Letters to the Editors

However, in the absence of head-to-head treatment comparison, confidence in these estimates is low. Future head-to-head treatment comparison trails and comparative effectiveness observational studies in a homogenous cohort are warranted.

#### **ACKNOWLEDGEMENTS**

We thank Ms. Patricia Erwin, Medical Librarian at the Mayo Clinic Library for helping in the literature search for this systematic review and meta-analysis.

Declaration of personal interests: None.

Declaration of funding interests: This study was made possible by support from the Center for the Science of Healthcare Delivery, Mayo Clinic and a CTSA Grant UL1 TR000135 from the National Center for Advancing Translational Sciences (NCATS), a component of the National Institutes of Health (NIH), as well as the NIH grant EB001981. Its contents are solely the responsibility of the authors and do not necessarily represent the offi-

cial views of the National Institutes of Health. Dr Loftus has consulted for and has received research support from Janssen Biotech, AbbVie, UCB Pharma and Takeda.

## **REFERENCES**

- 1. Stidham RW, Lee CH, Higgins PDR, *et al.* Systematic review with network meta-analysis: the efficacy of anti-tumour necrosis factor-alpha agents to the treatment of ulcerative colitis. *Aliment Pharmacol Ther* 2014; **39**: 660–71.
- Singh S, Garg SK, Wang Z, et al. Comparative efficacy of biologic therapy in the management of biologic-naïve patients with ulcerative colitis: an indirect treatment comparison meta-analysis. Gastroenterology 2014; in press.
- Feagan BG, Greenberg GR, Wild G, et al. Treatment of ulcerative colitis with a humanized antibody to the alpha4beta7 integrin. N Engl J Med 2005; 352: 2499–507.
- Feagan BG, Rutgeerts P, Sands BE, et al.; GEMINI 1 Study Group. Vedolizumab as induction and maintenance therapy for ulcerative colitis. N Engl J Med 2013; 369: 699–710.
- 5. Lumley T. Network meta-analysis for indirect treatment comparisons. *Stat Med* 2002; **21**: 2313–24.

# Letter: comparative efficacy of biological therapy in patients with ulcerative colitis – authors' reply

R. W. Stidham\*, T. C. H. Lee<sup>†</sup>, P. D. R. Higgins\*, A. R. Deshpande<sup>‡</sup>, D. A. Sussman<sup>‡</sup>, A. G. Singal<sup>§</sup>, B. J. Elmunzer\*, S. Vijan<sup>†,¶</sup>, S. D. Saini\*,<sup>¶</sup> & A. K. Waljee\*,<sup>¶</sup>

\*Division of Gastroenterology and Hepatology, Department of Internal Medicine, University of Michigan Health System, Ann Arbor, MI, USA. †Division of General Medicine, Department of Internal Medicine, University of Michigan, Ann Arbor, MI, USA.

\*Division of Gastroenterology, Department of Internal Medicine, University of Miami Miller School of Medicine, Miami, FL, USA. \*Division of Digestive and Liver Diseases, Department of Internal Medicine, UT Southwestern Medical Center, Dallas, TX, USA. \*Center for Clinical Management Research, Ann Arbor Veterans Affairs Healthcare System, Ann Arbor, MI, USA. E-mail: awaljee@med.umich.edu

doi:10.1111/apt.12773

Sirs, We thank Singh *et al.* for their thoughtful letter.<sup>1</sup> This highlights three aspects of our manuscript that we believe deserve further discussion.<sup>2</sup>

First, although we agree that inclusion of vedolizumab, an anti-integrin therapeutic, is a potential option, we elected to focus on comparing anti-tumour necrosis factor (anti-TNF) agents to limit issues of clinical and biologic heterogeneity. Second, we found the definitions

and reporting of prior anti-TNF exposure to be inconsistent between studies (e.g. prior anti-TNF permitted but data not reported, variable washout lengths). While we documented reported anti-TNF exposure in Table 1, we were unable to meaningfully analyse patients by prior anti-TNF exposure. Finally, the authors raise concerns over using a clinical endpoint (Mayo score or ulcerative colitis symptom score) as the primary outcome measure in our meta-analysis. Although we agree that objective measures are preferred, the clinical trials available for inclusion in our network meta-analysis were designed and powered based on clinical activity indices.

The results of Singh *et al.*'s work reported similar findings to our analysis – that available clinical trial data do not demonstrate significant differences in efficacy between anti-TNF agents, and potentially vedolizumab. This discussion points out important limitations of the available data, highlighting the need for objective and reproducible measures of disease activity in ulcerative colitis clinical trials. Head-to-head studies are needed to better understand the comparative efficacy of therapies for ulcerative colitis.

