

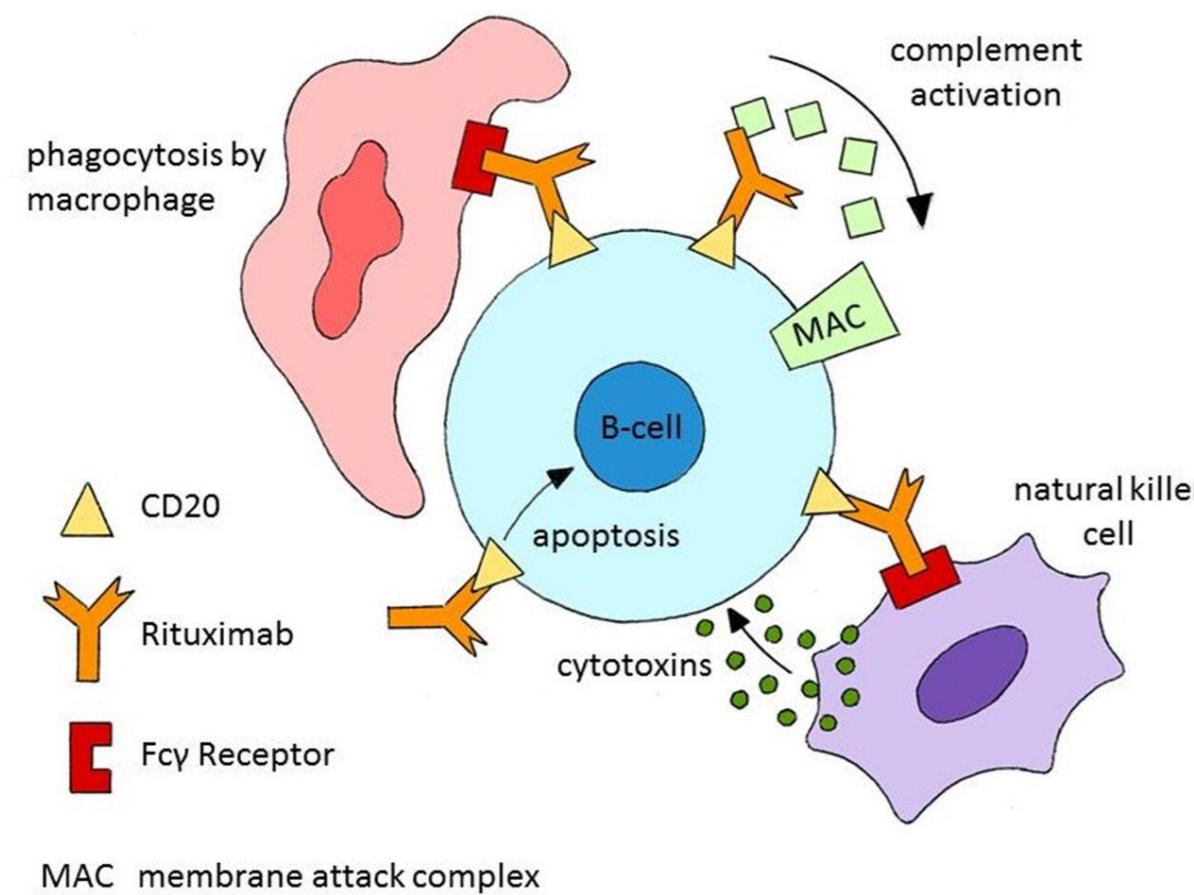
# Rituximab Induced Early Phase Neutropenia in IgG4-Related Disease

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## INTRODUCTION

A 57-year-old female with a diagnosis of Immunoglobulin G4-related disease (IgG4-RD) treated with rituximab is found to have new onset neutropenia during an emergency department visit for neck pain three weeks following her rituximab infusion.

### Typical Mechanism of Action of Rituximab



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## CASE PRESENTATION

- A middle-aged female with biopsy-confirmed IgG4-related disease receiving rituximab presented to the emergency department with worsening chronic neck pain and swelling related to autoimmune lymphadenopathy.
- She had recently restarted rituximab for active IgG4-related disease with her last infusion three weeks prior to presentation.
- Laboratory evaluation revealed acute mild neutropenia (ANC 1200 cells/microL) without thrombocytopenia or anemia. This was not present prior to administration of her current rituximab regimen.
- Following diagnosis of neutropenia, the patient remained afebrile without evidence of sepsis and did not require antibiotic/antifungal therapy or hospital admission for management.
- The patient had no other medications associated with neutropenia, no nutritional deficits, and no identified infectious cause of her neutropenia.

## DISCUSSION

- IgG4-related disease is an autoimmune lymphoproliferative disease that can affect multiple organ systems and lead to development of destructive lesions in the body (1).
- Treatment of IgG4-related disease may be attempted via B-cell reduction therapy with rituximab (2).
- One rare but documented adverse effect of rituximab therapy is neutropenia (neutrophil count <1500 cells/microL) (3-4).
- Rituximab induced neutropenia may be categorized as early or late phase.
- Early phase neutropenia is defined as occurring less than 4 weeks following rituximab administration, is extremely rare, and the mechanism is unknown (5).

## TAKE HOME POINTS

- Rituximab is an effective treatment of multiple rheumatologic conditions including IgG4-related disease.
- A potential consequence of rituximab therapy is neutropenia, though mechanism of this occurrence remains unclear.
- Early phase rituximab-induced neutropenia is extremely rare and has never been documented in relation to treatment for IgG4-related disease.
- Awareness of this potential adverse effect for multiple rheumatologic diseases including IgG4-related disease is essential for providers who are assessing rituximab as a treatment option.