High disease activity is a predictor of depression and persistent depression in early rheumatoid arthritis: results from the Ontario Best Practices Research Initiative (OBRI)

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Objectives: Prior studies have shown that the prevalence of depression among individuals with rheumatoid arthritis (RA) may be as high as 40% but persistence of depression over time is relatively unknown. Uncontrolled inflammation may drive severe disease and, in turn, inflammation and high disease activity are hypothesized to mediate depressive symptoms. The aims of this analysis were to: (1) describe the prevalence of depression at baseline and determine how often depression persists over time; (2) evaluate if high disease activity is associated with depression in early RA (ERA).

Methods: We selected RA patients enrolled in the Ontario Best Practices Research Initiative (OBRI) with ERA (≤ 1 year disease duration) and at least one follow-up visit. Depression was ascertained by patient self-report at baseline and over the first 2 years of follow-up. The association between baseline disease activity measured by the Clinical Disease Activity Index (CDAI) and depression at baseline or persistent depression (defined as self-reported depression at 1 and 2 years of follow-up), was evaluated with multivariate logistic regression, adjusted for potential confounders.

Results: 722 patients with ERA at OBRI enrolment (73.9% female) were included with a mean (SD) age of 56.2 (13.8) years. Mean (SD) disease parameters were: CDAI: 22.2 (13.9); DAS28: 4.5 (1.6); physician global: 4.6 (2.4), and HAQ disability Index: 1.1 (0.7). Almost one-third of patients (26.7%) reported depression at baseline, while 20.7% had persistent depression. Persistent depression was significantly higher (23.1%) in patients with moderate/high disease activity (CDAI>10) at baseline compared with those with low disease activity (CDAI ≤10) (12.3%, p=0.02). After adjusting for potential confounders (sex, rheumatoid factor status, prior use of DMARDs, HAQ disability index), increased CDAI at baseline was significantly associated with depression at baseline (adjusted OR: 1.03; 95%CI: 1.01-1.04, p=0.001). Furthermore, increased CDAI at baseline was identified as an independent predictor of persistent depression after 2 years (adjusted OR: 1.03; 95%CI: 1.01-1.05, p=0.004). Female gender (adjusted OR: 1.96; 95%CI: 1.06-3.62, p=0.03) and prior use of DMARDs (adjusted OR: 0.49; 95%CI: 0.29-0.82, p=0.001) were also associated (positively and negatively, respectively) with persistent depression.

Conclusion: Depression in ERA is common and higher disease activity at baseline is significantly associated with the probability of depression. Furthermore, initial high disease activity was associated with persisting depression. Further analyses will explore the relation between changes in disease activity over time and risk of depression.

Word count: 383