## **ACKNOWLEDGEMENT**

The authors' declarations of personal and financial interests are unchanged from those in the original article.<sup>2</sup>

## **REFERENCES**

- Singh S, Garg S, Wang Z, Murad MH, Loftus EV Jr. Letter: comparative efficacy of biological therapy in patients with ulcerative colitis. *Aliment Pharmacol Ther* 2014; 39: 1432–3.
- Stidham RW, Lee TCH, Higgins PDR, et al. Systematic review with network meta-analysis: the efficacy of anti-tumour necrosis factor-alpha agents for the treatment of ulcerative colitis. Aliment Pharmacol Ther 2014; 39: 660–71.

## Letter: accuracy of liver stiffness measurement — a comparison of two different FibroScan devices

J. Parra-Ruiz, C. Sanjuán, L. Muñoz-Medina, D. Vinuesa, M. A. Martínez-Pérez & J. Hernández-Quero

Servicio de Enfermedades Infecciosas, Hospital Universitario San Cecilio, Granada, Spain. E-mail: jordi@ugr.es

doi:10.1111/apt.12762

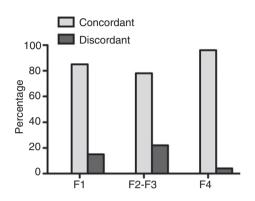
SIRS, We have read with interest some recent reports about transient elastography (TE) published in the journal<sup>1, 2</sup> and we would like to comment our results regarding the comparison of a new FibroScan device with the original FS502. Despite significant advantages, FibroScan (Echosens, Paris, France) has some drawbacks like high acquisition and maintenance costs that might have lead to refusal of many hospitals to incorporate TE in the routine evaluation of patients with chronic liver diseases. If the new, and cheaper, device recently commercialised (FS402) is equivalent to conventional one (FS502), it could translate into a greater generalisation of TE.

To evaluate whether these two devices could be considered equivalent, we perform a cross-sectional prospective study in our clinic. All consecutive HCV infected patients attending our unit had consecutive liver stiffness measurement with FS502 and FS402, on the same area and by the same observer. Agreement between FS502 and FS402 was characterised using the Kappa index<sup>3</sup> for four cut-offs values: <7.2 kPa (F1), 7.2–12.4 kPa (F2–F3) and >12.4 kPa (F4)<sup>4</sup> and for significant fibrosis (9 kPa).<sup>5</sup>

We included 101 patients, mostly men (72 men vs. 29 women) and with a mean BMI: of 25.2  $\pm$  0.85 kg/m<sup>2</sup>.

Concordance between FS502 and FS402 is shown in Figure 1.

No statistically significant differences were obtained for F1 and F4 measurements, with strong correlation [n = 52; rho Spearman ( $r_s$ ): 0.827; P = 0.01 and n = 28;  $r_s$ : 0.935; P = 0.001 respectively] and substantial agreement between both devices (Kappa 0.781; P < 0.001 and 0.923; P < 0.001, respectively). For F2–F3 stages, there was a significant difference between both devices (median 9.4 vs. 8



**Figure 1** | Concordance of classification of fibrosis using FS502 and FS402 devices, according to fibrosis stages.<sup>4</sup> Columns represent percentages of concordance.

for FS502 and FS402, respectively; P = 0.024). There was also a strong correlation substantial agreement between both devices, although to a lesser extent (n = 35;  $r_s$ : 0.737; P = 0.01 and Kappa 0.654; P < 0.001).

Regarding presence or absence of significant fibrosis,<sup>5</sup> we found a very strong correlation (n = 101;  $r_s$ : 0.861; P < 0.001) and an almost perfect agreement between FS502 and FS402 (Kappa: 0.856 P < 0.001).

Globally, although FS402 might underestimate the degree of fibrosis, as median values are statistically significantly higher with FS502, when stratifying for presence or absence of fibrosis, we found almost perfect agreement and a very strong correlation, suggesting that these differences, although statistically significant, are clinically irrelevant and, from a clinical interpretation of results, both devices can be considered as equivalent.

## **ACKNOWLEDGEMENTS**

Declaration of personal interests: None.

Declaration of funding interests: We thank Abbvie Laboratories for the temporal loan of FS502 and FS402 devices during the study period.

### REFERENCES

 Kwok R, Tse YK, Wong GL, et al. Systematic review with metaanalysis: non-invasive assessment of non-alcoholic fatty liver disease – the role of transient elastography and plasma cytokeratin-18 fragments. Aliment Pharmacol Ther 2014; 39: 254–69.