Objective: To evaluate prognostic factors of first relapse in Thai patients with NMOSD.

Backgrounds
Neuromyelitis optic spectrum disorder (NMOSD) is an inflammatory central nervous system disorder with specific pathological and clinical characteristics distinct from multiple sclerosis (MS). Clinical factors and laboratory parameters were evaluated in monophasic and relapsing groups. Among those evaluated, the Acute treatment in first attack, Duration of azathioprine maintenance, ≥5% MCV changes, and Disease-modifying therapy were independent factors for first relapse. The benefit of maintenance treatment with them is also shown for prevention of relapses especially azathioprine with ≥5% MCV change (after 6 months).

Methods
111 patients were retrospective reviewed since 2011 to 2016 and confirmed by 2015 international consensus diagnostic criteria for NMOSD, then were categorized to monophasic and relapsing groups to evaluate.

Results
The clinical characteristics in 111 Thai patients (53 ±15 years old) with NMOSD are demonstrated in Table 1 and simplified illustrated in Figure 1. Logistic regression analyses for first relapse are shown in Table 2. No independent factors were found for maintenance analysis. The further analysis with the alternation of dose oral corticosteroid vs methylprednisolone, storage duration of azathioprine, history of autoimmune disease, and disease-modifying therapy in 1 patient of each group were also evaluated and were not associated with cumulative probability of remaining relapse free in figure 2.

Conclusion
Acute treatment with plasmapheresis and maintenance with high-dose oral corticosteroid tapering and azathioprine are prognostic factors for first relapse. The benefit of maintenance treatment with them is also shown for prevention of relapses especially azathioprine with ≥5% MCV change (after 6 months).

References
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Kaona Suksuchano MD, Saharat Aungsumart MD PhD, Metha Apiwattanakul MD
Department of Neurology, Prasat Neurological Institute, Bangkok, Thailand
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Prognostic Factors of First Relapse in Thai Patients with Neuromyelitis Optica Spectrum Disorders (NMOSD)

The authors have nothing to disclosure.

Table 1: Demographics between monophasic and relapsing groups. *All 4 patients with history of autoimmune disease in monophasic group.

Table 2: Logistic regression analysis for prediction of first relapse. High-dose corticosteroid therapy vs methylprednisolone in 1 patient of each group is demonstrated with time to next relapse.

Figure 1: Clinical characteristics of patients with NMOSD from five clinical centers.

Figure 2: Cumulative probability of remaining relapse free (axis y), are demonstrated with duration of time to next relapses and with maintenance treatment aspect are also plotted with cumulative probability of remaining relapse free in figure 2.

Figure 3: Correlation probability of remaining relapse free from 3.7 (6 months) to 6.4 (6 months) in patients with mild to severe disability. No maintenance treatment (figure 3A), oral corticosteroid vs methylprednisolone (figure 3B), and oral corticosteroid vs maintenance treatment (figure 3C) with or without azathioprine modification during first relapse (figure 3D). Cumulative probability of remaining relapse free from 3.7 (6 months) to 6.4 (6 months) in patients with mild to severe disability. No maintenance treatment (figure 3A), oral corticosteroid vs methylprednisolone (figure 3B), and oral corticosteroid vs maintenance treatment (figure 3C) with or without azathioprine modification during first relapse (figure 3D).

Figure 4: Correlation probability of remaining relapse free from 3.7 (6 months) to 6.4 (6 months) in patients with mild to severe disability. No maintenance treatment (figure 3A), oral corticosteroid vs methylprednisolone (figure 3B), and oral corticosteroid vs maintenance treatment (figure 3C) with or without azathioprine modification during first relapse (figure 3D).

Figure 5: Correlation probability of remaining relapse free from 3.7 (6 months) to 6.4 (6 months) in patients with mild to severe disability. No maintenance treatment (figure 3A), oral corticosteroid vs methylprednisolone (figure 3B), and oral corticosteroid vs maintenance treatment (figure 3C) with or without azathioprine modification during first relapse (figure 3D).

Figure 6: Correlation probability of remaining relapse free from 3.7 (6 months) to 6.4 (6 months) in patients with mild to severe disability. No maintenance treatment (figure 3A), oral corticosteroid vs methylprednisolone (figure 3B), and oral corticosteroid vs maintenance treatment (figure 3C) with or without azathioprine modification during first relapse (figure 3D).