Letter to Editor

Selective immunoglobulin M deficiency and terminal ileitis due to yersinia enterocolitica infection: a clinically interesting coexistence

Abstract

Selective IgM deficiency is a rare type of dysgammaglobulinemia characterized by low levels of serum IgM and repeated multisystemic infections. Yersiniosis is a food-borne disease that has become more prevalent recently due to human transmission via the fecal-oral route and its occurrence in farm animals. No clinically obvious development of Yersiniosis in patients with selective IgM deficiency has been described so far. The present report describes a patient with selective IgM deficiency who presented with repeated microbial infections and terminal ileitis due to Yersinia infestation.

Keywords: terminal ileitis, yersinia enterocolitica, immunoglobulin M deficiency

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Introduction

Selective IgM deficiency is a rare type of dysgammaglobulinemia characterized by low levels of serum IgM and repeated multisystemic infections. Yersiniosis is a food-borne disease that has become more prevalent recently due to human transmission via the fecal-oral route and its occurrence in farm animals. No clinically obvious development of Yersiniosis in patients with selective IgM deficiency has been described so far. The present report describes a patient with selective IgM deficiency who presented with repeated microbial infections and terminal ileitis due to Yersinia infestation.[1] A male patient, aged 40, was admitted to our Unit in order to further investigate a recently diagnosed terminal ileitis. His medical history started on nine months ago with 2-3 watery diarrheas daily, without blood or mucus. Furthermore, he had experienced frequent attacks of acute febrile tonsillitis and sinusitis over the last two years. A total colonoscopy with ileoscopy revealed the presence of aphthous ulcers in the mucosa of the terminal ileum. Histology indicated infiltration of the lamina propria by plasmacytes, lymphocytes and neutrophils, erosing the surface epithelium. Mild edema and hyperplasia of goblet cells were also present. Stool cultures and examination for parasites and ova were negative. Liver and renal function tests were normal.

The working diagnosis was terminal ileitis of unknown origin. An examination for possible infection with Yersinia enterocolitica revealed 5 IgG and 3 IgA serum YOP antigens positive (Western Blot Analysis - Athens Pasteur Institute) (Table 1). The test is considered positive if at least three IgG or two IgA bands are seen in immunoblotting at a level greater than 10% (IgG) or 5% (IgA) of reference standards).[2] Serum immunoglobulin estimation showed normal IgG and IgA levels but very low levels of IgM. Further studies concerning adaptive and innate immunity and serum auto-antibodies were normal. A head and chest CT scan was performed revealing chronic rhino-sinusitis. Based on these findings, the diagnosis of terminal ileitis due to infection with Yersinia enterocolitica was made. The repeated bouts of sinusitis and tonsillitis were attributed to the patient's immunological defect caused by the coexistent selective immunoglobulin M deficiency.[3] The patient was started on ciprofloxacin per.os (500 mg twice daily for three weeks) with total resolution of bowel symptoms. Nine months later, he is in perfect clinical condition. The diagnosis of selective IgM deficiency was based on the low levels of IgM whereas Yersiniosis was evident by the positive results of serum IgG and IgA antibodies against Yersinia enterocolitica and Yersinia pseudotuberculosis outer membrane proteins (Yop proteins).[4] Thus, this patient represents the first description of Yersinia enterocolitica infection with terminal ileitis coexisting with selective IgM deficiency. We suggest that selective IgM deficiency could be combined with terminal ileitis due to Yersiniosis infection. A search for the presence of Yersinia YOP serum antibodies using Western Blot technique should be performed in selected cases.

Table 1 Serum antibodies against Yersinia enterocolitica and Yersinia pseudotuberculosis (Western Blot analysis)

Antibodies against proteins	Size of proteins (Kd)	IgG ANTIBODIES	IgA Antibodies
Yop M (2a)	46	Positive	Positive
Yop H (2b)	44	[-]	[-]
Lor V (V antigen)	38	Positive	Positive
Yop D (4a)	36	Positive	Positive
Yop N (4b)	34	Positive	[-]
Yop P (3o)	30	[-]	[-]
Yop E -5	25	Positive	[-]

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None.

Conflicts of interest

The author declares there is no conflict of interest.

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