INTRODUCTION

- Ulcerative colitis (UC) is a chronic inflammatory disease which main symptoms are abdominal pain, bloody diarrhea and altered periods of remission and relapses. UC is known to be a costly disease with a great impact on patient’s quality of life and productivity.
- Current treatments for moderately-to-severely UC include conventional therapy (such as steroids or thiopurines), immunosuppressant, biological drugs and the more recent oral small molecules such as tofacitinib, a Janus Kinase inhibitor. Surgery is considered the last option.
- Thus, given the broad spectrum of new emerging therapeutic options, economic evaluations are needed in order to help healthcare systems making informed decisions.

METHODS

- A panel of experts defined three sets of therapeutic sequences consisting on two lines of treatment, where only first line was modified to compare tofacitinib vs adalimumab, infliximab and vedolizumab (fig. 1).
- A markov model was developed with cycles of 8 weeks and a lifetime horizon (fig.2). For the model 2 different treatment periods were considered: induction and maintenance.
- A hypothetical cohort of 1,000 patients can shift through 5 different health states, defined according to the Mayo’s scale score as (fig.2):
  - Remission (Mayo score = 0-2, and all subscales ≤)
  - Response (increase in Mayo score of ≥3 and at least a 30%; with a decrease in rectal bleeding subscore of ≥1 point or a value of 0)
  - Moderate-to-severe active UC (Mayo score ≥ 6)
  - Remission after surgery
  - Death
- Patients can change to second line treatment: if they remain with active UC after induction; or if there is a loss of response under maintenance treatment (patients shift to active UC state again).
- The model considered an annual rate for surgery of 1,444%, with the possibility of post-surgery complications.

RESULTS

- Direct medical costs considered in the model were:
  - drug acquisition, drug administration, disease-related costs according to health-state and adverse events (table 2 & 3).
  - Local unitary costs (€, 2019) were applied.
- Acquisition costs were calculated based on public ex-factory prices14 with mandatory deduction (7.5%)14 or using reference price when available. Doses per cycle (8 weeks) were estimated with each specific SmPC14.
- Costs and outcomes were discounted at 3%.
- Probabilistic sensitivity analysis were conducted (€25,000/QALY threshold considered).

CONCLUSIONS

- According to our results and from the Spanish NHS perspective, for treating moderately-to-severely UC biologic-naive patients after conventional therapy failure or intolerance, QALY production appears to be equal for all three comparisons. Tofacitinib resulted the most cost-saving therapy in comparison to infliximab and vedolizumab, being also cost-effective when compared to adalimumab.

REFERENCES

- Tables and figures (Supplementary materials) www.cima.aemps.es www.portalfarma.com www.oblikue.com

DISCLOSURE

- This work was sponsored by Pfizer S.L.U. Spain. CPF, SG, AJA and AC are employees of Pfizer. FAN and MAC are employees of PORIB, which receives funding from Pfizer SLU to conduct this analysis.