Multiple Sclerosis and Related Disorders 7 (2016) 83–84

Contents lists available at ScienceDirect

Multiple Sclerosis and Related Disorders

journal homepage: www.elsevier.com/locate/msard

Case report

Pancolitis a novel early complication of Alemtuzumab for MS treatment

Nirosen Vijiaratnam *, Louise Rath, San San Xu, Olga Skibina

Neurosciences, The Alfred, Melbourne, Victoria 3004, Australia

ARTICLE INFO

Article history:
Received 16 February 2016
Received in revised form
7 March 2016
Accepted 28 March 2016

Keywords:
Multiple sclerosis
Alemtuzumab
Complications
Infections

ABSTRACT

The growing range of effective therapies for relapsing remitting multiple sclerosis (RRMS) brings with it a wider range of possible complications requiring broader considerations and greater vigilance. Alemtuzumab is a humanized monoclonal antibody against CD52 that is highly effective in the treatment of RRMS and approved in many countries around the world. We describe a case presenting with a complication not previously seen.

1. Case description

A 47 year old Caucasian male with a history of Relapsing Remitting Multiple Sclerosis (RRMS) presented 8 hours post day 4 of 5 of alemtuzumab (Lemtrada) first year infusion (12 mg/100mls) with abdominal cramps, fevers, rigors and profuse diarrhoea, with subsequent rectal bleeding. There was no suggestion of food poisoning.

He was diagnosed with RRMS in 2008. Prior treatment includes interferon beta 1b (Betaferon), fingolimod (Gilenya) and natiluzumab for 2 years which was ceased 6 weeks prior due to a high John Cunningham virus antibody titre (3.52). He travelled to India during the natiluzumab (Tysabri) washout period and returned to Australia 3 weeks prior to commencing alemtuzumab. During the trip he suffered self-remitting diarrhoea and was asymptomatic on return to Australia. He was on Valacyclovir prophylaxis as per our Alemtuzumab treatment protocol.

On examination he was febrile T39.5 and tachycardic HR 104bpm O2 sat 98% BP 150/90. He was distressed with generalised abdominal tenderness but normal bowel sounds. The neurological examination was baseline and his cardiovascular and respiratory examination was unremarkable. Initial blood results revealed a marked elevation in the C-reactive protein of 172 mg/L (0-5), a lymphocyte count at 0.1 × 109/L (0.9-3.30) and a neutrophil count of 8.42×10^9/L He had a mild drop in his haemoglobin 127 g/L (128–175) and platelet count at 135×10^9/L (128–175). Faecal microscopy and culture was negative as was Clostridium difficile toxin. His blood culture grew extended spectrum beta-lactamase producing Escherichia coli (ESBLEC). His chest x-ray was normal. His computed tomography of the abdomen and pelvis showed collapsed colon and mural thickening with increased mucosal enhancement consistent with a pancolitis.

He was treated initially on intravenous hydrocortisone and tazocin and subsequently changed to meropenem. His bowels returned to normal within 3 days. He was discharged 7 days after admission with 4 days of intravenous ertapenem. His treatment cycle with alemtuzumab was concluded after 4 days with the assumption lymphopenia implied a treatment response.

2. Discussion

The new age of monoclonal antibodies in the treatment of RRMS brings with it the exciting prospect of halting disease progression and possibly disease regression. Alemtuzumab is a humanized monoclonal antibody against CD52. It has been shown to be effective treatment in newly diagnosed and treatment refractory patients (Cohen et al., 2012; Coles et al., 2012). This case does however serve to remind us that with the growing range of effective and potent treatment comes a wider range of possible side effects and complications, which requires a broader range of considerations on the part of the clinician.

Colitis has not been described with alemtuzumab. Causes of colitis include, an allergic reaction, inflammation, infections,

* Correspondence to: Neurosciences, Level 4 Central Block, Alfred Hospital, Commercial Road, Melbourne 3004, Australia.
E-mail addresses: nirosenv@gmail.com (N. Vijiaratnam), L.Rath@alfred.org.au (L. Rath), sansxu@gmail.com (S.S. Xu), o.skibina@alfred.org.au (O. Skibina).

http://dx.doi.org/10.1016/j.msard.2016.03.014
2211-0348/

ischemia and a microscopic colitis. Whilst an inflammatory colitis is a possibility, the timing of onset and the quick and enduring improvement from a short burst of steroids would make this less likely. An infective ESBLEC colitis and subsequent sepsis in the setting of immunosuppression is another possibility. He didn't however have ESBLEC grown in his stool. Also, ESBLEC colitis has never been described. The lack of pertinent findings on arterial phase CT makes ischemic colitis unlikely. The reaction occurring after a few doses makes initial sensitization with a subsequent allergic reaction a possibility. The lack of other systemic features would however be unusual. Microscopic colitis tends to present with chronic diarrhoea making it unlikely. We would favour the possibility of an allergic reaction causing colitis with transmigration of ESBLEC into the systemic circulation and resultant sepsis. Faecal carriage of ESBLEC has been noted. (Rodriguez-Bano et al., 2008) The quick response to steroids and intravenous antibiotics supports this. This is an interesting case, which we hope will add to the considerations of the clinician in an increasingly complex treatment paradigm.

Author Contributions

Nirosen Vijiaratnam, paper concept and design, writing and revision of manuscript.

Louise Rath, acquisition of data, writing of manuscript.

San San Xu, acquisition of data.

Olga Skibina, paper concept and design, revision of manuscript.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests

There are no competing interests.

Author disclosures

Nirosen Vijiaratnam – unconditional educational grants from Ipsen & Biogen and travel grants from Ipsen & Abbvie.

Louise Rath – travel grants from Biogen & Novatis and Speakers Honorarium from Biogen, Novartis & Genzyme.

San San Xu – Reports no disclosure.

Olga Skibina – research grant from Biogen, Travel grants from Biogen, Novartis & Bayer and Speakers Honorarium from Bayer, Biogen, Genzyme & Novartis.

Co-investigators

Nil.

Acknowledgement

Nil.

References

Cohen, J.A., Coles, A.J., Arnold, D.L., et al., 2012. Alemtuzumab versus interferon beta 1a as first-line treatment for patients with relapsing-remitting multiple sclerosis: a randomised controlled phase 3 trial. Lancet 380, 1819–1828.

Coles, A.J., Twyman, C.L., Arnold, D.L., et al., 2012. Alemtuzumab for patients with relapsing remitting multiple sclerosis after disease-modefying therapy: a randomised controlled phase 3 trail. Lancet 380, 1829–1839.

Rodriguez-Bano, J., Lopez-Cereo, L., Navarro, M.D., et al., 2008. Faecal carriage of extended –spectrum B-lactamase producing Escherichia coli: prevalence, risk factors and molecular epidemiology. J. Antimicrob. Chemother. 62, 1142–1149.