eTable 1: Hormone correlations in the entire group and within each sex

		All subjects	Women	Men
N		163	91	72
Leptin	a-FABP	**0.63 (<0.001)**	**0.66 (<0.001)**	**0.42 (0.0002)**
	25(OH)VitD	0.03 (0.73)	-0.03 (0.79)	-0.19 (0.10)
	Testosterone	**-0.42 (<0.001)**	**0.24 (0.02)**	-0.21 (0.08)
a-FABP	25(OH)VitD	-0.01 (0.91)	0.01 (0.93)	-0.20 (0.08)
	Testosterone	**-0.21 (0.008)**	0.07 (0.49)	-0.19 (0.11)
25(OH)VitD	Testosterone	-0.13 (0.10)	0.12 (0.27)	0.03 (0.82)

Legend: Pearson's correlation coefficient (p-value) are presented for each pair of variables
In 135 individuals with body mass index (BMI, kg/m^2) available, BMI was correlated with both leptin ($r=0.56$, $p<0.0001$) and a-FABP ($r=0.51$, $p<0.0001$).

25(OH)VitD: 25-hydroxy-vitamin D; a-FABP: adipocyte-fatty acid binding protein.

eTable 2: Cross-sectional and longitudinal associations between adiposity markers and MS disability (EDSS), adjusted for age, BMI and disease characteristics.

	UNIVARIATE ASSOCIATIONS			MULTIVARIATE ASSOCIATIONS		
	All subjects	Women	Men	All subjects	Women	Men
Cross-sectional EDSS (N=135) – Odds ratio greater than 1 indicates worse function						
Adiposity Markers						
Leptin	1.15 (0.28)	1.25 (0.30)	2.51 (0.067)	-	-	-
a-FABP	**1.24 (0.046)**	1.28 (0.065)	1.27 (0.34)	1.22 (0.078)	**1.32 (0.042)**	1.13 (0.64)
Additional markers						
25(OH)VitD	**0.64 (0.006**)	**0.60 (0.017)**	0.71 (0.18)	**0.62 (0.003)**	**0.57 (0.010)**	0.69 (0.17)
Testosterone	0.99 (0.22)	0.92 (0.47)	**0.95 (0.006)**	0.99 (0.26)	0.99 (0.92)	**0.94 (0.005)**
Longitudinal EDSS (N=135) – a positive value indicates worsening function						
Adiposity Markers						
Leptin	-0.00002 (0.99)	-0.0023 (0.41)	-0.0057 (0.47)			
a-FABP	0.0024 (0.13)	-0.00004 (0.98)	**0.0091 (0.011)**	0.0025 (0.13)	-0.00009 (0.96)	**0.0078 (0.023)**
Additional markers						
25(OH)VitD	-0.0015 (0.53)	0.0013 (0.61)	**-0.012 (0.008)**	-0.0013 (0.60)	0.00052 (0.85)	**-0.011 (0.017)**
Testosterone	0.00005 (0.97)	0.0040 (0.14)	0.00021 (0.50)	0.00004 (0.77)	0.0039 (0.16)	0.0004 (0.17)

Legend:
Cross-sectional analyses: Odds ratio for a ten-unit increase in each of the hormonal markers (p-value). Adjusted for BMI, age, disease duration and type.
Longitudinal analyses: Estimate and p-value of the association between hormonal markers and change in EDSS over time are provided. Adjusted for age, disease duration and type.

BMI: body mass index. EDSS: Expanded Disability Status Scale. 25(OH)VitD: 25-hydroxy-vitamin D; a-FABP: adipocyte-fatty acid binding protein.