Satralizumab for the treatment of neuromyelitis optica spectrum disorders: a single center real life experience

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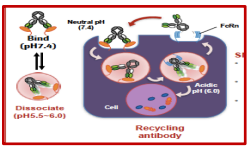
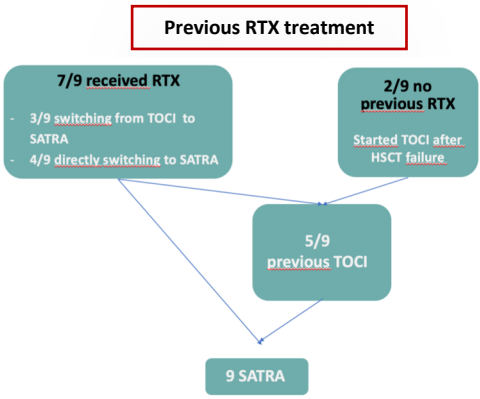
Introduction and Aims:

Neuromyelitis optica spectrum disorders (NMOSD) is a rare, inflammatory, central nervous system disease which has historically been treated with rituximab (RTX). A better understanding of the pathogenesis of NMOSD has led to the recent introduction of new, well-targeted, preventive immunotherapies. Among them satralizumab (SATRA) is a an anti-IL6 receptor monoclonal antibody (mAb) approved for AQP4 antibody positive patients switching from RTX for inefficacy or adverse events.





Aim of this work is to report our single-center

Methods:

The present study is:

- Retrospective
- Observational
- Single-center

Data from all patients receiving SATRA for NMOSD at San Raffaele Hospital of Milan were collected.

Results:

9 NMOSD patients (8 females) were enrolled with the following characteristics.

Baseline characteristics	
	Study population
No. of patients	9
Female sex	8/9
Median age at SATRA initiation (range), years	50.8 (30.7-71.8)
Median disease duration at SATRA initiation (range), years	15.4 (9.1-30.7)
Median EDSS (range)	4.0 (2.0-6.5)
Median Follow-up (range), years	1.9 (0.27-2.19)

Last therapy before SATRA was tocilizumab (TOCI) in 5/9 patients and RTX in 4/9 patients. Among patients previously treated with TOCI 3/5 had been treated with RTX and 2/5 had been treated with autologous haematopoietic stem cells transplantation (HSCT).

- In 5 patients treated with TOCI (off-label), reason for switch to SATRA was shift to in label drug
- In 4 patients switching from RTX, motivation were:
  - Inefficacy (1/4)
  - Safety (hypogammaglobulinemia with recurrent infections) (3/4)

EFFICACY

Over a median follow-up (FU) in SATRA of 1.9 years (0.27-2.19) all patients remained clinically stable with a median EDSS of 4 (2.0-6.5) and no radiological disease activity was observed.
For patients switching from TOCI the global FU in anti-IL6 receptor mAb was of 9.5 years (3.3-11.0).

SAFETY

The drug was well tolerated with retention rate of 100%. The only adverse events were transient liver enzymes increase, mild neutropenia, mild-moderate infections.
RTX-related hypogammaglobulinemia persisted also after switch to SATRA. These patients are currently receiving subcutaneous/intravenous immunoglobulins replacement.

CONCLUSIONS

In conclusion in our small experience, SATRA has proven to be effective and safe for the treatment of NMOSD patients. Among our patients 5/9 had been treated with anti IL-6 receptor mAb (TOCI followed by SATRA) for a long period of time with sustained efficacy and safety. 3/9 switched to SATRA for adverse event in order to change mechanism of action stopping B cell depletion and worsening of hypogammaglobulinemia.
More data are needed to confirm these findings.

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