที่ได้รับยาเพรดนิโซโลน (prednisolone) กับเดกซาเมทาโซน (dexamethasone) และศึกษาข้อมูลทางระบาดวิทยาในผู้ป่วยที่ได้รับการวินิจฉัยภาวะเกล็ดเลือดต่ำจากอิมมูนในผู้ใหญ่

วัสดุและวิธีการ: การศึกษานี้เป็นการศึกษาย้อนหลังเชิงพรรณนา โดยมีการทบทวนเวชระเบียนผู้ป่วยที่ได้รับ การวินิจฉัยเกล็ดเลือดต่ำจากอิมมูโนรายใหม่หรือกลับเป็นซ้ำที่มีข้อบ่งชี้ในการรักษาระหว่างปี พ.ศ. 2550 ถึง พ.ศ. 2557 โดยข้อมูลที่เก็บรวมรวมประกอบไปด้วยข้อมูลพื้นฐานเกี่ยวกับผู้ป่วย โรคของผู้ป่วย การรักษา ผลลัพธ์ของการรักษา การวิเคราะห์ข้อมูลนั้นใช้สถิติเชิงพรรณนา ประกอบไปด้วยเปอร์เซ็นต์ ค่าเฉลี่ย และค่าเบี่ยงเบนมาตรฐาน สำหรับการวิเคราะห์ความแตกต่างระหว่างยาทั้ง 2 กลุ่มนั้นใช้ chi-square และ ANOVA test

ผลการศึกษา: จากการศึกษาผู้ป่วยทั้งหมด 39 คน ผู้ป่วยที่ศึกษาพบว่าส่วนใหญ่เป็นผู้หญิงจำนวน 30 ราย คิดเป็น ร้อยละ 76.9 ผู้ชาย 9 ราย คิดเป็นร้อยละ 31.1 โดยมีอายุเฉลี่ยอยู่ที่ 40.6 ปี (ช่วง 15 ถึง 85 ปี) พบว่าผู้ป่วยส่วนมากเป็นผู้ป่วยรายใหม่จำนวนถึง 27 ราย คิดเป็นร้อยละ 69.2 ผู้ป่วยส่วนใหญ่มีประวัติเลือดออกถึงร้อยละ 84.62 สำหรับตำแหน่งที่มีเลือดออกนั้นพบว่าเป็นที่ผิวหนังถึงร้อยละ 60.6 ชนิดของยาที่ได้รับพบว่าเป็นเพรดนิโซโลน จำนวน 15 ราย คิดเป็นร้อยละ 38.5 และได้ยาเดกซาเมทาโซน จำนวน 24 ราย คิดเป็นร้อยละ 61.5 ผู้ป่วยที่ได้รับยาเดกซาเมทาโซนนั้นจะมีประวัติเลือดออกมากกว่ากลุ่มเพรดนิโซโลนอย่างมีนัยสำคัญ ($p = 0.02$) และค่าเฉลี่ยของเกล็ดเลือด ก่อนการรักษาในกลุ่มที่ได้รับยาเดกซาเมทาโซนจะต่ำกว่ากลุ่มที่ได้ยาเพรดนิโซโลนอย่างมีนัยสำคัญ ($p = 0.04$) สำหรับปริมาณของสเตียรอยด์พบว่าในช่วงสัปดาห์แรกผู้ป่วยที่ได้รับยาเดกซาเมทาโซนจะได้รับยาปริมาณมากกว่ากลุ่มเพรดนิโซโลนอย่างมีนัยสำคัญ ($p = 0.00$) แต่ไม่มีความแตกต่างกันในช่วงสัปดาห์ที่ 2 ถึง 4 ของการรักษา ($p = 0.20, 0.14, 0.19$ ตามลำดับ) สำหรับการตอบสนองในระยะแรกของการรักษานั้นพบว่า กลุ่มที่ได้ยาเดกซาเมทาโซนมีการตอบสนองที่ร้อยละ 77.2 ส่วนกลุ่มที่ได้เพรดนิโซโลน มีการตอบสนองร้อยละ 88.9 ซึ่งไม่มีความแตกต่างกันอย่างมีนัยสำคัญ ($p = 0.33$) และไม่มีความแตกต่างกันของสัปดาห์ที่ 2, 3 และ 4 ของการรักษา ($p = 0.22, 0.41, 0.94$) สำหรับปัจจัยที่มีผลต่อการตอบสนองแบบสมบูรณ์ต่อการได้รับยาสเตียรอยด์เพียงอย่างเดียวที่ 1 เดือนนั้น พบว่าไม่มีความแตกต่างในแง่ของเพศ อายุน้อยกว่าหรือมากกว่า 18 ปี ผู้ป่วยรายใหม่หรือกลับเป็นซ้ำ และชนิดของสเตียรอยด์ที่ได้รับตอนแรก

สรุป: ไม่มีความแตกต่างกันของการตอบสนองต่อการรักษาระหว่างยาเดกซาเมทาโซนและยาเพรดนิโซโลนที่ 1 เดือน