DOSE PATTERN ANALYSIS FOR BIOLOGICS IN THE TREATMENT OF PSORIASIS IN CANADA: INFORMATION RETRIEVED FROM ADMINISTRATIVE CLAIMS DATABASES

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SUMMARY

Background
- High cost biologic treatments for diseases such as plaque psoriasis, raise growing concerns over the increasing cost to the health care systems that are funding these treatments. Administrative databases can generate important information about the way these drugs are prescribed in a "real world" setting.
- In the current biologic market in Canada, products are recommended for multiple indications making it difficult to understand the dosing patterns for a specific indication. IMS Health Brogan has developed an algorithm to categorize indication-specific claims based on prescriber specialty and concomitant medication use. This algorithm can be applied to a variety of products offered by IMS Health Brogan, such as RdynMatrix® or the IMS Longitudinal Claims Dataset.

Objectives
- The objectives of this analysis were to determine the initial dosing and identify dose escalation patterns for biologics in the treatment of psoriasis in Canada.
- Methods
  - A sample of data from patients covered by the public (Quebec and Ontario) and private drug plans in Canada, who received a biologic between January 2010 and August 2012 for at least 12 months, were reviewed (IMS Health Brogan, IMS Longitudinal Claims Dataset, Jan 2010 - Aug 2013, reported Nov 2013). A specific algorithm was developed based on prescriber information and concomitant medications to capture claims associated to psoriasis. Dosing analysis was performed for four biologics approved for psoriasis in Canada: adalimumab, etanercept, infliximab and ustekinumab. Dose escalation was defined as a 20% dose increase above the previous dose, excluding induction.

OBJECTIVE
- Determine the initial dosing and identify dose escalation patterns for biologics in the treatment of psoriasis in Canada.

METHODS

Eligible patient identification
- A 4-step approach was applied to identify eligible patient cohorts for this study

RESULTS

Patient population
- A total of 6,071 patients were identified and met the selection criteria (table 3).
- 4,510 patients received at least 12 months of therapy.
- The majority of the population were male (59%) (table 4).

Dose Escalation
- The average first year dose was higher than years 2 and 3, consistent with the induction period for each drug. Overall, 63% of patients experienced a dose escalation, of which 68% occurred within the first year, excluding induction (Table 5, Figure 2). The peak frequency of dose escalation occurred between weeks 11-30.

Table 5. Number of weeks until dose escalation

- The difference between the maintenance and escalated doses were calculated based on weighted average daily doses per patient and per payer. The calculated daily, escalated dose was greater than maintenance by approximately 9% for adalimumab, 14% for etanercept, and 28% for ustekinumab (Tables 6-8).

Table 6. Average daily escalated dose vs maintenance dose of etanercept and weighted average difference by payer

Table 7. Average daily escalated dose vs maintenance dose of adalimumab and weighted average difference by payer

Table 8. Average daily escalated dose vs maintenance dose of ustekinumab and weighted average difference by payer

CONCLUSION

Across all treatments, dose escalation was recorded in over 63% of patients, most often in the first year of treatment, indicating that patients may require additional doses to maintain response. These findings highlight the need to conduct additional research to determine if there is a need for new treatments which provide higher sustained efficacy, with a rapid onset of action.

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