RELATION BETWEEN CLINICAL REMISSION AND TROUGH INFLIXIMAB LEVELS IN CHILDREN WITH INFLAMMATORY BOWEL DISEASE

PKP-009

A03 - Drugs for functional gastrointestinal disorders

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Introduction and objectives

Depending on individual therapeutic response, infliximab (IFX) dosage and infusion interval may be adjusted

→ **Loss of efficiency can be observed as well as sometimes a decrease of trough infliximab levels**

OBJECTIVES

To correlate trough infliximab concentrations with clinical remission in Intestinal Bowel Disease (IBD) children/adolescents and determine an IFX threshold associated with clinical remission

Study design

Inclusion

- Retrospective records between February 2011 and July 2013
- Children/adolescents < 18 years with **Crohn Disease** (CD), **Ulcerative Colitis** (UC) or **Indeterminate Colitis** (IC)
- Treated with at least three IFX perfusions = maintenance phase with results of trough IFX levels

Evaluation

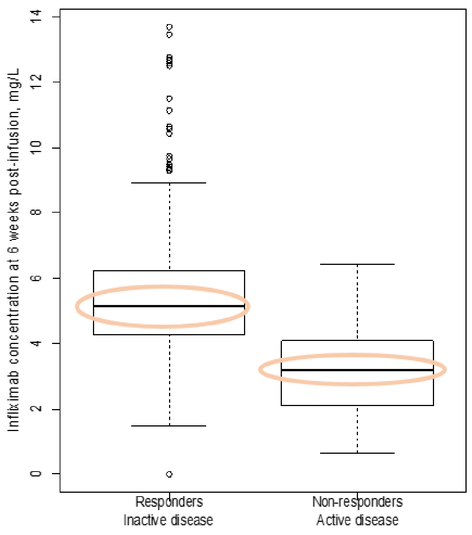
Two scores used to calculate clinical activity of disease :

Harvey Bradshow Index → CD
Pediatric Ulcerative Colitis Activity Index →UC/IC

Analysis by ANOVA test (repeated measures) and logistic regression

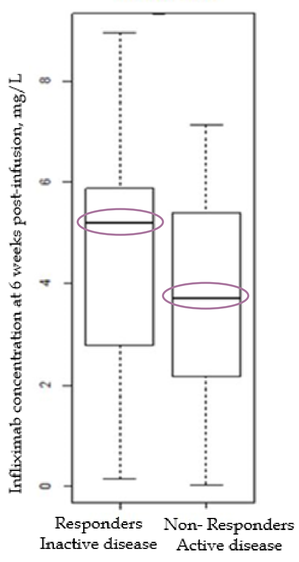
Results

Infliximab serum level 6 weeks after infusion in CD



55 patients included CD

Infliximab serum level 6 weeks after infusion in UC and IC



12 patients included UC & IC

Integral part of therapeutic decision in the clinical service

553 infusions analyzed for CD

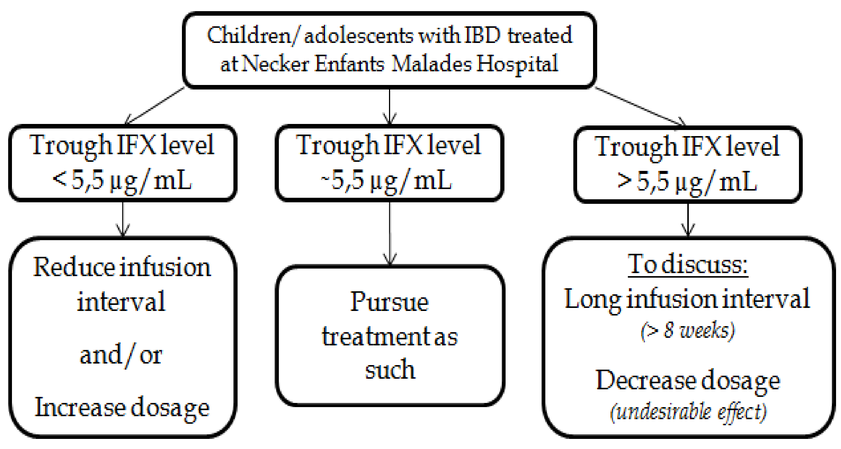
Anova p=10^{-4}

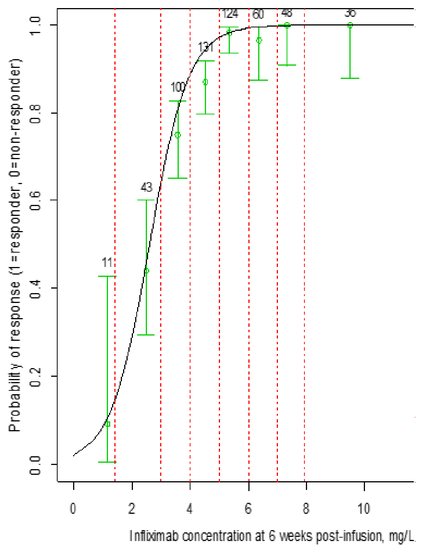
Responders =	Non-responders =
HB < 4	HB ≥ 4
IFX trough level **5,5 µg/mL**	IFX trough level **3,1 µg/mL**

168 infusions analyzed for UC and IC

Anova p=10^{-4}

Responders=	Non-responders=
PUCAI < 10	PUCAI ≥ 10
IFX trough level **5,2 µg/mL**	IFX trough level **3,7 µg/mL**

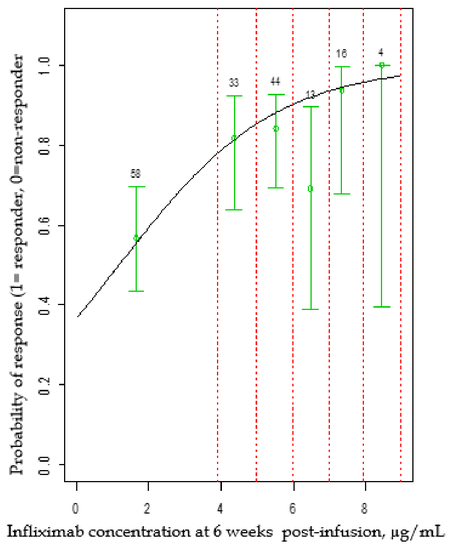




Equation of the probability of responding according to the concentration at 6 weeks C6w:

Logit (p=R)=3,860+(1,480*C6w)+1,25

Probability of success is near 100% when IFX trough level is 5,5 µg/mL.



Equation of the probability of responding according to the concentration at 6 weeks C6w:

Logit (p=R)=-0,546+(0,464*C6w)+1,32

Probability of success is near 100% when IFX trough level is 5,5 µg/mL.

Conclusion

- **There is a relation between trough IFX level and disease activity/ clinical remission in IBD children.**
- **A target trough IFX level** is highlighted**: 5,5 µg/mL.**
- The target has an interest in clinical practice for gastroenterology departments: it is **a decision-making factor linked to the activity of the disease** allowing a therapeutic follow-up and a reaching of the target rate during the treatment.
- Prospective studies are necessary to confirm our results.