

PRESS RELEASE

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Combined oral contraceptives triple risk of cryptogenic stroke in young women, new study shows

(Wednesday, 21 May 2025, Helsinki, Finland) New research presented today at the European Stroke Organisation Conference (ESOC) 2025 revealed that the use of combined oral contraceptives (OCs) is associated with a threefold increase in the risk of cryptogenic ischaemic stroke (CIS) in young women.¹ The findings add to a growing body of evidence linking hormonal contraception to vascular risk in women of reproductive age.

Cryptogenic ischaemic stroke, which is stroke with no identifiable cause, accounts for up to 40% of all ischaemic strokes in young adults.² Despite its prevalence, the contribution of sex-specific risk factors, such as contraceptive use, has remained underexplored. While prior studies have associated combined OCs with stroke risk, this is among the few studies to focus specifically on cryptogenic stroke in young women.

The Searching for Explanations for Cryptogenic Stroke in the Young (SECRETO) study included 268 women aged 18–49 years with CIS and 268 age-matched stroke-free controls across 14 centres in Europe. Of the participants, 66 patients and 38 controls were using combined OCs. After adjusting for age and established comorbidities such as hypertension, smoking, migraine with aura, and abdominal obesity, OC use was associated with an adjusted odds ratio of 3.00 (95% CI: 1.61–5.57). No significant interactions were found between OC use and these risk factors, suggesting that the increased stroke risk may operate independently of other known contributors.

“Our findings confirm earlier evidence linking oral contraceptives to stroke risk,” said Dr. Mine Sezgin, Department of Neurology, Istanbul University, and lead author of the study. “What’s particularly notable is that the association remains strong even when accounting for other known risk factors, which suggests there may be additional mechanisms involved – possibly genetic or biological.”

Most OC users in the study were taking ethinylestradiol-based formulations, with a median dose of 20 micrograms. Other types of estrogen, such as estradiol hemihydrate and estradiol valerate, were also recorded.

“We calculated the equivalent estrogen dose for each patient to ensure consistency,” Dr Sezgin explained. “While our data provides important initial insights, larger studies are needed to determine if certain formulations carry different levels of risk. This knowledge could help guide more personalised contraceptive choices for women.”

While the researchers note that further prospective studies are needed, they advise clinicians to exercise caution when prescribing combined OCs to women with known vascular risk factors or a history of ischaemic stroke. “Our findings should prompt more

careful evaluation of stroke risk in young women, particularly those with additional risk factors,” concluded Dr. Sezgin.

Moving forward, the researchers plan to explore biological and genetic mechanisms underlying the observed association between combined OC use and increased stroke risk to better understand how hormonal contraceptives may independently elevate stroke risk.

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References:

1. Sezgin, M., et al. *Hormonal contraception increases the risk of cryptogenic stroke in young women*. Abstract O049, presented at the European Stroke Organisation Conference; 21 May 2025; Helsinki, Finland.
2. Yaghi, S., & Elkind, M. S. (2014). Cryptogenic stroke: A diagnostic challenge. *Neurology. Clinical practice*, 4(5), 386–393.
<https://doi.org/10.1212/CPJ.0000000000000086>