

Association between ankylosing spondylitis and venous thromboembolism

Ankylosing spondylitis is a type of arthritis that commonly affects the joints of the spine. The relationship between ankylosing spondylitis and other diseases has been extensively explored.^{1,2} Recently, a cohort study in Canada conducted by Aviña-Zubieta *et al* published in *Annals of Rheumatic Diseases* disclosed that people with ankylosing spondylitis were at higher risk of venous thromboembolism compared with people without ankylosing spondylitis (HR 1.53, 95% CI 1.16 to 2.01).³ Aviña-Zubieta *et al*'s study is well performed and is informative to the researchers. Some of my views are shared with the readers as follows. First, the overall incidence of venous thromboembolism was 2.03-fold higher in people with ankylosing spondylitis than in those people without ankylosing spondylitis in Aviña-Zubieta *et al*'s study (1.56 vs 0.77 per 1000 person-years).³ The attributable risk associated with ankylosing spondylitis was 0.79 per 1000 person-years; that is, removal of ankylosing spondylitis can diminish approximately eight cases of venous thromboembolism per 10 000 person-years of follow-up. Second, another cohort study in the Republic of Korea disclosed that the overall incidence of new onset of atrial fibrillation was 1.54-fold higher in people with ankylosing spondylitis than in those without ankylosing spondylitis (2.32 vs 1.51 per 1000 person-years).⁴ The attributable risk associated with ankylosing spondylitis was 0.81 per 1000 person-years; that is, removal of ankylosing spondylitis can diminish approximately eight cases of new onset of atrial fibrillation per 10 000 person-years of follow-up. According to the above measurement, ankylosing spondylitis seems to have a similar impact on the risks of venous thromboembolism and new onset of atrial fibrillation. Third, the evidence disclosed that people with ankylosing spondylitis who underwent tumour necrosis factor inhibitor therapy had a higher risk of new onset of atrial fibrillation (HR 1.60, 95% CI 1.02 to 2.39),⁴ but Aviña-Zubieta *et al*'s study did not disclose such data. I agree with Aviña-Zubieta *et al*'s comments that future investigation is needed to clarify the effects of ankylosing spondylitis treatment on the risk of venous thromboembolism. Fourth, ankylosing spondylitis cannot be prevented and is less likely to be eradicated. Currently, the guidelines for stroke prevention in people with atrial fibrillation have been established.⁵ In addition, it is important to recognise people who have risk factors for venous thromboembolism, including those having cancer, major surgery, major trauma-like fractures and long-term immobilisation.⁶

Clinicians who participate in the long-time care of people with ankylosing spondylitis should take into consideration the above risk factors when considering the risk of venous thromboembolism. If necessary, pharmacological prophylaxis for venous thromboembolism should be initiated in these high-risk people.

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REFERENCES

- Chen H-H, Yeh S-Y, Chen H-Y, *et al*. Ankylosing spondylitis and other inflammatory spondyloarthritis increase the risk of developing type 2 diabetes in an Asian population. *Rheumatol Int* 2014;34:265–70.
- Sun L-M, Muo C-H, Liang J-A, *et al*. Increased risk of cancer for patients with ankylosing spondylitis: a nationwide population-based retrospective cohort study. *Scand J Rheumatol* 2014;43:301–6.
- Aviña-Zubieta JA, Chan J, De Vera M, *et al*. Risk of venous thromboembolism in ankylosing spondylitis: a general population-based study. *Ann Rheum Dis* 2019;78:480–5.
- Moon I, Choi E-K, Jung J-H, *et al*. Ankylosing spondylitis: A novel risk factor for atrial fibrillation - A nationwide population-based study. *Int J Cardiol* 2019;275:77–82.
- Proietti M, Lane DA, Boriani G, *et al*. Stroke prevention, evaluation of bleeding risk, and anticoagulant treatment management in atrial fibrillation contemporary international guidelines. *Can J Cardiol* 2019;35:619–33.
- Goldhaber SZ. Risk factors for venous thromboembolism. *J Am Coll Cardiol* 2010;56:1–7.