**TABLE 1** Differences in clinical and laboratory characteristics between H. pylori-positive and H. pylori-negative SSc patients

<table>
<thead>
<tr>
<th></th>
<th>H. pylori-positive SSc patients (n = 26)</th>
<th>H. pylori-negative SSc patients (n = 16)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, a years</td>
<td>54.5 (13.4)</td>
<td>51.0 (14.8)</td>
<td>0.960</td>
</tr>
<tr>
<td>Female</td>
<td>23 (88.4)</td>
<td>15 (93.7)</td>
<td>0.128</td>
</tr>
<tr>
<td>SSC duration, b years</td>
<td>6 (1–12)</td>
<td>7 (1–13)</td>
<td>0.629</td>
</tr>
<tr>
<td>ANA (absent ACA and anti-Scl70) c</td>
<td>2 (7.6)</td>
<td>1 (6.25)</td>
<td>0.991</td>
</tr>
<tr>
<td>ACA c</td>
<td>9 (34.6)</td>
<td>6 (37.5)</td>
<td>0.098</td>
</tr>
<tr>
<td>Anti-Scl 70 c</td>
<td>15 (57.7)</td>
<td>10 (62.5)</td>
<td>0.060</td>
</tr>
<tr>
<td>Activity score b</td>
<td>4 (2–7)</td>
<td>2 (1–3)</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>Haemoglobin, a g/dl</td>
<td>13.3 (1.2)</td>
<td>13.4 (1.4)</td>
<td>0.456</td>
</tr>
<tr>
<td>Creatinine, a mg/dl</td>
<td>0.79 (0.17)</td>
<td>0.77 (0.11)</td>
<td>0.758</td>
</tr>
<tr>
<td>ESR (normal &lt;24 mm/h) b</td>
<td>28 (14–50)</td>
<td>23 (9–60)</td>
<td>0.955</td>
</tr>
<tr>
<td>mRSS a</td>
<td>17.6 (6.7)</td>
<td>9.5 (4.7)</td>
<td>&lt;0.001*</td>
</tr>
</tbody>
</table>

aValues expressed as mean (S.D.). bValues expressed as median with minimum–maximum range. cValue expressed as absolute number (%). *Mann–Whitney U-test. Anti-Scl70, anti-Scl70 antibodies.

the H. pylori infection is implicated in activity of SSc, especially in skin involvement of this disease. This study may indicate H. pylori infection as a possible cofactor in the development of SSc. We assume that the eradication of H. pylori may induce improvement of activity and skin involvement in SSc patients.

**Rheumatology key message**

- In SSc patients, H. pylori infection correlates with SSc activity and skin involvement.

**Disclosure statement:** The authors have declared no conflicts of interest.

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**References**


Onset of Wegener’s granulomatosis during therapy with golimumab for rheumatoid arthritis: a rare adverse event?

Sir, Efficacy of anti-TNF agents is well established in rheumatic conditions. Adverse events associated with anti-TNF therapy include infections, malignancies and autoimmune disorders. Post-marketing surveillance is
important to detect rare adverse events and has suggested a link between anti-TNF agents and vasculitis [1]. Herein, we report a case of WG developing during therapy with golimumab in a clinical trial.

A 58-year-old woman, with a 9-year history of seronegative erosive RA, presented with 3 weeks of productive cough and shortness of breath. Treatment with antibiotics failed to resolve her symptoms. Over the next 3 weeks she developed haemoptysis, blocked and painful sinuses, night sweats, lethargy and fevers. She denied skin rash, mouth ulcers, haematuria or epistaxis. Her RA had been successfully treated with subcutaneous golimumab 100 mg, 4 weekly for 3 years, with the last injection 2 weeks before admission.

She had 15 pack-years of smoking history but had stopped 7 years previously. Both her father and sister had received treatment for tuberculosis. The patient had negative Mantoux and QuantiFERON gold tests and a normal chest X-ray before commencing golimumab.

On examination, she had spiking temperature up to 39°C. Oxygen saturation was 95%. There was a small blister on the dorsum of the right second MCP joint. There were scattered crepitations at both lung bases. There was no synovitis.

Investigations revealed CRP 320 mg/l (normal <5 mg/dL). Creatinine was 92 mmol/l and urinalysis was unremarkable. White cell count was 12.9 × 10⁹/l with mildly elevated neutrophils of 9.2 × 10⁹/l. Multiple sets of blood cultures were negative. There were no acid-fast bacilli (AFB) on three early morning sputums and Mantoux was negative. Mycoplasma serology was negative. Chest X-rays revealed a rounded opacity within the right upper lobe with an air fluid level. CT of chest confirmed numerous cavitating nodules through both lungs (Fig. 1A and B).

