



### Introduction

- Anti-TNF treatment with immunomodulator is suggested as treatment for inflammatory bowel disease (IBD) patients with high risk poor outcome (extensive disease or deep colonic ulcers and structuring disease without pre-stenotic dilatation)(1).
- Although Anti-TNF treatment is highly efficacious, up to 50% of patients lose the effect of Infliximab maintenance therapy due to formation of antibodies against Infliximab (anti-IFX abs) (2).
- Previous study suggested dual therapy decrease the immunogenicity of IFX(3), hence , prolonging the longevity IFX usage. However, published evidence remains quite limited in paediatric population.

### Aim

- To evaluate any correlation between the level of azathioprine metabolites, 6-thioguanine nucleotides (6-TGN) and the formation of anti-IFX abs in IBD patients.

### Method

#### Participants

- Single-centre retrospective study of paediatric patients in a tertiary paediatric gastroenterology department
- IBD patients on dual therapy (Azathioprine and Infliximab) between March 2016 to March 2020.

#### Inclusion Criteria:

- On Infliximab maintenance therapy of 5mg/kg 8 weekly
- Azathioprine metabolite level and anti-IFX Abs levels taken within 3 months of the start of treatment

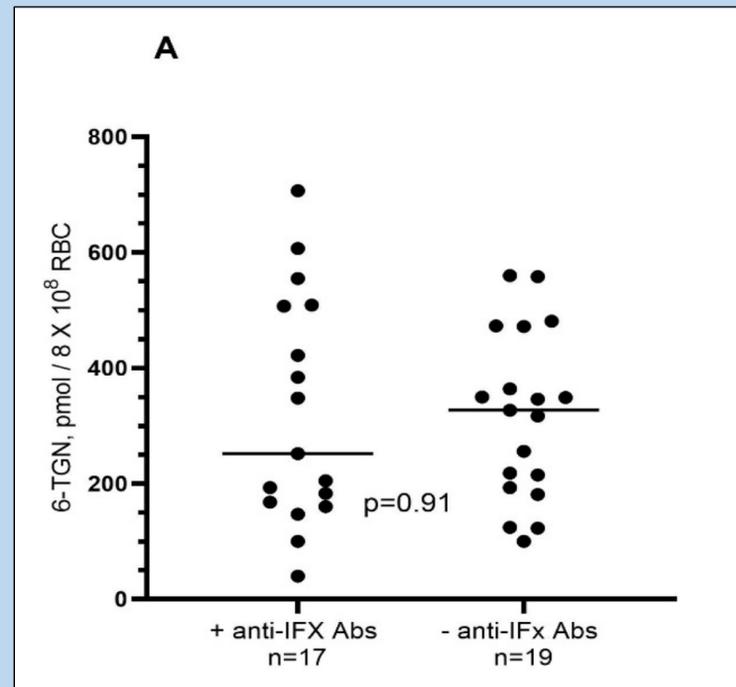
#### Exclusion Criteria:

- Poor patient compliance
- Monitoring delayed beyond the 3 months period
- Progression of disease requiring intensification of IFX therapy to more than 5mg/kg 8 weekly regimen.

\*Final number of patients included in the study = 36

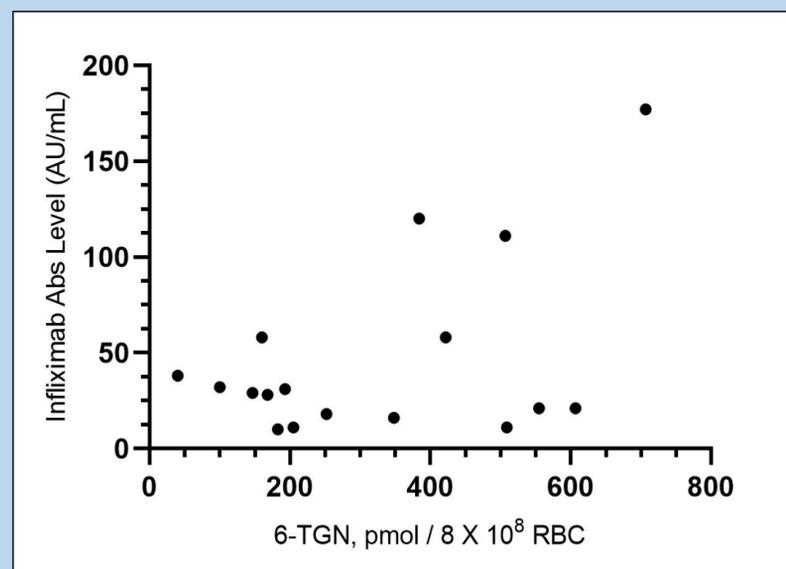
### Results

#### Correlation of anti-IFX Abs and Azathioprine metabolites



Mean level of 6-TGN was lower in the anti-IFX Abs-positive patients compared to the anti-IFX Abs-negative patients (316.2 vs 322.8) with 6.607±57.51 (CI -123.5-110.3, p=0.91).

#### Correlation between Positive Anti-IFX with level of Azathioprine Metabolites



There is a correlation between lower level of 6-TGN and positive anti-IFX level. (p<0.05)

### Conclusion

- The findings of our retrospective cohort study suggest that there is a correlation between lower levels of thiopurine metabolite, 6-TGN with formation of anti-IFX Abs (p < 0.05). This is consistent with the current evidence in literature. A meta-analysis of immunogenicity in autoimmune diseases found the use of concomitant immunosuppressants was associated with a 74% risk reduction for anti drug antibody (ADA) formation(4).
- In conclusion, our study corroborates the existing evidence that IFX- thiopurine co-therapy is associated with lower ADA formation and therefore useful in preventing secondary loss of response.

### References

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2. Gisbert JP, Panés J. Loss of response and requirement of infliximab dose intensification in Crohn's disease: a review. *Am J Gastroenterol*. 2009;104(3):760-767. doi:10.1038/ajg.2008.88
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