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Budapest, Hungary

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Abstracts of the 9th Congress of the European Academy of Neurology

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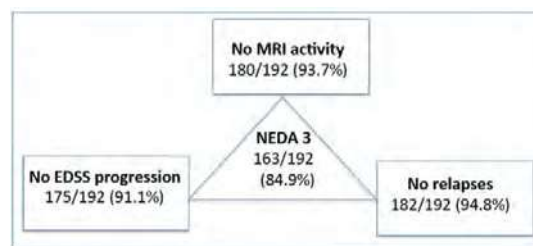
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while the short protocol administration, used for 279 (66.8%) patients, was not related.

	Total MS patients (421)		RRMS		
	PPMS (33)	RRMS (388)	Naïve (67; 17.3%)	Switchers from I <sup>o</sup> line DMTs (199; 51.3%)	Switchers from II <sup>o</sup> line DMTs (122; 31.4%)
Male Gender	17 (51.5%)**	132 (34%)	30 (44.7%)	62 (31.1%)	40 (32.8%)*
Age at OCR initiation (years)	53.0 ± 9.0**	42.4 ± 10.1	40.1 ± 10.8	43.7 ± 10.4	41.7 ± 9.1
MS duration at OCR initiation (years)	16.2 ± 11.7*	13.1 ± 8.6	3.9 ± 6.2	13.6 ± 8.4	16.0 ± 6.6
EDSS score at OCR initiation	6.1 ± 0.9**	3.3 ± 2.2	2.4 ± 1.7*	3.5 ± 2.2	3.3 ± 2.2
OCR exposition (months)	22.4 ± 11.1	25 ± 15.3	23.5 ± 11.8	25.6 ± 17.6	24.7 ± 12.9

Demographic and clinical features of progressive and relapsing remitting patients exposed to ocrelizumab, categorized as naïve or switchers from I<sup>o</sup> and II<sup>o</sup> line DMTs.



Different components of NEDA 3 status at 24 months of OCR exposure (192 MS patients)

	NEDA 3				
	B	Sig.	Exp(B)	95% C.I. for EXP(B)	
				Lower	Upper
Age at OCR initiation (ys)	-0.048	<b>0.058</b>	,953	,906	1,002
ARR in the year prior OCR	-0.653	<b>0.005</b>	,520	,332	,817
MS duration	0.024	0.417	1,024	,966	1,086
EDSS at baseline	0.055	0.624	1,057	,847	1,318
Naïve	0.438	0.476	1,549	,464	5,167

Predictors of therapeutic response of MS patients exposed to 24 months of OCR (192 subjects)

**Conclusion:** OCR is confirmed as a high efficacy option for naïve and switchers patients. Further real-world data are needed to understand its efficacy and safety in different patients' groups.

**Disclosure:** Mellino P has received travel grants from Sanofi. Loreface L, Frau J, Coghe G and Cocco E, have received honoraria for consultancy or speaking from Biogen, Novartis, Sanofi Genzyme, Serono, Teva, and Almirall. Pilotto S. has received travel grants from Biogen, Teva and Bristol Myers Squibb. Barracciu M has nothing to disclose.

## EPO-498

### Transorbital Ultrasound for Morphological and Haemodynamical Assessment of Optic Nerve in Multiple Sclerosis

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**Background and aims:** Changes of the optic nerve (ON) reflect the overall pathology in multiple sclerosis (MS). Transorbital ultrasonography (TOUS) is a promising tool for detecting ON changes after exposure to optic neuritis. We aimed to explore ON haemodynamic in addition to morphological changes in a sample of MS patients.

**Methods:** Sixty-seven MS patients (Thompson diagnostic criteria) were included in this preliminary study: 53 women and 14 men aged 41.6 (11.3) and 40.1 (11.0) (p=ns) years. EDSS score was 0-2.5 in 47 (70.1%) and >2.5 in 20 (14.9%) subjects. ANCOVA was used to investigate the association between US morphological (ON diameter (OND) at 3 and 5 mm from papilla, ON sheath diameter (ONSD) at 3 mm from papilla and myelination index (MI) ratio), a history of optic neuritis, controlling for sex and EDSS.

**Results:** Out of 134 eyes no history of optic neuritis was recorded in 89 (66.4%), while at least 1 episode was recorded for 45 (33.6%). A higher proportion of affected eyes among women (86.4%) than men (13.6%) was observed (p=ns). OND – at 5 mm from papilla especially - and ONSD at 3 mm were significantly reduced in ONs with optic neuritis. MI ratios were higher in affected vs unaffected eyes. Mean ON diameters were lower in patients with higher EDSS score, irrespective of history optic neuritis. Mean flow velocity was reduced in affected eyes for all principal arteries explored.

