Bickerstaff brainstem encephalitis in a patient with ankylosing spondylitis on adalimumab therapy

[1]Department of Internal Medicine and Institute of Health Science, Gyeongsang National University School of Medicine, Jinju,
[2]Department of Internal Medicine, Gyeongsang National University Changwon Hospital, Changwon, Republic of Korea

[*]Kyunglan Moon[1], MinYoung Kim[1],Young Sun Suh[2], Hyun-Ok Kim[2], Sang-Il Lee[1], Yun-Hong Cheon[1]

The Bickerstaff brainstem encephalitis (BBE) is a very rare neurological manifestation which causes ophthalmoplegia, ataxia, and impaired consciousness. We report the first case of BBE after using adalimumab, TNF-α inhibitor, in patients with well-controlled ankylosing spondylitis (AS). A 30-year-old woman visited our hospital due to unexplainable general weakness and dizziness. She was diagnosed with AS in 2003 and was treating with adalimumab from 2 years ago. She had no antecedent infection within 3 months. On admission, the vital was stable and general physical and neurological examination were normal. There were no abnormal findings on laboratory examination, Brain MRI, Chest CT and abdominal CT. On 3rd hospital day, the cultures of blood, sputum, urine for detection of viral and bacterial pathogens were all negative. However, she complained headache, nausea, and aggravating weakness of extremities. Cerebrospinal fluid was transparent with a pressure of 125 mmH2O, with no pleocytosis. On neurological examination, upper and lower muscle power decreased to medical research council grade 3. Later, she developed limb ataxia, spasticity, acute opthalmoplegia, hyperreflexia, and disturbance of consciousness to drowsy state. Nerve conduction study, electromyogram and evoked potential study were normal. The patient was clinically suspicious of BBE, therefore, we examined anti-GQ1b antibody and started treating with anti-viral agent, high dose methylprednisolone (1g per day), and intravenous gammaglobulin (IVIg). On 6 hospital day, she transferred to another hospital then she completed IVIg treatment for 5 days, and received rituximab with high dose prednisolone. Two weeks later, anti-GQ1b Ab IgG was positive (1:200), then finally, she diagnosed with BBE. After treatment, her mental status improved and ophthlmoplegia was recovered. She is still treating with prednisolone. The development of BBE in our patient may be secondary to anti-TNF-α treatment, therefore, she remains off anti-TNF-α treatment. Although a causal relationship between BBE and TNF-α inhibitor cannot be proven, physicians should consider BBE when patients treating anti-TNF-α treatment developed ataxia, ophthalmoplegia and mental change.

Risk factors of uveitis in patients with ankylosing spondylitis who are not exposed to TNF blockers

Division of Rheumatology, Department of Internal Medicine, Seoul National University Hospital, Seoul, Korea.

[*]Min Jung Kim, Eun Bong Lee

Background: Uveitis is the most common extra-articular manifestation of ankylosing spondylitis (AS). But it is not clear that which factors are associated with the occurrence of uveitis with AS. **Objectives:** To evaluate risk factors of uveitis in AS patients who are not exposed to TNF blockers.**Methods:** A retrospective cohort study was performed using Seoul National University Hospital medical records during 2004-2015. A total of 684 patients with AS who fulfilled the modified New York criteria and TNF blocker naïve were selected. Patient's clinical characteristics such as sex, age at diagnosis, disease duration, smoking history and laboratory exams such as ESR/CRP level at diagnosis, HLA-B27 were collected.**Results:** Among 684 patients with AS who are TNF blocker naïve, uveitis occurred in 67 patients at least one times. Multivariate regression analysis was showed that male is significantly associated with uveitis with AS(OR = 2.30 [95% CI: 1.33-3.97])(p = 0.003). Also HLA-B27 positivity is the most significantly associated with uveitis with AS(OR = 10.48 [1.42-77.39])(p = 0.02) However there was no association between ESR/CRP level, reflect the disease activity of AS, and uveitis with AS, but was not significant (OR = 1.10 [1.00-1.02])(p = 0.06),(OR = 0.95 [0.81-1.11])(p = 0.49) **Conclusions:** Our study shows that male and HLA-B27 positivity have association with the occurrence of uveitis with AS. And these factors may play a role in pathogenesis of uveitis with AS.

Table 1. Baseline characteristics

	Uveitis group (N = 67)	Non uveitis group (N = 617)
Age, mean±SD years	35.26 ± 12.00	30.98 ± 11.64
Males, n (%)	43 (64.2)	492 (79.7)
ESR, mm/h, mean±SD	28.13 ± 24.37	22.80 ± 21.61
CRP, mg/L, mean±SD	0.95 ± 1.41	1.12 ± 1.90
HLA-B27 positive, n (%)	63 (94.0)	515 (83.7)

Table 2. Multi-variate regression analysis for the factors for the uveitis with AS

	Odds ratio (OR)	95% CI	*p*-value
Males	2.30	1.33-3.97	0.003
HLA-B27 positive	10.48	1.42-77.39	0.02