

Oral contraceptives associated with increased risk of lupus

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The ratio of women to men with the autoimmune disease systemic lupus erythematosus (SLE) is nine to one and the incidence increases after puberty. Hormones secreted by the body are therefore believed to play an important role in the origins of the disease. A new large, population-based observational study found that the use of oral contraceptives was associated with an increased risk of SLE, particularly among women who had recently started taking them. The study was published in the April issue of *Arthritis Care & Research*.

Led by Dr. Samy Suissa of the Centre for Clinical Epidemiology at Jewish General Hospital of McGill University in Montreal, researchers obtained data on more than 1.7 million [women](#) ages 18-45 from the U.K. General Practice Research Database, which contains more than 6 million people. The women all had prescriptions for combined [oral contraceptives](#) (COCs) containing [estrogen](#) and progesterone. During an average of eight years of follow-up, 786 women had a first-time diagnosis of SLE. Each case was matched with up to 10 controls among women without SLE at the time of the case's diagnosis.

The results showed that the use of COCs was associated with a significant increased risk of newly diagnosed SLE. This was mostly limited to the first three months of use with first- and second-generation contraceptives containing higher doses of estrogen, suggesting "an acute effect in susceptible women and possibly a dose-response effect of estrogen on SLE onset," according to the authors. They note that estrogen can directly modulate the immune response, which could

complete the action of some sex-linked genes and contribute to the genetic predisposition of the disease, and it has also been shown to have an effect on the breakdown of immune tolerance seen in SLE.

Previous studies on the risk of SLE following use of oral contraceptives have had conflicting results, but the results of the current study are consistent and complement those of the NIH-sponsored Nurses' Health Study. "Our findings that longer-term use of contraceptives is associated with an increased risk of incident SLE (albeit of lower magnitude) and that current use of contraceptives with higher doses of ethinyl estradiol is associated with an increased risk of incident SLE, suggest a possible dose-response effect of estrogen on SLE onset, which could be an alternative or additional mechanism to favor occurrence of the disease," the authors state. They note that the absence of significant increased risk in third-generation contraceptives may be related to the lower doses of estrogen compared to earlier generations.

More information: "Combined Oral Contraceptive Use and the Risk of Systemic Lupus Erythematosus," Marie-Odile Bernier, Yann Mikaeloff, Marie Hudson, Samy Suissa, *Arthritis & Rheumatism (Arthritis Care & Research)*, April 2009.

<http://www3.interscience.wiley.com/journal/77005015/home>

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