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GLUCAGON-LIKE PEPTIDE-1 AGONIST USE AND OOCYTE RETRIEVAL IN CONTROLLED OVARIAN HYPERSTIMULATION

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OBJECTIVE:

With obesity rising to 30-40% in reproductive-aged women, many patients are using glucagon-like peptide-1 (GLP-1) agonists, such as Ozempic, for weight loss (1,2). Due to limited research on the effects of GLP-1 agonists on fertility treatments, clinicians remain divided on recommendations regarding their use, duration, and discontinuation. To standardize patient counseling, it is imperative to elucidate the potential effects of GLP-1 agonists. This study aims to assess the relationship between timing of GLP1-agonist exposure and oocyte yield in controlled ovarian hyperstimulation (COH).

MATERIALS AND METHODS:

This multicenter retrospective study included patients seeking care at clinics affiliated with a national fertility network from 2005-2023 who utilized a GLP-1 agonist within one year of COH. Patients were categorized into six exposure groups based on timing of GLP-1 agonist discontinuation (Table 1). The primary outcome was oocyte yield following COH. Secondary subgroup analyses examined oocyte yield by body mass index (BMI) class, duration of GLP-1 agonist use, and GLP-1 agonist indication. Means and standard deviations (SD) of oocyte yield were identified across exposure groups. A p-value for trend was estimated using a Poisson regression model.

RESULTS:

73 patients met inclusion criteria. Mean oocyte yield per exposure group was not significantly different based on timing of GLP-1 agonist discontinuation (p=0.40). When stratified by BMI, an inverse relationship was noted between oocyte yield and timing of GLP-1 agonist discontinuation in obese patients with a BMI >35. No changes in oocyte yield were observed in patients with normal or overweight BMIs. Duration of use and indication did not affect oocyte yield when examined by exposure group.

Oocytes Retrieved by Timing of GLP1 Discontinuation		
Discontinuation, Days Prior to Retrieval	**N**	**Oocytes Retrieved, Mean (SD)**
0-14	27	15.4 (8.8)
15-30	6	16.2 (7.1)
31-60	14	16.8 (10.4)
61-90	7	7.7 (3.9)
91-180	11	13.8 (10.5)
181-365	8	15 (6.7)

CONCLUSIONS:

There was no significant difference observed in the number of retrieved oocytes relative to the proximity of GLP-1 agonist exposure within one year of COH. However, there may be a role for GLP-1 agonists in obese patients to optimize oocyte yield. Additional investigation is needed to clarify potential effects of GLP-1 agonist use on aspiration risk during oocyte retrieval and embryo creation outcomes.

IMPACT STATEMENT:

GLP-1 agonist use within one year of COH did not adversely influence the number of retrieved oocytes in this limited cohort. Potential benefit may exist in patients with a BMI >35; however, this warrants further study.

REFERENCES:

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