**Conclusion:** TOUS and Doppler US examination can detect ON changes in MS, showing potential for prognostic marker.

**Disclosure:** The authors have nothing to disclose.

Table 1

US parameters	Marginal means (95% CIs)		p <sup>a</sup>
	Eye with optic neuritis	Unaffected fellow eyes	
OND3 (mm)	2.87 (2.78, 2.96)	2.99 (2.93, 3.05)	<b>0.031</b>
ONSD3 (mm)	4.47 (4.33, 4.61)	4.56 (4.46, 4.65)	0.266
ONSD5 (mm)	4.77 (4.60, 4.93)	4.88 (4.76, 4.99)	<b>0.030</b>
MI ratio (mm)	0.940 (0.928, 0.952)	0.937 (0.928, 0.945)	<b>0.009</b>
OA MFV (cm/sec)	18.97 (17.33, 20.61)	19.50 (18.35, 20.66)	<b>0.008</b>
CRA MFV (cm/sec)	7.47 (6.97, 7.97)	7.75 (7.40, 8.10)	<b>0.473</b>
PCA MFV (cm/sec)	17.44 (15.80, 19.09)	18.66 (17.50, 19.82)	<b>0.522</b>

<sup>a</sup>ANCOVA: dependent variables history of ON is the fixed factor; covariates: sex, EDSS (0-2.5 vs >2.5).  
 ES=Ultrasound; ON=optic nerve; OND3=ON diameter at 3mm from papilla; ONSD3= ON sheath diameter at 3mm from papilla; ONSD5= ON sheath diameter at 5mm from papilla; MI=myelination index; OA=Ophthalmic Artery; CRA=central retinal artery; PCA=posterior ciliary artery; MFV=mean flow velocity.

## EPO-499

### Family Functioning and Multiple Sclerosis: preliminary data of a multicentric Italian project

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**Background and aims:** Multiple Sclerosis (MS) may influence family functioning, with effects on both marital relationships and parental bonding. Our aim is to evaluate family functioning and related factors in patients with MS and their families.

**Methods:** A dedicated platform has been used for filling in the questionnaires for MS patients and their families. As controls, we selected families with no subjects referring chronic diseases. Socio-demographic and clinical information were preliminary collected. Administered questionnaires included: (1) the short form of the Family Assessment Measure Third Edition (FAM3); (2) the Hospital Anxiety and Depression Scale (HADS); (3) the Multidimensional Scale of Perceived Social Support (MSPSS); Dyadic Adjustment Scale (DAS) and the Inventory of Parent and Peer Attachment (IPPA).

**Results:** 129 MS patients, 93 family members (21 aged between 13 and 20 years), and 210 control subjects (100 aged between 13 and 20 years) completed the online

questionnaires. Sociodemographic characteristics are displayed in table 1. MS family members showed to be more anxious than control subjects (p= 0.0016) and MS partners had a higher degree of dyadic agreement (on finances, leisure time, home organization) than control subjects (p= 0.0167). Young people with age between 13 and 20 years, who have at least one member with MS in their family, had higher quality attachments with significant others (both parents and peers), as assessed with the IPPA (Table 2).

**Conclusion:** MS may affect the psychological state and family functioning by making MS family members more anxious, but also make more compliant partners and mature adolescents.

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		MS patients		MS family members		MS family partners		HC With age between 13 and 20 years old		HC With age over 21 years old	
		No.129	No.93	No.93	No.100	No.100	No.110				
Sex	Female, n (%)	91 (70.54%)	80 (86.02%)	72 (77.34%)	77 (77.00%)	77 (77.00%)	77 (77.00%)	77 (77.00%)	77 (77.00%)	77 (77.00%)	77 (77.00%)
Age	Mean (SD)	41.40 (11.60)	33.76 (9.43)	44.70 (10.00)	44.70 (10.00)	44.70 (10.00)	44.70 (10.00)	44.70 (10.00)	44.70 (10.00)	44.70 (10.00)	44.70 (10.00)
Years of schooling	Mean (SD)	14.04 (2.07)	13.72 (2.32)	14.82 (1.87)	14.82 (1.87)	14.82 (1.87)	14.82 (1.87)	14.82 (1.87)	14.82 (1.87)	14.82 (1.87)	14.82 (1.87)
EDSS	Median (IQR)	1 (0.5)	1 (0.5)	1 (0.5)	1 (0.5)	1 (0.5)	1 (0.5)	1 (0.5)	1 (0.5)	1 (0.5)	1 (0.5)
Percentage of MS patients and MS family members who had children		4 (3.1)	46 (49.32%)	1	36 (39.47%)	1	1	1	1	1	1
Percentage of MS patients and MS family members who are cognitively MS, multiple sclerosis; HC, healthy controls; PDETS, Patients-derestrained Disease Steps.		1 (0.7)	101 (107.66%)	41 (44.09%)	24 (25.81%)	..	..	..	..	..	..

Table 1. Sociodemographic characteristics of MS patients and their family members and partners.

		MS patients		MS family members		MS partners		HC Aged from 12 to 20 years		HC Aged over 21 years old		F
		No.129	No.93	No.93	No.100	No.100						
HADS	Mean (SD)	7.76 (4.90)	6.62 (4.72)	7.53 (4.86)	6.64 (4.71)	6.64 (4.71)	6.64 (4.71)	6.64 (4.71)	6.64 (4.71)	6.64 (4.71)	6.64 (4.71)	0.0016
MSPSS	Mean (SD)	240 (14.46)	241 (14.29)	227 (13.70)	227 (13.70)	227 (13.70)	227 (13.70)	227 (13.70)	227 (13.70)	227 (13.70)	227 (13.70)	0.0007
FAM3	Mean (SD)	13.45 (4.04)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	0.0007
DAS	Mean (SD)	30.00 (9.00)	33.33 (10.00)	33.33 (10.00)	33.33 (10.00)	33.33 (10.00)	33.33 (10.00)	33.33 (10.00)	33.33 (10.00)	33.33 (10.00)	33.33 (10.00)	0.0007
IPPA	Mean (SD)	13.45 (4.04)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	13.00 (3.50)	0.0007

Table 2. The results of questionnaires in MS patients, MS family members and Healthy controls with no subjects with chronic diseases in their families.