EOSINOPHILIC GASTROENTERITIS DIMETHYLFUMARATE INDUCED: A CASE REPORT

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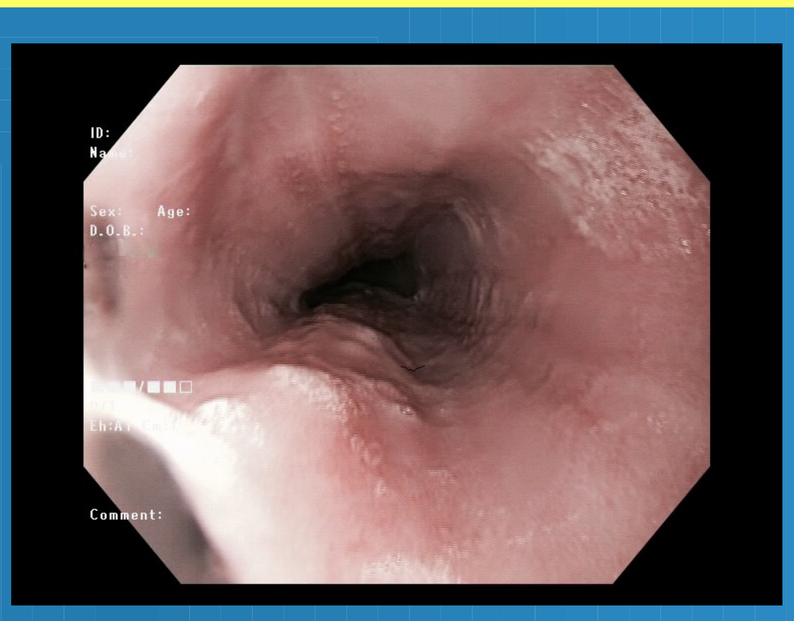
Introduction

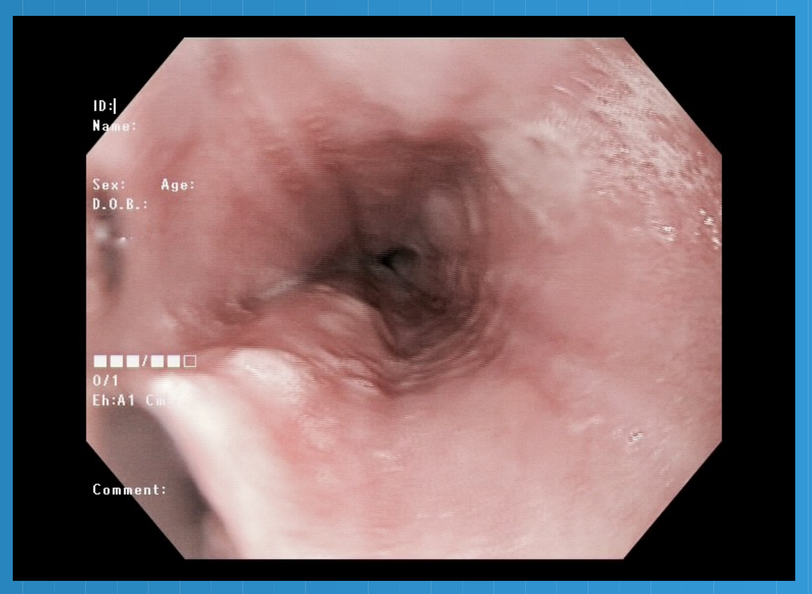
Dimethylfumarate (DMF) is indicated for the treatment of relapsing multiple sclerosis and may exert therapeutic effects via activation of the nuclear factor (erythroid-derived 2)-like 2 (NRF2) pathway[1].Its use is associated with some side effects, including gastrointestinal (GI) symptoms. These symptoms are mostly nonspecific and do not typically require additional routine examinations. We report a case of young woman, who experienced with eosinophilic gastroenteritis (EGE), during DMF treatment. EGE is diagnosed by the presence of gastrointestinal symptoms, biopsies showing predominant eosinophilic infiltration, and the absence of allergic, parasitic or other diseases that may cause eosinophilia[2].

