



# Contraception, but possibly not estrogen, is related to thrombosis risk in women with sickle cell disease

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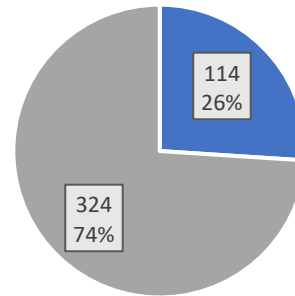
## Background

Estrogen-containing hormonal contraception (HC) is a well-established risk factor for venous thromboembolism (VTE). Women with sickle cell disease (SCD) also have increased VTE risk, but whether estrogen-containing HC contributes to this risk is unclear.

## Methods

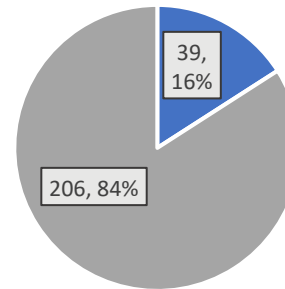
Retrospective analysis of female patients with sickle cell disease between 15 and 65 years old seen at the University of North Carolina between 2010 to 2022. Data were analyzed by logistic regression to determine odds ratio of VTE.

VTE overall



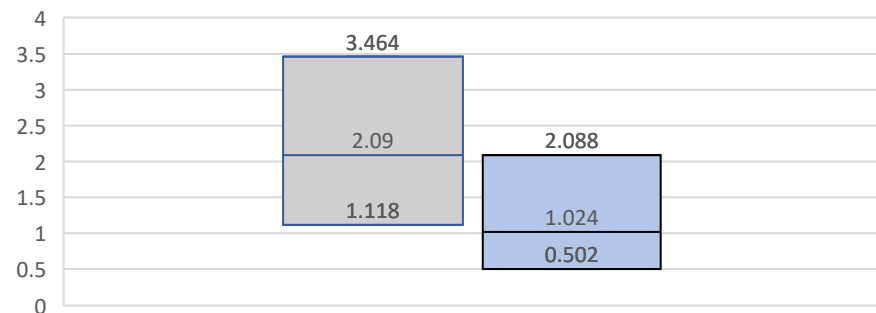
■ VTE ■ no VTE

VTE while on  
Hormonal Contraception



■ VTE ■ no VTE

Odds ratio of VTE related to contraception



■ VTE if on any contraception  
■ VTE if on estrogen-containing contraception

## Results

Out of 438 female patients with SCD, 114 (26.9%) patients had VTE. Of the 245 (55.9%) patients on any type of HC, 39 (15.9%) had a VTE while taking HC, and 10 (4.1%) had a VTE while on estrogen-containing HC. The adjusted OR for risk of VTE with any contraception use was 2.029 (95% CI 1.118, 3.464) ( $p=0.0095$ ), while adjusted OR for estrogen-containing HC was 1.024 (95% CI 0.502, 2.088).

## Discussion

The thrombosis rate is higher in women with SCD at UNC than in other studies. HC use in any form at any time was linked to an increased risk of VTE, but estrogen-containing HC did not appear to be linked to an increased risk of VTE. This study adds to our understanding of how HC influences VTE risk in women with SCD. Future research into the impact of concurrent contraception use and coexisting risk factors on the incidence of VTE may help to clarify treatment guidelines for this population.