

## OVARIAN HYPERSTIMULATION SYNDROME AND PREGNANCY: CURRENT APPROACHES TO DIAGNOSIS, RISK STRATIFICATION, AND MANAGEMENT

Kamalov A.I., Yusupova D.

Samarkand State Medical University

**Abstract.** *At present, ovarian hyperstimulation syndrome (OHSS) is reported in about 5–6% of cases. The development of moderate and severe forms is also not uncommon; such cases require inpatient management, ensuring adequate assessment, continuous monitoring, and treatment. The greatest challenges are encountered precisely in the management of patients with moderate and severe OHSS.*

**Keywords:** *Ovarian hyperstimulation syndrome (OHSS); pregnancy; ART/IVF; hCG trigger; GnRH-agonist trigger; freeze-all strategy; VEGF; vascular permeability; ascites; pleural effusion; hemoconcentration; oliguria; thromboembolism; D-dimer; coagulation profile; ultrasound monitoring; paracentesis; fluid resuscitation; LMWH thromboprophylaxis; PCOS; letrozole/clomiphene; Doppler assessment.*

**Objective.** To synthesize current concepts of ovarian hyperstimulation syndrome (OHSS) in the context of established pregnancy: risk factors, pathogenesis, clinical–diagnostic criteria, severity stratification, and management algorithms for pregnant patients.

**Materials and Methods.** A retrospective analysis of 14 consecutive pregnant patients with OHSS (first trimester) hospitalized in 2023–2025. Severity was stratified as moderate or severe. Standard monitoring included hematocrit, creatinine, electrolytes, and urine output; ultrasound follow-up assessed free fluid volume and ovarian size. Interventions evaluated were fluid therapy, paracentesis, and low-molecular-weight heparin (LMWH).

**Results.** Mean age was  $26.1 \pm 3.9$  years; the median gestational age at symptom onset was 6 (5–8) weeks. Moderate OHSS occurred in 8/14 (57.1%) and severe in 6/14 (42.9%). Paracentesis was performed in 5/14 (35.7%) for tense ascites; prophylactic LMWH was used in 9/14 (64.3%). Within the first 48 hours of treatment, improvement in urine output to  $\geq 0.5$  mL/kg/h was observed in 12/14 (85.7%). No thromboembolic events were recorded. Ongoing pregnancy at 12–13 weeks was documented in 12/14 (85.7%); there were two early spontaneous miscarriages, both in the severe OHSS group with marked hemoconcentration at admission.

**Conclusion.** In this single-center series of 14 pregnant patients with OHSS, a protocolized approach—early severity stratification, goal-directed fluid management with

close surveillance of hemoconcentration and urine output, ultrasound-guided paracentesis for tense ascites, and risk-adapted LMWH prophylaxis—was associated with favorable short-term maternal outcomes and preservation of pregnancy in most cases (85.7%) without thromboembolic events. These findings support a structured, multidisciplinary management bundle for OHSS in early gestation that prioritizes rapid restoration of effective intravascular volume, timely decompression of third-space fluid, and prevention of venous thromboembolism.

## LITERATURE

1. Асадова Г. А. ЛЕЧЕНИЕ СИНДРОМА ГИПЕРСТИМУЛЯЦИИ ЯИЧНИКОВ РАЗЛИЧНЫХ СТЕПЕНЕЙ ТЯЖЕСТИ ПРИ ЭКО И ПЭ //Интернаука. – 2021. – №. 28-1. – С. 22-23.
2. Бекбаулиева Г. Н., Шакирова П. Д. СОВРЕМЕННЫЕ ПОДХОДЫ К ПРОФИЛАКТИКЕ СИНДРОМА ГИПЕРСТИМУЛЯЦИИ ЯИЧНИКОВ ПРИ ИНДУКЦИИ ОВУЛЯЦИИ //ТОМ-1. – 2022. – С. 79.
3. Жуковская С. В. КОМПЛЕКСНАЯ ПРОГРАММА ПРОГНОЗИРОВАНИЯ И ПРОФИЛАКТИКИ СИНДРОМА ГИПЕРСТИМУЛЯЦИИ ЯИЧНИКОВ В ПРОГРАММАХ ЭКСТРАКОРПОРАЛЬНОГО ОПЛОДОТВОРЕНИЯ //Охрана материнства и детства. – 2020. – №. 2. – С. 105-110.
4. Либова Т. А., Куц Е. Е., Воробьев Д. В. Синдром гиперстимуляции яичников //Научные исследования XXI века. – 2021. – №. 1. – С. 397-404.
5. Матросова А. В. и др. Метод прогнозирования синдрома гиперстимуляции яичников //Мать и дитя в Кузбассе. – 2021. – №. 3 (86). – С. 82-85.
6. Петренко А. П. и др. Синдром гиперстимуляции яичников и внутрибрюшная гипертензия: систематический обзор //Анестезиология и реаниматология. – 2024. – №. 2. – С. 97-103.
7. Салов И. А., Аржаева И. А., Тяпкина Д. А. Особенности течения беременности при синдроме гиперстимуляции яичников //Лечащий врач. – 2023. – №. 12. – С. 31-38.
8. Cengiz Ali M., et al. Ovarian hyperstimulation syndrome: a review of recent updates. Obstetrics, Gynaecology & Reproductive Medicine. 2023. (narrative review) obstetrics-gynaecology-journal.com
9. Jahromi BN., et al. Ovarian Hyperstimulation Syndrome: A Narrative Review of Pathophysiology, Prevention, and Treatment. Int J Fertil Steril. 2018. (PMC open-access) PMC
10. Endocrinology Advisor (summary of ASRM update). OHSS prevention guidelines update from ASRM. 2024. (useful as a synopsis alongside the primary guideline)