LONG-TERM INFLUENCE OF COMBINED ORAL CONTRACEPTIVE USE ON DISABILITY PROGRESSION IN RELAPSING-REMITTING MULTIPLE SCLEROSIS

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Objectives. Gender-related differences in clinical evolution and several in vitro studies indicate a potential role of sex hormones in the modulation of multiple sclerosis (MS). The present retrospective study was designed to assess the long term influence of combined oral contraceptives (COC) on the clinical course of relapsing-remitting MS (RRMS), especially on disability progression and evolution to secondary progressive-MS (SPMS).

Methods. A total of 174 women with clinically and MRI-confirmed RRMS lasting more than one year were recruited. The following data were collected: age at onset of MS, disease duration, annualised relapse rate, disease-modifying therapies (DMT), assessment of disability with Expanded Disability Status Scale (EDSS) and evolution to SPMS, gynaecological and obstetric history including age, duration and type of COC intake.

Results. Length of disease duration was 14±10 years. COC-users (n=111) had lower EDSS scores (p=0.004) and reduced tendency to evolve to SPMS (p=0.011) compared to non-users (n=63). The use of COC remained associated with lower EDSS scores after correction for confounding variables, such as duration of disease, DMT, age of menarche and parity (p=0.011 with eta-squared 0.038). A second level effect was detected: use of COC reduced EDSS scores only in women who had used DMT (p=0.023 with eta-squared 0.030). Using multivariate survival analysis with Cox's regression model, non-use of COC was a predictor of evolution to SPMS (O.R.=3.499, 95% CI=1.673-7.321). The annualised relapse rate was not influenced by COC use. No differences in EDSS scores and evolution to SPMS depending upon COC formulation were detected.

Conclusions. Our results suggest that COC use in RRMS women is associated with a less severe disease and less severe evolution. Whether different doses or types of progestin may have different effects remain to be defined.