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Title: Age at diagnosis over the last decades – Analysis of the German MS Registry

Abstract Category: Clinical aspects of MS - 5 Epidemiology

Background: There is an ongoing discussion concerning an increasing number of young female MS patients aged less than 30 years at diagnosis. The increasing risk is supposed to be influenced by changes of lifestyle. Late first pregnancy, obesity, smoking are discussed as risk factors as well. Furthermore the widespread access to MRI facilities may lead to earlier diagnosis.

Methods: Data from the German MS-Registry was extracted in May 2017. Only patients with data available concerning the date of diagnosis, date of birth and sex (N=43465) were analysed. To account for the widespread availability of MRI in 1990ies we started analyses regarding the diagnosis cohorts with the year of diagnosis in 1990. We analysed the percentage of MS patients with an age at diagnosis ≤18 and ≤30 >18 years for the whole population using 5-year intervals. Furthermore we investigated differences in sex and date of birth.

Results: The mean age at diagnosis were 35.63 (±10.88) years. 1313 patients (3.02%) were ≤18 years and 14386 patients (33.1%) were ≤30 years old at the time of diagnosis. In the group with an age at diagnosis ≤18 years 74.71% (N=981) were females and in the group with an age at diagnosis >18 and ≤30 years 72.93% (N=10491) were females. The distribution over diagnosis cohorts revealed in 1990-94: 45.3% [F:73.5%], 1995-99: 33.5% [F:73.1%], 2000-04: 27.5% [F:71.25%], 2005-09: 27.9% [F:72.7 %] and 2010-14: 29.5% [F:71.33%] of the patients were >18 and ≤30 years old at diagnosis. Furthermore we looked into the risk for early onset MS in regard to birth cohorts. The risk of diagnosis at age ≤18 years for patients born 1948-57 was 0.4%, in 1958-67: 0.8%, in 1968-77: 1.8% and in 1978-87: 6.0%. Patients born between 1948-57 had a risk for diagnosis at age >18 and ≤30 years of 8.2%, in 1958-67: 17.6%, 1968-77: 34.7% and in 1978-87: 70.6%.

Conclusions: The analysis of our data did not reveal an increase of young women with an age <= 30 years at diagnosis over the last decades in regard to the diagnosis cohorts. Thus we did see an increasing risk for patients born in recent decades to receive an early MS diagnosis (≤18 and ≤30 years). Further analyses are due to control for possible biases e.g. concerning the type of documented patients in our centers, to and to confirm these early results.