

The Clinical Efficacy of Benralizumab in Severe Eosinophilic Asthma:

The First Report from KCMH



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Introduction:

According to ERS/ATS guideline, severe asthma means asthma with require treatment with high dose inhaled corticosteroids plus a second controller to prevent it from becoming uncontrolled or which remains uncontrolled despite the therapy. Severe asthma can be divided into T2 asthma which include severe eosinophilic asthma and nonT2 asthma according to GINA guideline. For severe eosinophilic asthma, that is uncontrolled despite maximal therapy more than 6 months, elevated blood eosinophil ≥ 300 cells/ μ l and frequent exacerbation which required systemic corticosteroids or oral Prednisolone ≥ 30 mg more than 3 days, one therapeutic option is anti IL-5. In Thailand, the data regarding asthma control, exacerbation, eosinophil levels and quality of life of the patient receiving anti IL-5 is lacking. We report the clinical data, outcome and quality of life of two patients receiving anti IL-5 in Thailand.

Key words: Severe asthma, AQLQ (Asthma Quality of Life Questionnaire), ACT (Asthma Control test), Exacerbation

Patient 1 :

This is a 76-year-old female with severe eosinophilic asthma diagnosed severe asthma in March 2018 with blood eosinophil 1,800 cell/ μ l. Over the last year, she had one exacerbation that required oral prednisolone and one severe exacerbation that required hospitalization. The baseline characteristics and outcome after receiving anti IL-5 were shown in table1.

Table1: Baseline characteristics and outcome of the patient 1.

Data	Patient 1		Benralizumab		
	1-2 year Before	1 month	6 month	12 month	
Medicine					
Budesonide	1200 mg	1200 mg	800 mg	800 mg	
Formoterol	18 mg	18 mg	18 mg	18 mg	
Montileucast	10 mg	10 mg	10 mg	10 mg	
Prednisolone	5 mg	-	-	-	
Tiotropium	18 μ g	18 μ g	-	-	
Nasonex	0.05%	0.05%	0.05%	-	
CPM (4)	8 mg	8 mg	8 mg	4 mg	
ACT Score	19	23	24	24	
AQLQ	176	207	219	219	
PF (Peak flow)	200	250	270	330	
PFT	FEV1 1.29 L (68%)	FEV1 1.67 L (77%)	FEV1 1.62 L (79%)	FEV1 1.65 L (81%)	
Eosinophil	1800	0	0	0	
IgE	180	204	162	-	
Exacerbation					
- Mild	1	-	-	-	
- Severe	1	-	-	-	

Patient 2:

