

Infliximab improves growth in paediatric Crohn's disease only if commenced prior to the onset of puberty or in early puberty



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Background:

- ❖ Crohn's disease is a relapsing systemic inflammatory disorder due to up-regulation of pro-inflammatory cytokines including TNF- α .
- ❖ PCDAI (Paediatric Crohn's disease activity index) score is a validated measure of disease activity.
- ❖ More than 80% of newly diagnosed children present with growth failure¹.
- ❖ Paediatric gastroenterology units in the UK submit data to the UK IBD database which can be accessed when required. One aim of current treatment protocols is to promote growth.
- ❖ Studies on the use of Anti-TNF- α antibodies like Infliximab have produced conflicting results with respect to growth².

Objective:

To determine whether Infliximab improves growth in paediatric Crohn's disease

Method:

- ❖ The UK IBD database was used to identify all Crohn's disease patients receiving Infliximab in our centre.
- ❖ Age, PCDAI score, Ht, Wt, BMI and Tanner pubertal status were determined at diagnosis, commencement of infliximab and at the latest assessment.
- ❖ Paired-T test was employed to compare above parameters at these time points for patients who were at Tanner stage 1-3 vs. stage 4-5 at commencement of Infliximab therapy.

Results:

- ❖ There were 36 patients identified from the database. Seven patients were excluded due to incomplete data.
- ❖ The data of 29 patients (14 Female) were available for analysis.
- ❖ The median age at commencement of treatment was 14.3 years (range 7.5 -17.4). Other patient characteristics are shown in Table-1.
- ❖ Statistical analysis and results are shown in Table-2.
- ❖ Wt SDS, BMI SDS were not significant between the two groups.

Conclusion:

Infliximab improves growth in children with Crohn's Disease who are prepubertal or in the early stages of puberty. A larger prospective study confined to the paediatric age range is required.

References:

1. Gastroenterol Hepatol (N Y). 2009 November; 5(11): 775-783
2. Inflamm Bowel Dis. 2007 Apr; 13(4):424-30

Table 1- Patient characteristics and pubertal status

	Early puberty	Late puberty
Total No	20	9
Follow up in yrs(range)	0.3(0.3-2.9)	0.8(0.3-1.9)
M:F ratio	11:9	4:5

Table 2- Statistical analysis results

Pubertal category	Measurements at the start of infliximab treatment. Median (range)	Measurements at the most recent assessment. Median (range)	P value (95% CI)
Early puberty (Tanner 1-3)	Ht SDS -0.94 (-2.15 to 1.72)	Ht SDS -0.45 (-1.88 to 1.86)	0.018* (-0.05 to -0.45)
	PCDAI score 23(5-87)	PCDAI score 5(0-45)	0.028* (1.5 to 19.6)
Late puberty (Tanner 4-5)	Ht SDS 0.53 (-0.98 to 1.23)	Ht SDS 0.50 (-0.66 to 1.25)	NS
	PCDAI score 25 (7-40)	PCDAI score 5 (0-30)	NS