EFFICACY AND SAFETY OF ORAL DIMETHYL FUMARATE TREATMENT IN PATIENTS WITH RELAPSING-REMITTING MULTIPLE SCLEROSIS: THE CHIETI EXPERIENCE

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BACKGROUND: Multiple Sclerosis (MS) is a chronic disease of the Central Nervous System (CNS), characterized by demyelination and axonal degeneration, producing focal lesions of white and gray matter, caused by inflammation and associated oxidative stress. A new oral drug, Dimethyl Fumarate (DMF), has recently been approved for the treatment of relapsing-remitting MS (RR-MS) (Fig.1). It has anti-inflammatory and potentially cytoprotective effects. It reduces relapses (1), new lesion counts and lesion load assessed by MRI (2). Frequent side effects include flushing and gastrointestinal events. In addition, recently a case of Progressive Multifocal Leukoencephalopathy was reported in a patient treated with DMF (3).

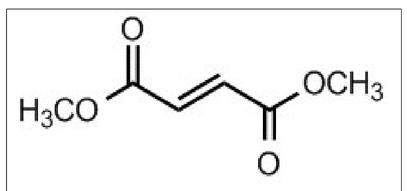
OBJECTIVE: to evaluate short term safety, tolerability and initial efficacy of oral DMF 240mg bid in RR-MS patients in everyday clinical practice.

METHODS: we enrolled 25 patients (Fig.2), naïve or switching from other Disease Modifying Drugs (DMD), treated with DMF 240 mg bid, according to clinical practice. MS was diagnosed according to 2010 revised McDonald's criteria. Clinical data were collected prospectively using the iMed database. All patients were evaluated at baseline and one, three, 6 months. Brain and Spinal cord MRI was performed after six months.

RESULTS: Of 25 patients, 9 male e 16 female, 16% was naïve, 72% had been previously treated with Interferon beta, 8% with Fingolimod, 4% with Methotrexate and 4% with Teriflunomide (Fig.3). Discontinuation of previous treatment was due to loss of efficacy (48%) or lack of tolerability (24%) (Fig.4). At baseline, mean age was 40,4 ±11,1 years, duration of disease was 128,7 ± 97,7 months. Mean EDSS was 2,5 ± 1,7. 52% of patients has no side effects. Most frequent side effects are flushing (48%), gastrointestinal symptoms (28%), lymphopenia (4%), lymphoadenopathy (4%) (Fig.5). The most disturbing symptoms are GI. 1 patient had to prolongue the titration period due to side effects. All patients treated for six month showed stable MRI compared to the previous. No MRI showed contrast enhancement.

CONCLUSION AND DISCUSSION: DMF has been well tolerated by the majority of naïve patients and patients switching from injectable drugs. Adverse events were mild in the majority of cases. We confirm that DMF is a good alternative to first line injectable therapies. Monitoring anti-JCV serostatus before starting therapy and the differential count of white blood cells after starting treatment might be advisable until more will be known about PML risk in DMF treated patients.
Our data is limited to a small number of patients. In the next months data on a larger group of patients with a longer follow-up will be collected and analyzed.

Figure 1.



dimethyl fumarate (BG-12)

Caratteristiche del campione	
Sesso	64%F, 36%M
Età	40,44 ± 11,13
EDSS pre-tp	2,5 + 1,7
Durata malattia	128,76 + 97.80
Attività RM pre-tp	56% no, 44% sì
Ricadute ultimi due anni pre-tp	1,36 + 0,95
Durata terapia	3,64 + 4,04
EDSS post-tp (3 mesi)	2,5 + 1,7
Ricadute post-tp (3 mesi)	0%

Figure 2.

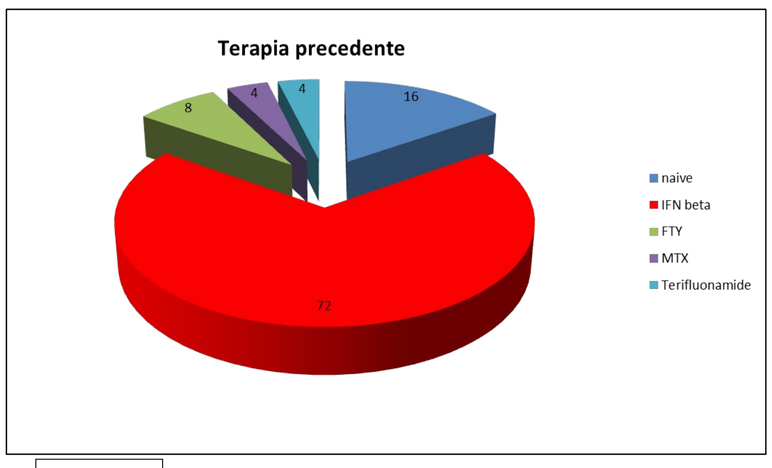


Figure 3.

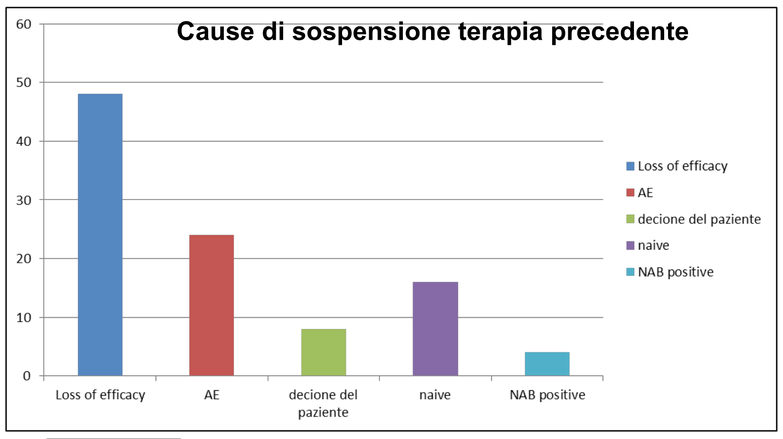


Figure 4.

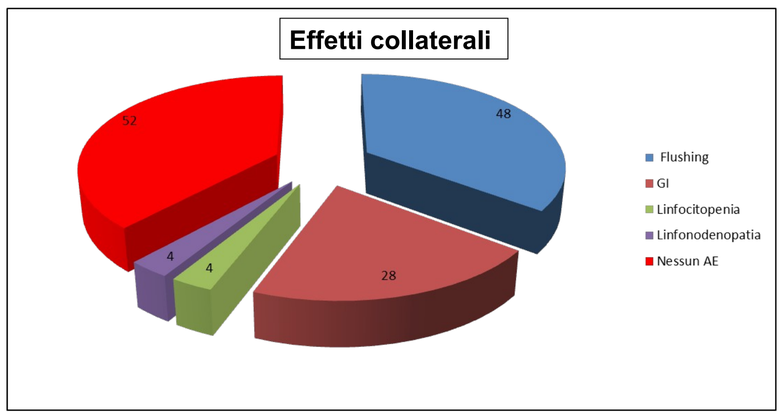


Figure 5.

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