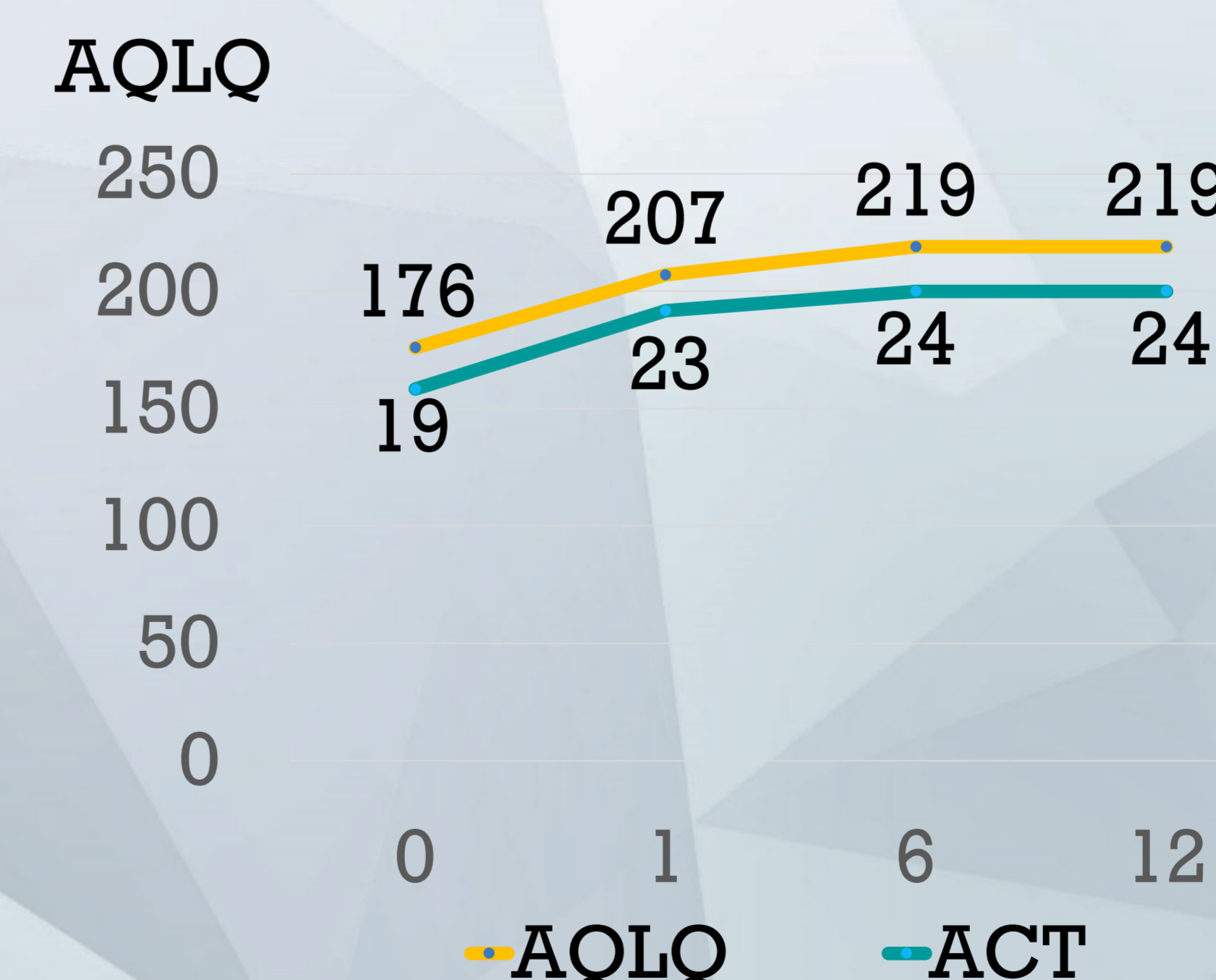
This is a 79-year-old female diagnosed asthma since 25 year old with blood eosinophil 350 cell/ μ l. She had severe exacerbation required hospitalization 2 time/year. The baseline characteristic and outcome were shown in table2.

