

# Incidence of inflammatory bowel disease in patients with ankylosing spondylitis

Ankylosing spondylitis is a long-term inflammatory disease that always affects the spine joints. The association between ankylosing spondylitis and other diseases has been extensively assessed.<sup>1,2</sup> Recently a cohort study conducted by Schreiber *et al* published in *Annals of the Rheumatic Diseases* found that the new-onset cases of inflammatory bowel disease were uncommon in patients with ankylosing spondylitis on secukinumab therapy (1.13%, 9/794).<sup>3</sup> In order to examine the association between ankylosing spondylitis and inflammatory bowel disease in a different country, a preliminary cohort study was undertaken using the 2005–2012 database of the Taiwan National Health Insurance Programme with 23 million residents living in Taiwan.<sup>4</sup> Subjects ages 20–84 with a new diagnosis of ankylosing spondylitis were identified as the ankylosing spondylitis group (International Classification of Diseases, Ninth Revision code (ICD-9 code 720.0)). For every subject with ankylosing spondylitis, four sex-matched and age-matched subjects who did not have a diagnosis of ankylosing spondylitis were assigned as the non-ankylosing spondylitis group. The main outcome was a new diagnosis of inflammatory bowel disease (ICD-9 code 555–556). Table 1 presents that the overall incidence of inflammatory bowel disease was lower in the ankylosing spondylitis group than in the non-ankylosing spondylitis group, but without reaching statistical significance (1.41 vs 1.79 per 1000 person-years, incidence rate ratio 0.79, 95% CI 0.48 to 1.28;  $p=0.332$ ). As stratified by sex and age, there was no statistical significance in the incidence of inflammatory bowel disease between the ankylosing spondylitis group than the non-ankylosing spondylitis group.

Some caveats are discussed. Previous studies found that the prevalence of ankylosing spondylitis in patients with inflammatory bowel disease was around 3.7%–4.5%.<sup>5,6</sup> One review found that the prevalence of inflammatory bowel disease in patients with ankylosing spondylitis was around 6%–14%.<sup>7</sup> Due to both conditions likely occurring concomitantly, some researchers suggest that ankylosing spondylitis and inflammatory bowel disease might share a similar pathogenesis.<sup>8</sup> Therefore, ankylosing spondylitis and inflammatory bowel disease might develop in the same patient, but both conditions do not have a causal relationship, which is partially confirmed by our present study. Physicians who participate in care of patients with ankylosing spondylitis should take into consideration the possibility of inflammatory bowel disease, and vice versa.

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Handling editor Josef S Smolen

**Contributors** S-WL contributed to the conception of the article, initiated the draft of the article, and has approved the final draft submitted. Y-HK and K-FL conducted data analysis.

**Funding** The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

**Competing interests** None declared.

**Patient consent for publication** Not required.

**Provenance and peer review** Not commissioned; internally peer reviewed.

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To cite Lai S-W, Kuo Y-H, Liao K-F. *Ann Rheum Dis* 2021;**80**:e144.

Received 24 September 2019

Accepted 26 September 2019

Published Online First 14 October 2019

*Ann Rheum Dis* 2021;**80**:e144. doi:10.1136/annrheumdis-2019-216362

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**Table 1** Incidence of inflammatory bowel disease between ankylosing spondylitis group and non-ankylosing spondylitis group

Variable	Ankylosing spondylitis				Non-ankylosing spondylitis				Incidence rate ratio (95% CI)*	P value
	N	Event	Person-years	Incidence	N	Event	Person-years	Incidence		
All	3003	18	12 790	1.41	12 012	166	92 712	1.79	0.79 (0.48 to 1.28)	0.332
Sex										
Male	1767	10	7656	1.31	7068	101	54 383	1.86	0.70 (0.37 to 1.35)	0.289
Female	1236	8	5134	1.56	4944	65	38 329	1.70	0.92 (0.44 to 1.91)	0.821
Age group (years)										
20–39	1280	7	5607	1.25	5120	67	39 390	1.70	0.73 (0.34 to 1.60)	0.436
40–64	1342	8	5579	1.43	5368	73	41 488	1.76	0.81 (0.39 to 1.69)	0.583
65–84	381	3	1604	1.87	1524	26	11 834	2.20	0.85 (0.26 to 2.81)	0.792

Incidence: per 1000 person-years.

\*Incidence rate ratio: ankylosing spondylitis vs non-ankylosing spondylitis (95% CI).