

Reviewer 1 v.1

Comments to the Author

This is a prospective study utilising AI technology to assess quantitative changes in HRCT images for fibrosis and correlate these with clinical and physiological measurements within a 26 week prospective blinded randomised controlled trial of BMS daily for IPF.

The introduction is well written and easy to understand. The rationale for the study is explained and the aims are clearly set out. There is good use of appropriate referencing.

The methods, patient group and study endpoints are clearly explained.

Comments to editor: The 5 steps of automated CT analysis may benefit from review by someone with expertise in radiology Dr Joseph Jacob?

Statistics have been described.

Results:

Baseline characteristics are representative of an IPF cohort with no differences in each arm

The results are clearly explained in the text with tables and figures complementing the text well.

The authors have presented the data that quantification fibrosis score correlate well with lung function but not breathlessness score at baseline and correlate with lung function and breathlessness score at 26 weeks.

Whilst the mean fibrosis quantification scores do not differ between groups at 26 weeks the authors have demonstrated a greater proportion of patients in treatment arms showing reduction in fibrosis scores as seen in figure 1

The discussion discusses the limitations of the study and compares their results with other published studies.

Whilst the RCT had to stop due to hepatotoxicity reasons the results from this limited number of patients still provides interesting findings related to quantitative imaging changes in IPF and their correlation with lung function and breathlessness and provides important insight in it utility as a biomarker in future studies.

This is a well designed and conducted study and despite limited recruitment as the study was terminated early - it provides important findings regarding the utility of quantitative imaging as a biomarker for future studies