

## **Utilization of biological drugs for the treatment of rheumatoid arthritis in Tuscany, Italy**

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### **Background**

Rheumatoid arthritis (RA) is a chronic progressive autoimmune disease that causes severe joint damage and functional impairment. Several biological drugs are currently available for the treatment of RA, although evidence on the real world utilization of these medicines is scarce.

### **Objectives**

To describe the pattern of utilization of biological drugs for the treatment of AR in the general population of Tuscany region.

### **Methods**

Administrative data on healthcare services reimbursed by the Italian National Healthcare Service and dispensed between 2012 and 2015 in Tuscany inhabitants were used. Data from population registry, hospital discharge records (HDR), outpatient drug dispensings and exemption from co-payment registry (EXE) were linked and analyzed. At 1st January of each year of the study period, patients with  $\geq 1$  year of look-back into the database or  $\geq 1$  year of age were considered. Prevalent users (i.e.  $\geq 1$  dispensing) of certolizumab, golimumab, infliximab, etanercept, adalimumab, tocilizumab, anakinra, abatacept or rituximab were identified. Users without an RA diagnosis (ICD9CM code "714" in recorded HDR or EXE), preceding or concomitant the first dispensing of interest, were excluded. New users were patients without any dispensing of the drug of interest in the available look-back period. Incidence and prevalence of use were observed, per specific molecule and calendar year, within the population of patients with a recorded diagnosis of RA. Persistence (i.e. no treatment gap  $\geq 90$  days) was also observed at 1st, 2nd and 3rd year of treatment.

### **Results**

Patients with  $\geq 1$  dispensing of any study drug between 2012 and 2015 were 7,813, of which 2,117 (27.1%) had a recorded diagnosis of RA. Prevalence of use of biologic drugs among patient with AR increased from 9.0% in 2012 to 10.1% in 2015. Adalimumab showed the highest prevalence of use in each year of the study period (from 3.7% in 2012 to 3.3% in 2015). During the study period, incidence of use increased from 1.0% to 1.2% among. The highest incidence of use in 2015 was observed for abatacept (0.7%). Tocilizumab, infliximab and abatacept showed the highest levels of persistence that in patients at 3rd year of treatment ranged between 49% (abatacept) to 56% (tocilizumab).

## **Conclusions**

During the study period, the percentage of patients with RA which started a treatment with a biologic drug showed a trend of increase. Adalimumab, which can be self-injected subcutaneously, had the highest prevalence of use among AR patients. However, infusion drugs, which need to be administered by healthcare professionals, showed the highest level of persistence.