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#### **4. Real-World Efficacy of Anti-TNF in Psoriatic Arthritis Patients with Enthesitis and Correlation of Enthesitis with Tender / Swollen Joints**

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**Objectives:** Previous studies have shown that psoriatic arthritis (PsA) patients with enthesitis present with increased disease activity compared to patients without. The aims of this analysis were (1) to evaluate the effectiveness of anti-TNF agents in PsA patients with enthesitis at baseline treated in a Canadian routine clinical practice setting, (2) to explore the relative localization of enthesitis and joint swelling/tenderness, and (3) to determine which of these conditions (swollen joints or enthesites) is more taken into account by physicians in a routine practice.

**Method:** BioTRAC is an ongoing, prospective registry of inflammatory arthritis patients initiating treatment with infliximab (IFX), golimumab (GLM), or ustekinumab (UST). In this analysis, PsA patients treated with IFX between 2005-2016 or GLM between 2010-2016, who had available enthesitis information at baseline were included. For the comparison of the co-localization of enthesitis and joint involvement in the shoulders, elbows and knees the independent-samples t-test was used. Improvements over time in continuous variables were assessed for statistical significance with the paired t-test. Correlation between swollen joints, enthesitis count and physician global was assessed with Spearman's coefficient (rs).

**Results:** A total of 202 PsA patients were included with a mean (SD) age of 50.6 (11.8) years and disease duration of 5.6 (7.4) years. At baseline, mean (SD) DAS28 was 4.4 (1.4), HAQ was 1.1 (0.66) and 28-swollen joint count (SJC28) was 5.2 (4.5). Enthesitis was present in 52.5% of patients while 8.9% had enthesitis and one swollen joint count or fewer. Joint tenderness and swelling was significantly ( $P<0.05$ ) higher in all anatomical sites (shoulders, elbows, and knees) with enthesitis with the exception of the right knee and the right shoulder where joint involvement was higher without achieving statistical significance. In correlation analysis, SJC28 showed a strong correlation ( $rs=0.643$ ) with physician global (MDGA) compared to enthesitis count where a moderate correlation ( $rs=0.406$ ) was observed with MDGA.

Among those patients with baseline enthesitis statistically significant and clinically meaningful improvements were observed in DAS28 ( $P=0.014$ ), SJC28 ( $P=0.001$ ), TJC28 ( $P<0.001$ ), physician global ( $P<0.001$ ), and enthesitis count ( $P<0.001$ ).

**Conclusion:** A high prevalence of enthesitis was observed at anti-TNF treatment initiation (52.5%). Joint tenderness and swelling coincided with the enthesial points suggesting localized inflammation. However, physicians were found to take swollen joints more into account than the presence of enthesitis in routine practice. Treatment with IFX or GLM for 6 months was associated with a significant reduction in both enthesitis and clinical and patient outcomes.