Intervals between infliximab infusions- association with pharmacokinetics

Arrow project presentation

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BACKGROUND

- **Infliximab** is a therapeutic agent in IBD
- It is a **scheduled therapy** administered IV at pre-defined time-points
- Intervals between infusions affect pharmacokinetics
- Patients are **diverse**
  - Real life pharmacodynamic information is required
- Adherence to therapeutic schedule – how important is it?

OBJECTIVES

- To evaluate the relations between the **number of days (+\-7d) elapsed from previous to current infusion, to Infliximab serum level** in patients receiving scheduled infliximab therapy after induction – on 8 week intervals.
- To determine what are the **deviation boundaries** in days of scheduled Infliximab therapy that would compromise therapy efficacy due to serum levels lower than therapeutic window.
- To evaluate the relations between the number of days (+\-7d) elapsed from previous to current infusion to the clinical score in patients receiving scheduled infliximab therapy after induction – 8 week intervals.

METHODS

- **Study design:**
  - A retrospective cohort study
  - Settings - venous blood samples were obtained from patients with Crohn's disease and Ulcerative colitis that received Infliximab infusion in SMC between the years 2009-2018. Serum samples were routinely and systematically collected at trough, before infliximab infusions. Infliximab and anti-infliximab-antibodies levels were measured by a previously described drug- tolerant assay at Sheba medical center**.**
    We focused on 8 week interval events within the scheduled therapy limits (+\- 7 days).
  - Patients with less than 3 TL measurements were excluded.
  - Patients that had persistent ATI (over 3 consecutive measurements of Ab levels>2.5ug/ml) , were excluded from this study.
  - Correlation with clinical score determined upon infusion will be analyzed at a later time-point

METHODS-2

- **Variables gathered:**
  - Date of infusion, infliximab and anti infliximab serum levels.
- **Sample size calculation:**
  - Convenience Sample- medical records
  - Samples were obtained from patients with Crohn's and Ulcerative colitis that received Infliximab infusion in SMC between the years 2009-2018. Samples that were taken during immunogenic loss of response were excluded (Ab levels>2.5ug/ml).
  - Mix model taking into account repeated measurements of Infliximab serum level
  - Significance level- 5%
  - Power-80%
  - To achieve a moderate effect of 0.3-0.5, **n=252**