# Delayed hypersensitivity reaction after initial dose of infliximab: a case report

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**We report here an unusual case of delayed hypersensitivity reaction in a young woman with ulcerative colitis after the first administration of infliximab (IFX). The patient developed severe serum-sickness-like reaction, and her anti-IFX antibody titer increased rapidly after a single infusion of IFX. The possible reason for the delayed hypersensitivity reaction to a single IFX exposure might be the presensitization of the patient by murine antigens as she had been keeping mice and hamsters as pets for several years. *Eur J Gastroenterol Hepatol* 26:485–487 © 2014 Wolters Kluwer Health | Lippincott Williams & Wilkins.**

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## Introduction

Infliximab (IFX) is a chimeric murine–human IgG1 monoclonal antibody against tumor necrosis factor-α composed of human constant and murine variable regions. It represents a valuable drug in the treatment of a variety of immune-mediated diseases including inflammatory bowel disease (IBD). As a foreign protein, it has the potential to cause acute and delayed hypersensitivity reactions. We report here a case of unusual delayed hypersensitivity reaction after IFX initialization in a 20-year-old female patient with ulcerative colitis.

## Case report

A 20-year-old nonsmoking woman with steroid-dependent ulcerative pancolitis since 2001 presented at the IBD Centre of the Department of Internal Medicine, Division of Gastroenterology and Hepatology, University Hospital Bratislava. Her history revealed primary sclerosing cholangitis and seasonal allergic rhinoconjunctivitis. She did not tolerate the treatment with 5-aminosalicylates because of nausea and vomiting and developed acute pancreatitis to immune-suppressive treatment with azathioprine and cyclosporine. Because of steroid-dependent colitis, treatment with IFX was initiated. She was premedicated with 200 mg hydrocortisone and received her first IFX infusion at a dose of 5 mg/kg without acute complications. However, she was seen at the Emergency Unit 3 days later with a report of shivering, heart palpitations, nausea, vomiting, flu-like symptoms, rhinitis, and general weakness. She had no fever, headache, cough, or rash. Physical examination revealed pain in the left hypogastrium and right hemithorax. Blood tests showed modest leukocytosis ($10.6 \times 10^9$/l), neutrophilia ($8.3 \times 10^9$/l), elevated platelet count ($565 \times 10^9$/l), and relative lymphocytopenia (10.5%). Electrolytes, liver and renal function tests, amylase, myocardial-specific markers, C-reactive protein, and hemostatic parameters were all within the normal range. Her ECG at the time of examination and the chest radiograph were unremarkable. After a few hours of monitoring, her symptoms resolved and she was discharged. Over the next 2 days, she experienced several flares of shivering lasting a few minutes that disappeared spontaneously. Ten days later, she presented at the outpatient clinic in perfect health without any complaints. On further interrogation, she mentioned that she was keeping mice and hamsters as domestic pets and suffered bites and scratches from these animals at least once a month. Two weeks after the administration of IFX, anti-IFX antibodies (ATI) of the IgG group were assessed by Q-INFLIXI ELISA Quantitative Analyses (Matriks Biotek, Ankara, Turkey) and their levels were below the detection limit, whereas the levels of IFX were at a therapeutic concentration of 7.1 μg/ml. Four weeks later the level of IFX had decreased to 2.8 μg/ml with ATI increasing to 15.2 IU/ml. Because of continuous disease activity, treatment with adalimumab was initiated. The patient did not respond to adalimumab and therefore was continued on low-dose corticosteroids.

## Discussion

IFX therapy has proven its efficacy in the treatment of Crohn's disease and ulcerative colitis [1–3]. To date, several large series assessing the long-term safety profile of IFX in clinical practice have reported its overall good tolerance [4–7], but hypersensitivity reactions occur in 3–13% of patients [4,6,8,9]. Infusion reactions that occur within the first 24 h are classified as acute anaphylactic-like reactions and have also been described during or after the first administration. It is assumed that these reactions are mostly non-IgE-mediated and are a result of direct degranulation and activation of mast cells [10,11]. There

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