Multiple Sclerosis Academy Graduate

Delayed Ocrevus Dosing in RRMS patients

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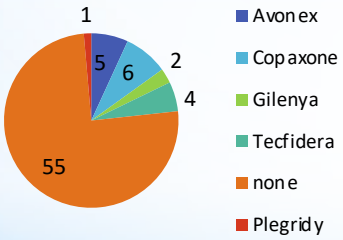
Background

- Ocrevus is a humanised anti-CD20 monoclonal antibody therapy used for RRMS and PPMS patients
- Monitoring CD19 cells counts as a surrogate marker for CD20 cells in the peripheral bloods in PWMS could optimise the dosing of Ocrevus in these patients.
- In a study on patients with RA, treatment with rituximab demonstrated prolonged depletion of B cells in about 4% of cases.
- Another study in PWMS treated with rituximab showed how widely different rates of repopulation of CD20 counts were, after rituximab dosing, therefore questioning whether all PWMS should undergo the same dosing interval.
- In an age of personalised medicine, we explored our RRMS on Ocrevus and tailored the dosing dependent on their CD19 depletion and re-population.

Demographics of Cohort

- Age: range -19-60, mean age - 39.2 years
- MS phenotype: RRMS
- EDSS: mean EDSS 3.1 (17 not recorded).
- Previous DMTs:



Aims

- Clinical evaluation of delaying Ocrevus dosing based on CD19 counts.
- Evaluate incidence of COVID 19 infections in patients with low CD19 count.

Methods

- Retrospective observational study
- RRMS who received Ocrevus infusions + CD19 monitoring
- Data collected: Age, Gender, timing of infusions, last relapse after initiation of Ocrevus, previous DMTs, EDSS and CD19 counts.
- Total number of patients 73 (54 F, 19M)
- Patients were reinfused when CD19 counts were repopulating at $\geq 1\%$.

Results

- CD 19 count performed after first infusion by: range - 139-464 days, mean - 225 days.
- Time between infusions (from March 2020 to December 2020), by monitoring of CD19 counts, range -207-480 days, mean – 285 days.
- None of the patients had any relapses despite delayed dosing.
- One patient has not had further infusions due to pregnancy planning.
- No patients had COVID infection during the studied period.

Conclusions

- This small study demonstrates that delayed Ocrevus infusions can be viable, if patients' CD19 counts are monitored. No patients experienced breakthrough relapse or worsening symptoms using this schedule.
- The scope of this project is immense- if we can tailor Ocrevus dosing to the individual's immune system, potential reduction in risk of PML and possible reduction on impact in long term reduction in IgG levels (improving patient safety).
- Delayed dosing will also reduce infusion burden of patient and infusion nurses' workload (NHS cost savings).
- For maintenance of this regime, adequate administrative support is required to monitor CD19 counts, monitor patients and schedule accordingly.
- Prolonged monitoring and larger patient cohorts will need to be reviewed to validate these results.
- CD19 counts could be monitored monthly on a routine basis following first dosing, and reinfusion of Ocrevus undertaken after the cell population rebounds to ≥1%.
- Regrettably, PPMS patients could not be reviewed as no PPMS patients have been given Ocrevus at our centre due to nursing capacity issues and unachievable service demands.

Reference

Avasarala J, Anti-CD20 cell therapies in Multiple Sclerosis- A Fixed Dosing Schedule for Ocrelizumab is Overkill, Drug Target Insights, Volume 11: 1-3, Sept 2017