1.0 Abstract

Title

Utilizing **Progress** to assess the impact of adalimumab on **work** related productivity and financial loss in patients with Rheumatoid Arthritis - Progress @ work

Keywords

Rheumatoid arthritis, adalimumab, real-world, T2T

Rationale and Background

RA is associated with severe functional disability of the individual and significant reduction in quality of life. As much as 50% of people living with RA are work disabled if untreated. Thus, the ultimate goal of RA treatment is to minimize the impact of the disease on the patient's overall functional status and quality of life. Financial impact is manifested through the reduction or complete loss of employment income but also through increased costs for health care and auxiliary expenses. Although previous studies have demonstrated the impact of RA and its treatments on the productivity of workers, a comprehensive assessment of the financial impact of RA and its activity that extends beyond employment income is lacking.

Research Question and Objectives

The primary objective of the study was to describe the impact of treatment with adalimumab on work related productivity as measured by the Rheumatoid Arthritis Work Instability Scale (RA-WIS) and financial loss as measured by the Financial Loss Questionnaire (FLQ) in patients with Rheumatoid Arthritis (RA) treated in a real–life setting in Canada.

Secondary objectives included:

- To describe the impact of adalimumab in patients with RA treated in a real-life setting in Canada on routine core clinical outcome measures: Swollen Joint Count, Tender Joint Count, DAS-28, Pain, Patient assessment of Global Disease Activity, Physician assessment of Global Disease Activity, Health Assessment

Questionnaire (HAQ) and the therapeutic outcome of achieving CDAI Low Disease Activity or Remission.

- To describe the profile of RA patients initiated on adalimumab in Canada with respect to disease demographics (age, gender), comorbidities, concomitant medication use and RA parameters (duration of disease, prior treatment with traditional and biologic DMARDs, and disease severity at onset of treatment with adalimumab as measured by the DAS-28 or core clinical parameters).
- To describe the safety, tolerability and durability of treatment in RA patients treated with adalimumab in a real–life setting in Canada.

Study Design

This was a multi-center Canadian observational study that enrolled RA patients who were treated with adalimumab per routine care. The study had two parts, specifically a retrospective chart review and a prospective cohort part. The aim of the retrospective chart review was to obtain details on the disease course and treatments leading to the initiation of treatment with adalimumab. In the prospective part of the study, all patients were followed for up to 24 months from the time of enrolment until the 6-month visit date of the last enrolled patient, in order to evaluate treatment outcomes.

Setting

This was an observational study that included patients with moderate to severe RA who were treated by community and university-based rheumatologists across Canada. The decision to treat participating patients with adalimumab was reached prior to and independently of being enrolled in the study. All patient management including dose of adalimumab and use of concomitant medications was according to the treating physician's judgment, the product monograph, and regional reimbursement policies.

Subjects and Study Size, Including Dropouts

A total of approximately 360 patients were required for enrollment in the study in order to achieve 127 employed patients with evaluable data on work productivity. Sample size justification and details are included in section 9.7.

Variables and Data Sources

The primary effectiveness outcome measure was the change in the RA-Work Instability Scale (RA-WIS) and the Financial Loss Questionnaire (FLQ) between baseline and 6 months of treatment.

Secondary effectiveness measures included the change in RA-WIS and FLQ from baseline to 12, 18 and 24 months/premature discontinuation as well as changes over time in the following outcomes:

- Swollen Joint Count (SJC);
- Tender Joint Count (TJC);
- DAS–28;
- Patient Pain (on visual analogue scale (VAS));
- Patient assessment of Global Disease Activity (on visual analogue scale (VAS));
- Physician assessment of Global Disease Activity (on visual analogue scale (VAS));
- Health Assessment Questionnaire (HAQ).

In addition, the rate of achieving the following therapeutic endpoints were assessed as secondary endpoints:

- DAS 28 remission (DAS 28 < 2.6);
- DAS 28 Low Disease Activity (DAS 28 < 3.2);
- CDAI remission (CDAI < 2.8);
- CDAI Low Disease Activity (CDAI < 10.0);
- SDAI remission (SDAI < 3.3);
- SDAI Low Disease Activity (SDAI < 11.0).

Results

Treatment with adalimumab was associated with statistically significant and clinically important improvements in work related productivity (ΔRA-WIS=-7.2; $p<0.001$) as early as 6 months after treatment initiation indicating a shift from moderate risk of work disability or work loss to low risk. Similarly, the financial impact of RA which was considerable at baseline, significantly decreased within 6 months of treatment with adalimumab (ΔFLQ=-1.2; $p<0.001$). Both of these benefits were sustained until 24 months of follow-up.

Disease activity also sharply decreased following initiation of adalimumab treatment including significant improvements ($p<0.001$) in SJC, TJC, pain, PTGA, MDGA, DAS-28, CDAI and SDAI as early as 3 months of follow-up which were sustained or further enhanced until 24 months.

Several predictors of treatment outcomes were identified, including patient education, race, public healthcare coverage, treat-to-target, and Canadian region of residence.

In terms of safety, over a mean follow-up of 13.7 months, adverse events were reported for 26.6% of patients with a minority being serious (73 events; 10.3% of patients)), severe (30 events; 5.3% of patients), or possibly related (70 events; 13.4% of patients) to the study treatment. The most common types of adverse events were drug ineffectiveness (19 events; 5.0% of patients), rash (6 events; 1.3% of patients), and pneumonia (4 events; 1.1% of patients).

Discussion

Treatment with adalimumab was associated with significant improvement in clinical parameters, patient-reported outcomes, work related productivity and financial loss suggesting that it may be used to alleviate the impact of RA on patients' daily activities as well as decreasing the risk of work disability or work loss. In terms of safety, adalimumab treatment was well tolerated and showed a safety profile that was compatible with that described in the literature and the product monograph.

Marketing Authorisation Holder(s)

AbbVie Corporation

Names and Affiliations of Principal Investigators

A list of principal investigators and affiliations is included in Appendix 1.