MARKOV MODEL PROJECTION OF REMISSION STATUS FOR EARLY VERSUS DELAYED STEP-UP ADALIMUMAB USE IN MODERATE TO SEVERE CROHN'S DISEASE

doi:10.1136/gut.2011.239301.291

E V Loftus Jr,1 J Chao,2,* M Yang,3 P F Pollack,2 Z Li,1 R B Thakkar,2 P M Mulani2 1Mayo Clinic, Rochester, Minnesota, USA; 2Abbott Laboratories, Abbott Park, Illinois, USA; 3Analysis Group, Inc., Boston, Massachusetts, USA

Introduction No randomised clinical trials have compared early treatment with anti-TNF agents and conventional delayed step-up treatment for patients with moderate to severe Crohn’s disease (CD). The goal of this study was to project remission rates in patients with moderate to severe CD with early versus delayed step-up use of adalimumab (ADA) using a Markov model.

Methods The Markov model considered 4 states: remission, no remission but response, no remission and no response, and discontinuation. Each treatment cycle was 4 weeks. In the early treatment arm, patients with shorter disease duration (onset ≤2 years) would start ADA without prior use of immunomodulators (IMMs). In the step-up treatment arm, patients with longer disease duration (onset >2 years) would be treated with IMMs before switching to ADA owing to lack of response for 2 consecutive months. Transitional probabilities for patients on ADA were estimated using a multinomial logistic model using data from the CHARM trial,1 specifically the treatment arm of ADA 40 mg every other week. Transitional probabilities for patients on IMM treatment in the step-up treatment arm were derived from literature.2 One-year remission rates with early and step-up use of ADA were projected with the estimated transitional probabilities.

Results The multinomial logistic model estimated that patients in the early ADA treatment arm had a higher probability of transitioning from moderate/severe disease to remission during the induction cycle (weeks 0–4) than did patients in the step-up arm (54.8% vs 30.4%, p=0.0106). After achieving remission, early use patients had a higher probability of staying in remission than did step-up patients (91.5% vs 78.2%, p<0.0001). Using the estimated transitional probabilities, the Markov model projected early use patients to have a remission rate of 46.2% at the end of 1 year, with cumulative time in remission of 0.57 years. For step-up patients, the model projected a remission rate of 37.5% at the end of 1 year, with cumulative time in remission of 0.36 years.

Conclusion Early initiation with ADA was projected in a 1-year Markov model to result in higher remission rates and longer time in remission than delayed step-up therapy.


Keywords adalimumab, Crohn's disease, early therapy.

REFERENCES

Markov model projection of remission status for early versus delayed step-up adalimumab use in moderate to severe Crohn's disease

E V Loftus, Jr, J Chao, *, M Yang, P F Pollack, Z Li, R B Thakkar and P M Mulani

Gut 2011 60: A137
doi: 10.1136/gut.2011.239301.291

Updated information and services can be found at:
http://gut.bmj.com/content/60/Suppl_1/A137

These include:

References
This article cites 2 articles, 0 of which you can access for free at:
http://gut.bmj.com/content/60/Suppl_1/A137#BIBL

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/