

Fertility, Sexual Function, and Endothelial Health in Premenopausal Women with Kidney Disease



Building Interdisciplinary
Research Careers in
Women's Health

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BACKGROUND

- Women with advanced chronic kidney disease (CKD) encounter many reproductive health issues:
 - reduced fertility
 - sexual dysfunction
 - pregnancy risks
 Many of these issues persist after kidney transplantation.

OBJECTIVES

- Our study aims to evaluate pre- and post-transplant reproductive health, examining hormonal changes, kidney function markers, and sexual dysfunction correlations.
- We also seek to assess the impact of transplantation on kidney function restoration and its influence on sexual function and glyocalyx integrity markers.
- This research enhances understanding of reproductive health complexities in women with advanced CKD.

METHODS

GROUP 1

25 women aged 18-51 with CKD stages 3b-5 from Mayo Clinic's nephrology clinic and dialysis units.

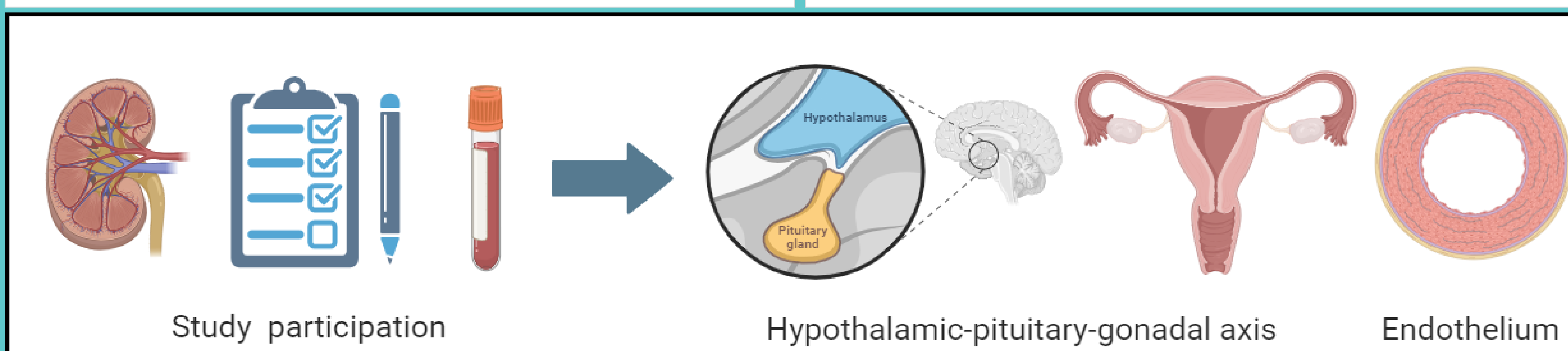
Exclusions: current pregnancy, prior hysterectomy/bilateral oophorectomy, known to be in menopause.

GROUP 2

25 women aged 18-44 undergoing living donor kidney transplant at Mayo Clinic will be recruited from transplant evaluations

Control group

20 women (ages 18-44) from the reproductive endocrinology clinic will be included



Initial visit

Lab tests
LH, FSH, estradiol, progesterone, AMH, TSH, testosterone, prolactin, DHEAS, SHBG, hCG

Surveys
Menstrual and Reproductive History questionnaire
Quality of Life: Short Form-36
Sexual Function: FSFI

Additional Measurements
Heparan sulfate and syndecan 2

LH: Luteinizing hormone, FSH: follicle stimulating hormone, AMH: anti-mullerian hormone, TSH: thyroid-stimulating hormone, DHEAS: dehydroepiandrosterone, SHBG: sex hormone-binding globuline, hCG: human chorionic gonadotropin, FSFI: female sexual function index

Final visit (6-month)/ 4-months post transplant

Lab tests
LH, FSH, estradiol, progesterone, AMH, TSH, testosterone, prolactin, DHEAS, SHBG, hCG

Surveys
Menstrual and Reproductive History questionnaire
Quality of Life: Short Form-36
Sexual Function: FSFI

Additional Measurements
Heparan sulfate and syndecan 2

RESULTS

- The study is open to enrollment.
- We hypothesize the following:
 - Advancing stages of CKD may impact the hypothalamic-pituitary-gonadal axis.
 - Alterations in sex hormones and menstrual cycles correlate with changes in endothelial health and sexual function before and after transplant.

CONCLUSION

Understanding the complex interplay between fertility, sexual function, and endothelial health in advanced CKD enables improved counseling on contraception, family planning, and sexual health for women.