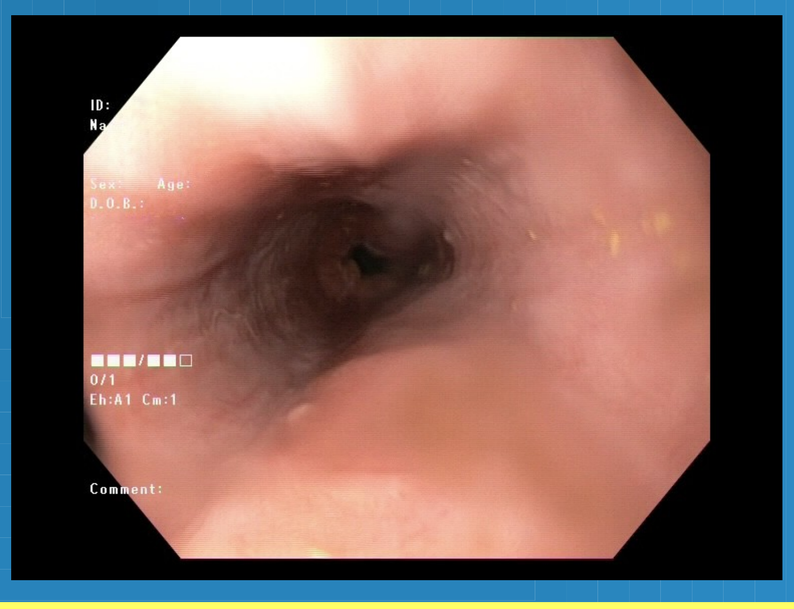
Case report

A young woman affected by multiple sclerosis in dimethylfumarate treatment from 3 months, was admitted to our departement complaining with diarrhea, vomiting, nausea and abdominal pain. Family and medical history were not contributive, except for allergic diathesis. Laboratory test put out marked hypereosinophilia (3067/mm3; 31,9%); celiac antibodies were negative. Prior to the start of this treatment, she was free from any GI problems and her complete blood count (CBC) was normal. We excluded parasitic infestation and also checked the patient's history to exclude recent ingestion of potentially allergenic drugs or food. Because of this she underwent gastroscopy which showed eosinophilic esophagitis with withis exudates; biopsy samples were taken, histologic examination showed edema and congestion of duodenal mucosa; at stomach framework of a mild chronic gastritis and at interstitial chronic infiammation, with increase on the proportion of eosinophils (13 per high power field).Therefore we decided to discontinue DMF treatment. After five days from interruption, clinical symptoms disappeared, laboratory test showed mild hypereosinophilia (880/mm3; 14,9%) and normalization after a week. Control gastroscopy after one month showed no macroscopically pathologic picture persisting microscopically lighter proportion of eosinophils (10 per high power field): this inflammatory aspect normalized after one year.



…after one month…





…after one year…

Discussion

In literature only one case of association between DMF e EGE in a young woman with history of celiac disease was described[3], even if is already known that DMF is associated with gastrointestinal side effects, such as nausea, diarrhea, abdominal pain, and dyspepsia. In our case there was a rapid clinical recovery and an evident dissociation between the time of normalization of haematologic and histologic data. Although the correlation between hypereosinophilia and DMF is clear, the underlying mechanisms for a faster blood normalization than the gastric mucosa infiltration are unclear: this may be related to a non-well-defined pharmacodynamic of DMF.

References:
1.Ruggieri S, Tortorella C, Gasperini C. Pharmacology and clinical efficacy of dimethyl fumarate (BG-12) for treatment of relapsing-remitting multiple sclerosis. Ther Clin Risk Manag (2014);10:229–239
2.Brennan MS1,2, Matos MF1, Richter KE1, Li B1, Scannevin RH1 The NRF2 transcriptional target, OSGIN1, contributes to monomethyl fumarate-mediated cytoprotection in human astrocytes. Sci Rep. (2017) Feb 9;7:42054. doi: 10.1038/srep42054.
3.Flaminia Purchiaroni, MD, Marco Salvetti, MD Maria Chiara Buscarinu, MD Bruno Annibale, MD; eosinophilic gastroenteritis in a woman with multiple sclerosis on dimethyl fumarate; Published Ahead of Print on July 27, 2016 as 10.1212/WNL.0000000000003045

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