Bronchoscopy showed inflamed airways with small nodules in the trachea and main bronchi. Bronchial washings were negative for malignant cells, *Pneumocystis jirovecii*, AFB, yeast and fungi. Herpes simplex PCR was negative. Anti-PR-3 was positive at 1666 U/ml. Histology of the tracheal nodules showed extensive infarction and inflammation with necrotizing vasculitis (Fig. 1C and D).

WG was diagnosed based on clinical features, positive PR3-ANCA and histology. Golimumab was discontinued and prednisone 60 mg/day was commenced with good response. She had a mild relapse of nasal symptoms at 4 months on prednisone 10 mg/day, which promptly resolved when the dose was increased. Chest X-rays at 4 months showed extensive resolution of pulmonary opacities. At 8 months, she was doing well on prednisone 25 mg daily and MTX was commenced.

As the number of patients exposed to anti-TNF agents increases, rarer adverse events become apparent. There are increasing reports of autoimmune conditions including SLE, cutaneous vasculitis, autoimmune hepatitis, uveitis, psoriasis, sarcoidosis and ANCA-associated vasculitis (AAV) developing during anti-TNF therapy [1–4]. This is the first report of AAV occurring during golimumab therapy.

AAVs developing with anti-TNF therapy have included necrotizing glomerulonephritis [5, 6]. However, classical WG has not previously been described. While it is possible to detect rare adverse events and has suggested a link between anti-TNF agents and vasculitis [1], there are increasing reports of autoimmune conditions including SLE, cutaneous vasculitis, autoimmune hepatitis, uveitis, psoriasis, sarcoidosis and ANCA-associated vasculitis (AAV) developing during anti-TNF therapy [1–4]. This is the first report of AAV occurring during golimumab therapy.

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that the development of WG was coincidental, particularly
given the long time the patient had been receiving golimumab, the increasing reports of AAV with all anti-TNF agents mean the possibility of a causal relationship must be considered. It is also noteworthy that cases of classic WG with RA or erosive polyarthritis were reported before the era of anti-TNF agents [7, 8].

The clinical manifestations of drug-induced AAV and primary AAV are similar, ranging from mild non-specific symptoms to life-threatening organ involvement. The diagnosis of drug-induced AAV can be challenging due to variable duration between commencement of the implicated drug and onset of symptoms and other conditions that can mimic vasculitis. Infection is of particular concern in patients receiving anti-TNF therapy. It has been suggested that patients should fulfill the Chapel Hill Consensus criteria [9] as well as the following for diagnosis of drug-induced AAV: (i) vasculitis onset temporally related to offending drug; (ii) positive ANCA; and (iii) vasculitis mimics are excluded [10]. In our patient, the clinical presentation, strongly positive ANCA and necrotizing vasculitis on biopsy, along with exclusion of infection and presence of a class of drug reported to be associated with AAV all supported the diagnosis.

Like other drug-induced vasculitides, cessation of anti-TNF therapy can lead to improvement, although most will require additional immunosuppression with steroids [1]. More intensive immunosuppression with cyclophosphamide or AZA has been required in some cases [5, 6]. In patients rechallenged with anti-TNF therapy, 75% have recurrence or worsening of symptoms [3]. In our case, cyclophosphamide was not given as the patient responded promptly to cessation of golimumab and addition of prednisone.

In summary, there are increasing case reports of AAV developing during anti-TNF therapy. Infection and systemic vasculitis can present with a similar clinical picture; clinicians should remain open to the possibility of anti-TNF-induced vasculitis.

**Rheumatology key message**

- Anti-TNF therapy may be associated with the onset of vasculitis.

Disclosure statement: M.U.R. is an employee of Johnson & Johnson and owns Johnson & Johnson stocks. D.C. has received research support from Centocor. All other authors have declared no conflicts of interest.

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Accepted 2 March 2010
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Rheumatology 2010;49:1787–1789
doi:10.1093/rheumatology/keq132
Advance Access publication 30 April 2010

**Maternal exposure to lefunomide and methotrexate in a patient with adult-onset Still’s disease**

Sir, We report the case of a 23-year-old woman with adult-onset Still’s disease (AOSD) who became pregnant while taking LEF and MTX. LEF was stopped after 7 weeks and MTX was stopped after 3 weeks of gestation according to the last menstrual period.

She had been diagnosed with AOSD 4 years before admission. Previous treatment included prednisolone, HCQ and NSAID. Her disease was poorly controlled until MTX (20 mg/week) was started in February 2008. Since disease activity could not be controlled, LEF 20 mg/day was added to the treatment in November 2008. Before starting the drugs, the patient was counselled specifically...