Background: In the RE-EMBARK trial (NCT02509026), etanercept (ETN)-treated patients with non-radiographic axial spondyloarthritis (nr-axSpA) who achieved inactive disease (defined as Ankylosing Spondylitis Disease Activity Score with C-reactive protein [ASDAS CRP] <1.3) in Period 1 (P1)1 discontinued ETN for ≤40 weeks.

Objectives: To assess the proportion of patients with inactive disease after P1 who experienced disease flare (ASDAS with erythrocyte sedimentation rate [ASDAS ESR] ≥2.1) within 40 weeks of ETN withdrawal and to estimate time to flare following ETN withdrawal.

Methods: RE-EMBARK was a multicenter, open-label, Phase IV trial of ETN in patients with active nr-axSpA (meeting Assessment in SpondyloArthritis International Society criteria and with ASDAS CRP ≥2.1) and an inadequate response to ≥2 nonsteroidal anti-inflammatory drugs (NSAIDs) while taking a stable dose of 1 NSAID for ≥2 weeks before the first ETN dose. All patients received ETN (50 mg/week) plus NSAID for the first 24 weeks (P1). At week 24, patients with inactive disease discontinued ETN for 40 weeks (Period 2 [P2]). Those who experienced flare during P2 were re-treated with ETN for 12 weeks in Period 3 (P3). Kaplan-Meier (KM) analysis and Cox proportional hazard models were used to (1) estimate the probability of experiencing flare within a given time period, and 2) compare data between RE-EMBARK and the EMBARK trial (NCT01258738) of patients with nr-axSpA who met RE-EMBARK P2 entry criteria (achieved inactive disease after 24 weeks of ETN treatment) and continued treatment for a further 40 weeks.

Results: Of the 209 patients in P1 (mean age, 33 years; women, 46%; white, 89%; 119 (57%) entered P2. The proportion of patients experiencing ≥1 flare increased from 22% (25/112) at P2 week 4 to 67% (77/115) at P2 week 40. Overall, 75% (86/115) of patients in P2 experienced flare and 50% experienced flare within 16 weeks (95% CI: 13-24 weeks, KM analysis). Conversely, data from the comparator EMBARK trial suggested that ≥25% of patients receiving continuous ETN treatment over 40 weeks experienced flare. Cox proportional hazard model analysis showed an 85% relative risk reduction of experiencing flare during P2 in patients with inactive disease who continued ETN treatment vs those who discontinued. By P3 end 62% (54/87) of patients re-treated with ETN re-achieved inactive disease; 50% of patients who re-achieved inactive disease in P3 did so within 5 weeks (95% CI: 4-8 weeks, KM analysis).

Conclusion: For patients with nr-axSpA who achieved inactive disease with ETN and then discontinued treatment, a quarter maintained inactive disease for 40 weeks and 50% maintained an ASDAS ESR score <2.1 for ≥16 weeks. Re-starting ETN allowed 62% of patients who flared to re-achieve inactive disease within 12 weeks.