Pentatrichomonas hominis infection in rheumatoid arthritis treated with adalimumab

Sir, An increased risk of infection has been documented in patients with RA treated with biologics, especially TNF-α inhibitors (anti-TNF-α) [1]. Data on parasitic infections are scarce [1, 2]. Trichomonads are a group of flagellated protozoa. Four species infect humans: Trichomonas vaginalis, Trichomonas tenax, Dientamoeba fragilis and Pentatrichomonas hominis. Among these, only T. vaginalis is clearly pathogenic while the others exhibit a questionable pathogenicity [3]. P. hominis (formerly Trichomonas hominis or Trichomonas intestinalis) lives in the large intestine and cecum, where it is regarded as a commensal or hominis. Infection is usually asymptomatic in healthy and immunocompetent persons [3]. However, the pathogenicity of P. hominis is not widely accepted. Indeed, under certain unbalanced conditions in the digestive tract, this parasite is often identified in diarrhoeal stool [3, 4].

We describe herein a patient with a serious infection caused by P. hominis following adalimumab administration for RA. The patient consented to the publication of this article.

A 68-year-old French Caucasian man presented to our emergency department with fever, mucous diarrhoea, tenesmus and arthralgia. This patient had been on holiday in Burkina Faso for 8 days. His medical history was significant for cardiac arrhythmia treated with amiodarone and fluindione and RA treated with prednisone (10 mg/day), SSZ (2 g/day) and adalimumab (40 mg/2 weeks for ∼3 years). At the request of his rheumatologist, the patient received two doses of adalimumab at an interval of 1 week in order not to receive any injections in Africa during his holiday. The patient’s vital signs were stable except for a temperature of 39.8 °C (103.64 °F). His physical examination was remarkable for abdominal pain in the lower quadrants and active RA (DAS28 = 4.43). The remainder of the physical examination was unremarkable.

His complete blood cell count and basic metabolic panel were within normal limits, except for a white blood cell count of 17,600/mm³ (neutrophils 83%). CRP was 96 mg/l. Infectious disease testing (thick blood smears, Widal test, culture of blood, urine and stool) were globally negative. Stool specimens were only positive for trophozoites of P. hominis.

As this parasite is considered non-pathogenic, there are no treatment recommendations. However, imidazole derivatives may be effective [5]. The patient was treated with infusion of metronidazole 1500 mg/day, associated with symptomatic measures. The outcome was favourable in 2 days, with the disappearance of gastrointestinal symptoms and an improvement in joint symptoms (DAS28 = 2.59; CRP = 12).

Although a pathogenic impact of P. hominis is still discussed, it is known that this flagellate is the causative organism of abnormalities of the digestive tract like diarrhoea, dysentery-like disturbance, colitis, appendicitis and subhepatic abscess, but also empyema [4, 6, 7].

Our case report is unique in more ways than one. First, it provides new insight into the potentially pathogenic nature of P. hominis, especially when no other microbe is identified. However, controversy persists, with data in the literature that emphasize the non-pathogenic nature of this protozoan [3, 8], even in immunocompromised patients [8]. Like other flagellates, faecal–oral transmission of P. hominis involves the ingestion of contaminated food or water. The prevalence of this parasite is very low in developed countries [3], while it is higher (up to 39%) in subtropical and tropical zones [9]. However, because of the incubation period, we could not say absolutely if infection took place in Burkina Faso or France. Secondly, our observation lengthens the list of parasitoses that may occur during anti-TNF-α treatment, foremost of which is leishmaniasis [1]. As in our patient, these parasitic infections can be serious and require hospitalization [1, 10]. Thirdly, the immunosuppression associated with high-dose adalimumab could partly explain the pathogenicity of P. hominis. Otherwise, and newly found, higher disease activity is associated with a higher probability of developing infections. Indeed, each 0.6 U increase in DAS28 score corresponded to a 4% increased rate of outpatient infections and a 25% increased rate of infections requiring hospitalization [10]. However, the relationship between immunosuppression and P. hominis is not clearly established. Although extra-digestive involvement occurs in immunocompromised patients [6], cases in immunocompetent patients are also described [7].

To the best of our knowledge, this is the first documented case of infection caused by P. hominis in a patient with RA treated with adalimumab. Parasites considered non-pathogenic can cause serious infection, especially in patients treated with anti-TNF-α travelling in tropical areas. Prescription rules of biologics must be respected.

Rheumatology key message
- Parasites considered non-pathogenic can cause serious infection in patients treated with anti-TNF-α.
Disclosure statement: The authors have declared no conflicts of interest.

Christian Compaoré1, Fernando Kemta Lekpa2,*, Lucie Nebie3, Pascal Niamba4 and Ali Niakara3
1Rheumatology Department, Clinique du Cœur, Ouagadougou, Burkina Faso, 2Rheumatology Department, Center for Gerontology and Geriatrics, Dakar, Sénégal, 3Cardiology Department and 4Dermatology Department, Clinique du Cœur, Ouagadougou, Burkina Faso.
*Present address: Rheumatology Department General Hospital, Douala, Cameroon.
Accepted 9 November 2012
Correspondence to: Christian Compaoré, Clinique du Cœur, 01 BP 3371 Ouagadougou 01, Burkina Faso.
E-mail: aristidediarra@yahoo.fr

References


Rheumatology 2013;52:1535-1537
doi:10.1093/rheumatology/kes406
Advance Access publication 16 January 2013

Rituximab as effective treatment in a case of severe subcutaneous nodulosis in rheumatoid arthritis

Sir, Rheumatic nodules may occur in the lungs or subcutis of seropositive RA patients. Subcutaneous nodulosis is not a dangerous condition but—if present on the hands—may have an impact on their function, the patient’s daily activities and subsequently on quality of life as such.

Rituximab (RTX), initially an oncological drug, has become one of the designated rheumatological biologics. To date, only a few case reports have been published on the regression of pulmonary nodules following RTX therapy; a few others report on RTX for the treatment of sarcoidosis [1, 2].

We report on a 41–year-old woman who was diagnosed with seropositive RA elsewhere. At age 35, she first presented at our outpatient clinic displaying the clinical features of active disease despite ongoing DMARD therapy with MTX. Anti-CCP antibodies were low positive: 38 U/ml (<10) as well as RA33. In 2006—prior to any TNF-α therapy—she developed positive ANAs with positive anti-chromosomal antibodies and positive double-strain DNA antibodies, leading to the diagnosis of SLE overlap syndrome.

Due to radiological progression and the still active disease, a biologic treatment was suggested in 2006. We started infliximab (IFX) as an add-on to her ongoing MTX treatment, which was tolerated well but was discontinued again due to inefficacy. Afterwards, the patient was switched to etanercept (ETA), which led to clinical remission.

Apart from the affected joints, the patient suffered from severe skin nodulosis on both hands (Fig. 1a). Due to associated functional problems, she had already undergone five resections of these nodules in the past. However, the skin nodules always recurred; interestingly, the patient never developed nodulosis in the lung or in any other organ. Despite clinical remission, the skin nodules aggravated during ETA therapy, handicapping the patient in her daily activities; the HAQ deteriorated from 0.875 to 1.125. As a concomitant effect, the patient developed an increasing psychological problem, feeling unable to show her hands [3].

Radiological follow-up was performed via X-rays once a year from 2006 till 2008, then every 2 years. One single MRI of the right hand was performed and revealed several typical rheumatic nodules along with several erosions. Two further orthopaedic resections of nodules were performed during 2006/2007. All histological examinations showed granuloma with central necrosis, classified as typical rheumatic nodules.