Achieving conceiving? Oncofertility outcomes of fertility-sparing management for endometrial cancer and endometrial intraepithelial neoplasia

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Introduction

- **Endometrial cancer (EC)** and **endometrial intraepithelial neoplasia (EIN)** diagnoses are increasing in young women.
- EC incidence in 20-49yo rose from 86.8 to 113.8 cases per million between 2001 and 2021 (Guo, 2025).
- While **fertility-sparing treatment (FST)** for low-grade EC/EIN demonstrates favorable oncologic response rates, less is known about subsequent **reproductive outcomes** and factors influencing successful childbearing.
- In a **predominantly Black, high-BMI population**, understanding how tumor biology, treatment response, and access to assisted reproductive technology intersect is critical to optimizing **equitable oncofertility care**.

Objective

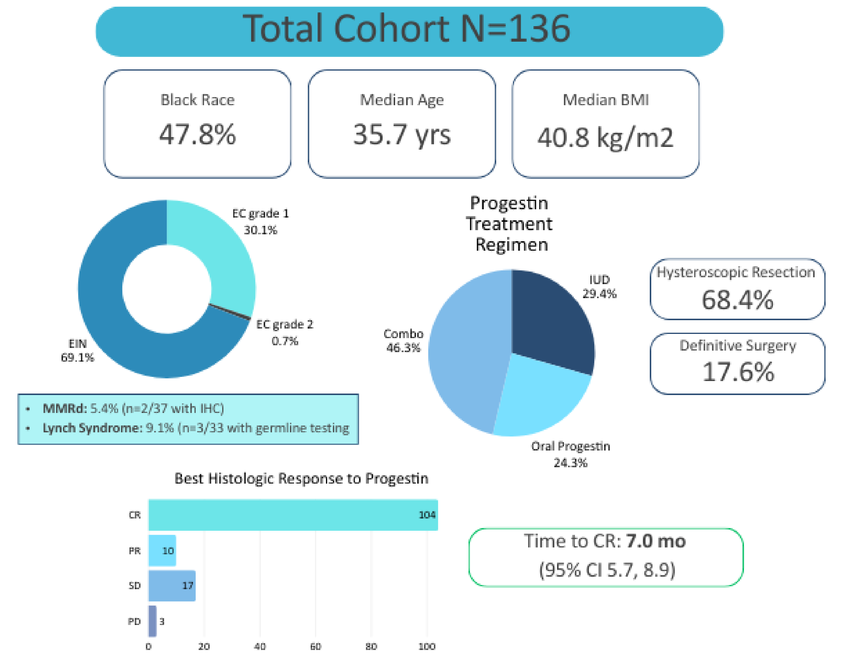
To evaluate oncofertility outcomes of patients following fertility-sparing treatment (FST) for endometrial cancer (EC) or endometrial intraepithelial neoplasia (EIN) in an urban, predominantly Black cohort with high rates of obesity.

Methods

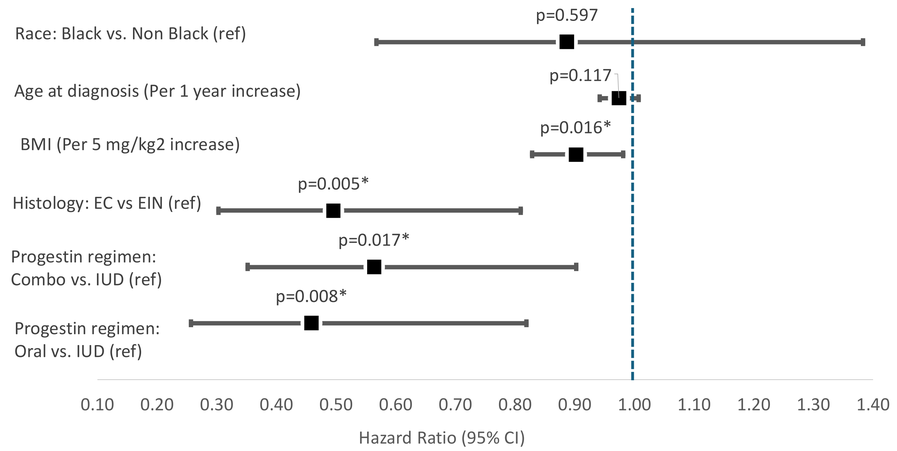
- This retrospective study identified patients 18-52 years treated with progestin-based FST for EC/EIN from 1/2010-8/2025 with ≥6 months of follow-up.
- Factors associated with primary outcomes of **time to complete response (CR)**, **time to conception**, and **time to live birth** were evaluating using cox proportional hazards models.

