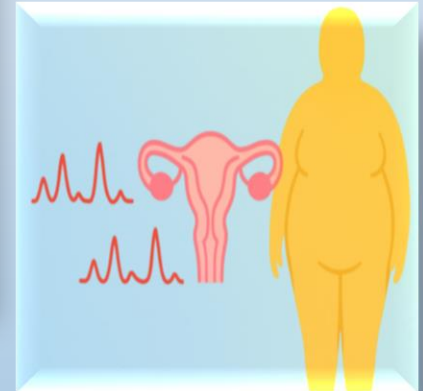




Background/Objectives

Obesity can disrupt uterine and endometrial function by affecting the hormones released by adipose tissue and via inflammation markers. Blood flow in the uterine artery and endometrium can be assessed using Color Doppler ultrasound. Parameters used to evaluate obesity include BMI, body fat composition, and visceral fat assessment..

Our main objective was to investigate if body mass index (BMI), body fat percentage, and visceral fat mass may affect uterine artery Doppler indices during ovarian stimulation.

Methods



Prospective observational study.



368 women undergoing controlled ovarian stimulation with Letrozole. (Jan-Dec 2024)



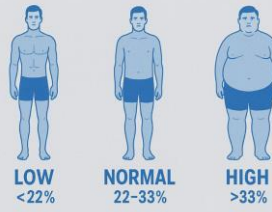
BMI, body fat % visceral fat mass. (SY-1800 machine)



Uterine artery Doppler parameters. (WS80A, Samsung)

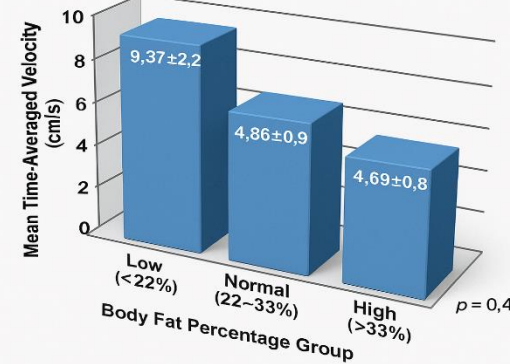
Results

BODY FAT PERCENTAGE



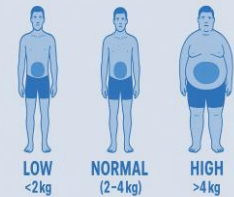
Mean = $33.44 \pm 6.05\%$

Mean Time-Averaged Velocity by Body Fat Percentage Group



**P value
0.04**

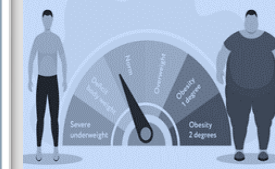
VISCERAL FAT MASS



Mean = 4.63 ± 1.98 kg

No significant differences across visceral fat groups ($p > 0.05$)

BMI



No significant difference ($p > 0.05$)

Conclusion

Incorporating body fat percentage measurements into ovarian stimulation monitoring may help identify fat-related uterine blood flow abnormalities, allowing for tailored interventions aimed at reducing body fat percentage and potentially improving implantation success.

Ethical Considerations

The approval of the ethic committee of the university was taken, in addition to the approval of Al-Hadi IVF center to be able to collect data among its patients. An informed consent was required from all the participants. Ethical Approval: ETC – 003-2024