An analysis of Rituximab dose reduction & CD 19 monitoring

for Rheumatoid Arthritis patients in clinical remission

Tallaght University Hospital | Ospidéal Ollscoile Thamhlachta

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Introduction

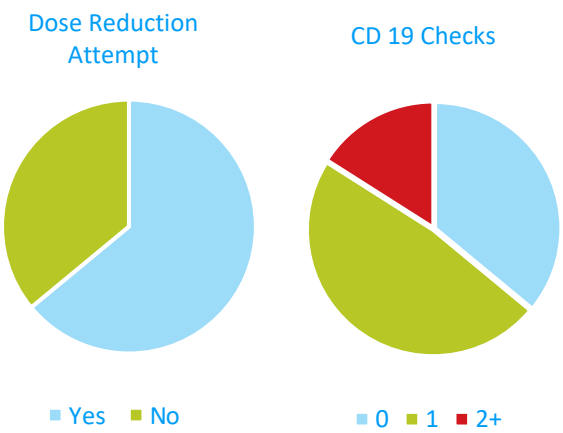
Appropriate dose reduction of synthetic and biological DMARDs to the minimally effective dose for Rheumatoid Arthritis (RA) patients in clinical remission, reduces healthcare costs and the risk of adverse drug side effects. To date rituximab dose reduction in RA remains ad-hoc with no standardised protocol.

Background

Rituximab is a monoclonal antibody targeting CD20 B cells. Recovery of the circulating B cell marker CD19 following rituximab predicts a subsequent flare of RA at 4 months.(1) We propose a 2-step protocol of initial dose reduction from 2g to 1g per 6 months for RA remission patients, followed by a or time to flare. The current study ere-introduction interval of 1g rituximab based on CD 19 recovery time valuated the consistency of rituximab dose reduction and CD19 monitoring in our current clinical practice.

Methods

A list of all RA patients receiving Rituximab was compiled from Electronic Patient Records and Pharmacy Records. Relationships between rituximab prescription patterns, disease activity and CD-19 counts analysis were assessed.



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Results

32 RA patients currently receive Rituximab. The mean treatment duration on Rituximab is 63 months +/- 46 months. 25(78.1%) patients were in sustained remission/low disease activity (REM/LDAS28) just prior to their last Rituximab dosing. 13(52%) REM/L-DAS28 patients remain on 2g 6-monthly with 12(48%) receiving a reduced dose of 1g 6-monthly. Of the 13 REM/L-DAS28 patients receiving 2g rituximab, 69% patients were in sustained clinical remission before their last Rituximab dose. 9 patients did not have a dose reduction attempted and the other 4 patients had a relapse of symptoms on reduced dosing. Of REM/L-DAS28 patients, in remission, 9 (36%) did not have CD19 levels tested , 12 (48%) had 1 CD19 level tested and 4 patients (16%) had 2 or more CD19 levels tested. Only 4 patients had their infusions pushed out beyond 6 months as guided by low CD19 counts.

Conclusion

This analysis shows a lack of consistency with rituximab dose reduction and CD19 measurement as a means for dose reduction in REM/L-DAS28 RA. Implementation of a dose-reduction protocol based on pre-defined clinical and laboratory criteria will deliver improved optimisation of resource allocation and safer prescribing of rituximab in RA.

Recommendations

Three step protocol

1. Initial empirical dose reduction from 2g to 1g per 6 months for RA patients in remission

2. Review at 5 months with CD19 Count +/- proceed with infusion at 6/12 if CD 19 count has recovered or if flare has occurred.

3. If sustained remission low CD19 at 5/12, repeat CD19 every 2/12 and treat if following CD19 Recovery and/or flare occurs.

References: Trouvin AP, Jacquot S, Curis GE et al. Usefulness of monitoring of B cell depletion in rituximab-treated rheumatoid arthritis patients in order to predict clinical relapse: a prospective observational study. Clin Exp Immunol. 2015 Apr; 180(1): 11–18.