Results

Cohort Characteristics and Oncologic Outcomes



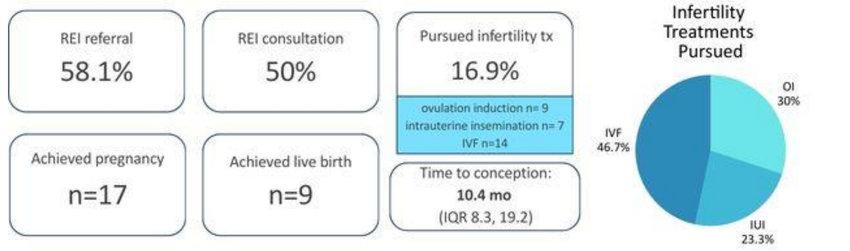
Multivariable analysis of factors associated with time to CR



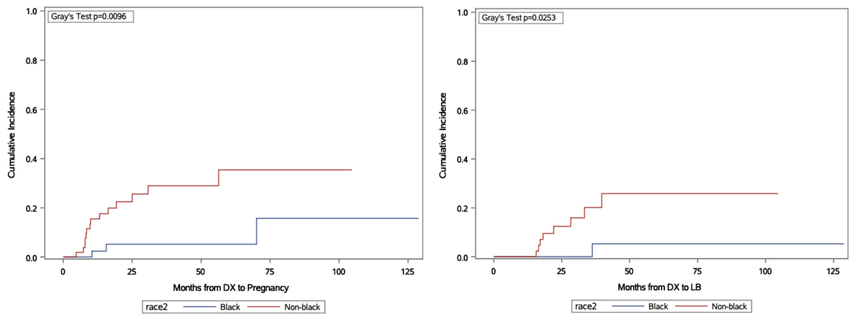
Higher BMI (HR:0.90 per 5 kg/m2 increase, p=0.016), EC vs EIN (HR:0.50, p=0.005), and oral or combination progestin treatment regimen (vs LNG-IUD; p=0.014) were associated with longer time to CR.

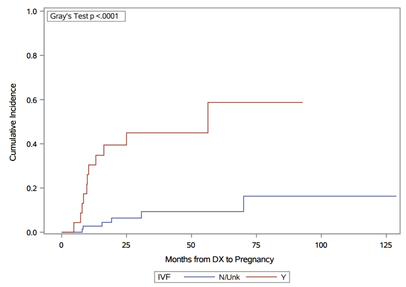
Results

Reproductive Outcomes (N=136)



Time from diagnosis to conception and live birth, cumulative incidence stratified by race: Black race was associated with a longer time from EC/EIN diagnosis to conception (p<0.01) and live birth (p=0.025).





Time from diagnosis to conception, cumulative incidence stratified by IVF utilization: IVF was associated with shorter interval from EC/EIN diagnosis to conception (p<0.0001).

Summary and Conclusions

- BMI, EC v. EIN, and progestin regimen impact time to CR
- Black race was associated with longer time to conception
- IVF utilization allows for a shorter interval to pregnancy
- Barriers to successful EC/EIN oncofertility outcomes require further investigation that will continue to be explored in upcoming prospective, randomized clinical trial.