Table2: Baseline characteristics and outcome of patient 2

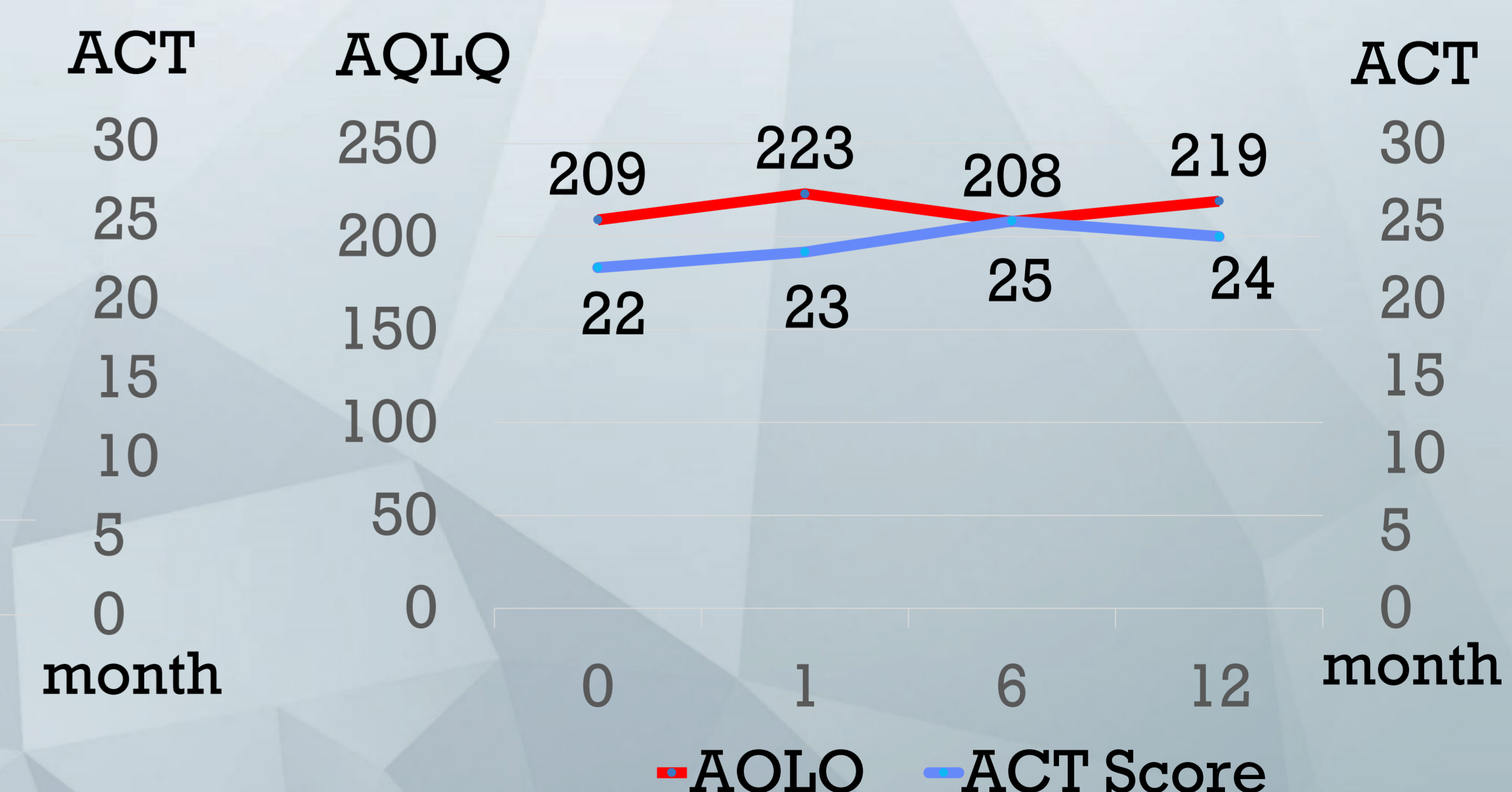
Data	Patient 2		Benralizumab		
	1-2 year Before	1 month	6 month	12 month	
Medicine					
Budesonide	1200 mg	1200 mg	800 mg	800 mg	
Formoterol	18 mg	18 mg	18 mg	18 mg	
Montileucast	10 mg	10 mg	10 mg	10 mg	
Prednisolone	5 mg	-	-	-	
Tiotropium	18 μ g	18 μ g	18 μ g	18 μ g	
Nasonex	400 mg	400 mg	400 mg	0	
ACT Score	22	23	25	24	
AQLQ	209	223	208	219	
PF (Peak flow)	190	230	270	230	
FENC	26	13	19	28	
PFT	FEV1 1.14 L (67%)	FEV1 1.29 L (67%)	FEV1 1.26 L (63%)	FEV1 1.26 L (63%)	
Eosinophil	350	0	0	0	
IgE	6.8	8.3	5.7	6.8	
Exacerbation	2	0	0	0	

Figure1: ACT and AQLQ of 2 patients

Patient 1



Patient 2



Conclusion:

Anti IL-5 is effective in treating severe eosinophilic asthma with reduction of blood eosinophil count to zero, reduction of exacerbation and dose of controller. The quality of life is improved. The IgE level remains unchanged.