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Precautions before starting tofacitinib in persons with rheumatoid arthritis

Swarnakar R *et al.* Precautions for tofacitinib starting in RA

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Abstract

Tofacitinib is an immunosuppressive and disease-modifying therapy in rheumatoid arthritis. It may result in many infections flaring up. It is important to take precautions of all kinds (cardiovascular, malignancy, infections etc.) before starting tofacitinib. In this article, we have highlighted important steps where we need to take precautions before starting tofacitinib.

Key Words: Tofacitinib; Rheumatoid arthritis; DMARDs; Disease-modifying; Precaution; Side-effects

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Core Tip: Tofacitinib is a disease-modifying drug in rheumatoid arthritis. It has many side effects, especially in susceptible people. Before starting tofacitinib we must take precautions regarding cardiovascular status, infections and malignancy.

TO THE EDITOR

We read with interest the article by Lin *et al*^[1] where authors have reported one case report of recurrent herpes zoster (HZ) in rheumatoid arthritis (RA) patients treated with tofacitinib. We would like to highlight important aspects regarding tofacitinib, especially all the precautions to be taken before starting tofacitinib in cases of rheumatoid arthritis.³ Tofacitinib is a potent, selective Janus-associated kinase (JAK) inhibitor that preferentially inhibits JAK1 and JAK3. Tofacitinib exerts its mechanism of action by inhibiting intracellular cytoplasmic nonreceptor tyrosine kinase JAK enzymes, which participate in adaptive and innate immune responses in the process of immune-mediated inflammatory diseases^[2]. The incidence of herpes zoster is found to be higher with tofacitinib than in the general RA population^[3].¹ Tofacitinib increases the risk of HZ by which mechanism is not well understood but may be related to inhibition of interferon (IFN) signaling. Antiviral defenses depend on type I and II IFN signaling *via* the JAK/STAT pathway and it is inhibited by tofacitinib.⁶ Tofacitinib is United States Food and Drug Administration (FDA) approved drug for RA. Oral tofacitinib 5 mg twice daily² is indicated for the treatment of moderate to severe active rheumatoid arthritis in adult patients who have responded inadequately to, or who are intolerant of, one or more disease-modifying antirheumatic drugs (DMARDs). It can also be used in sequence with first-line therapy methotrexate or conventional DMARDS or can also be used as monotherapy for RA. Detailed precautions are listed in Table 1.

Screening for malignancy and cardiovascular diseases

⁴ FDA released an updated boxed warning in September 2021 regarding the increased risk of death, major adverse cardiovascular events, malignancies and thrombosis with JAK inhibitors compared with tumor necrosis factor inhibitors^[4,5]. Hence, before starting tofacitinib in a case of rheumatoid arthritis a doctor has to keep in mind those precautionary measures to avoid untoward adverse reactions or incidents.

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PRIMARY SOURCES

1	Kevin L. Winthrop, Jeffrey R. Curtis, Stephen Lindsey, Yoshiya Tanaka et al. "Herpes Zoster and Tofacitinib: Clinical Outcomes and the Risk of Concomitant Therapy", Arthritis & Rheumatology, 2017 <small>Crossref</small>	38 words — 8%
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