Diabetes mellitus in ankylosing spondylitis

We read with interest the article by Liao *et al*¹ regarding diabetes mellitus in ankylosing spondylitis and the meta-analysis by Mathieu *et al*. This nationwide cohort study demonstrated that the overall incidence of diabetes mellitus was 1.21-fold higher in the ankylosing spondylitis group than in the non-ankylosing spondylitis group,¹ and Mathieu *et al*'s research showed an increased cardiovascular events in ankylosing spondylitis.² The results of Liao *et al* are in concordance with those of a previous cohort study by Chen *et al* which showed that the incidence of diabetes mellitus was 1.17-fold higher in the ankylosing spondylitis cohort than in the non-ankylosing spondylitis cohort, with an adjusted HR of 1.16.³ However, some methodological issues must be discussed. First, the definition of the control group used in this cohort study is too broad. What does the non-ankylosing spondylitis group mean? Second, the statistical robustness of cohort studies is lower than that of randomised trials because of potential biases related to adjustments for confounding variables. Many unhealthy lifestyle habits, including unhealthy dietary patterns, decreased physical activity, sedentary lifestyle and smoking, have been found to be associated with an increased risk of diabetes mellitus.⁴ In addition, patients with hypertension are more likely to have diabetes mellitus through increased insulin resistance.⁵ To reduce the effect of potential confounding in observational studies, it would be appropriate to analyse data that is adjusted to account for confounding factors. Third, observational studies are prone to bias, such as reverse causation and residual confounding, thereby precluding a clear understanding of the association between ankylosing spondylitis and diabetes mellitus. Although the investigation of the mechanism underlying the association between ankylosing spondylitis and diabetes mellitus is beyond the scope of this study, further study using Mendelian randomisation, a technique that uses genetic variants as instrumental variables, is needed to assess whether an observational association between a risk factor and an outcome is consistent with a causal effect.⁶

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