Utilization of Infliximab for the Treatment of Rheumatoid Arthritis in an Ambulatory Care Network in Northern California

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BACKGROUND: Infliximab is a tumor necrosis factor alpha inhibitor approved by FDA for treatment of rheumatoid arthritis (RA). Demonstration of the ‘real-world' weight- based utilization patterns of this agent is limited. An understanding of the current usage patterns of infliximab in the treatment of RA is essential to optimizing the management of patients.

OBJECTIVE: To describe the utilization of infliximab in the treatment of RA in an ambulatory care network in Northern California.

METHODS: Patients with an ICD-9-CM diagnosis of RA (714.xx) were retrospectively identified in the electronic health record (EHR) of Sutter Health's ambulatory network between January 1, 2007 and June 30, 2011 (index period). Adult RA patients (aged ≥18 years) with ≥1 infliximab infusion were included in this analysis, comprising both prevalent and incident users. Patients receiving another biologic agent within 30 days of an infliximab infusion were excluded. Demographics, characteristics, and infliximab dosing and frequency were collected from the EHR. Weight-based dose was calculated by dividing the prescribed dose by the most recent weight recorded in the EHR. Dose changes were defined as an increase or decrease in ≥1 vial used and infusion frequency changes were defined as a prescribed increase or decrease by ≥1 week as compared with the previous infusion. Descriptive statistics were used to summarize study variables. As an exploratory analysis, data were stratified by payer type.

RESULTS: A total of 125 patients with RA were identified. On average, patients were aged 60 years (range 18-90 years), the majority were female (82%), and 65% were concurrently taking methotrexate. Approximately half of the patients were Medicare beneficiaries (53%) and 44% were commercial beneficiaries; the remaining patients were uninsured or had ‘other’ insurance. Patients received infliximab over a mean of 27.4 months at an average prescribed dose of 347.2 mg (range 100 to 875mg), corresponding to an average weight-based dose of 4.8 mg/kg (range 2.51-11.67mg/kg). Weight-based dose increased from 4.5 mg/kg at the beginning of the index period to 5.0 mg/kg at the end of the index period. Among 125 RA patients, a total 2,608 infliximab infusions were administered during the study period. Dose increases and decreases occurred in 1.6% and 0.2% of infusions, respectively. The median infusion frequency was 8 weeks (range 2 to 13 weeks). Frequency increases and decreases occurred in 1.8% and 1.5% of infusions, respectively. Medicare beneficiaries were, on average, older than commercial beneficiaries (68.6 vs 51.3 years) and were less likely to have received prior biologic therapy (9.1% vs 36.4%). Infliximab dosing (mean: 5.0 and 4.5 mg/kg, respectively) and infusion frequency (median: 8 weeks, for each) were similar for Medicare and commercial beneficiaries.
CONCLUSIONS: In this California ambulatory care network, RA patients were maintained on infliximab for an average of 2.3 years with a median infusion frequency of every 8 weeks. The mean weight-based dose of infliximab was within the range suggested in the approved product labeling. Changes to infliximab dosage or dosing frequency were rare, and there was little variation in the average weight-based dose administered over the study duration.

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