

**Lay title: Serious infection risk is comparable after 1 year between patients with rheumatoid arthritis treated with rituximab or with a second TNFi after stopping a first TNFi.**

***Full title: Comparing serious infection risk between patients with rheumatoid arthritis treated with rituximab or with a second TNFi after discontinuation of a first TNFi: results from The British Society for Rheumatology Biologics Register for Rheumatoid Arthritis***

Lucía Silva-Fernández, Diederik De Cock, Mark Lunt, Audrey S. Low, Kath D. Watson, BSRBR-RA Contributors Group, Deborah P. M. Symmons, Kimme L. Hyrich

---

### **What was discovered?**

Biologic drugs are used to treat rheumatoid arthritis (RA). Both Tumour Necrosis Factor (TNF) inhibitors as B-cell depleting agents such as Rituximab (RTX) are very effective in treating RA. RTX is mostly used as therapy after failure of a TNFi. However, another treatment option is to start a second TNFi. There is little to none data if there is a difference in safety between these treatment options. As both agents are both effective in suppressing the immune system, we wanted to compare the rates of serious infections after 1 year in these two treatment groups.

This study included 3,419 TNFi and 1,396 RTX patients. Serious infections were defined as infections requiring intravenous antibiotics or hospitalisation or infections resulting in death. Serious infections occurred in 164/3,419 TNFi and 81/1,396 RTX patients. The rates of infections between the 2 treatment groups were comparable both in an unadjusted and also in a more complex analysis. This complex analysis took into account the differences between the two populations including past infections and comorbidities. Because these analyses gave similar results, we could conclude that the risk of serious infections after 1 year of treatment were comparable between patients treated with RTX and TNFi after stopping a first TNFi.

### **Why is this important/clinical benefit?**

This study supplies the treating physician and the treated patient with much needed information about the risk on serious infections when starting a second TNFi or RTX after failure of a first TNFi. It can also aid the physician in making an informed treatment choice when a first TNFi is failing.

### **What next?**

The next steps will look for adverse reactions to therapy on the longer term while this study looks to the immediate risk (after 1 year). It is interesting for both the physician and the patient to know the effects of longstanding treatment choices after a failure of a first TNFi.

Should you wish to read this scientific paper in full, the text can be found online here:

<https://www.ncbi.nlm.nih.gov/pubmed/28968862>

