

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

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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 ± 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 ≥ 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.

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