OVARIAN HYPERSTIMULATION SYNDROME

BACKGROUND INFORMATION

Ovarian Hyperstimulation Syndrome (OHSS) is an iatrogenic complication of techniques commonly used in assisted reproductive technology. It can result in serious morbidity and even mortality. Physicians involved with ovulation induction or dealing with complications of these methods must therefore be aware of the:

- underlying pathology of OHSS
- high-risk patient profile
- preventative measures and utilise them
- proven therapeutic regimens employed in the management of this disorder.

The underlying pathology of OHSS is an endothelial dysfunction leading to loss of fluid from the intravascular to the extravascular space causing hypoalbuminaemia, haemoconcentration, electrolyte imbalance, decreased renal perfusion, ascites and pleural effusions. Ovarian enlargement creates risk of torsion and cyst rupture.

The reported incidence of OHSS varies from 0.6%-20%, partly because of different definitions of severity. In most cases OHSS is associated with the administration of exogenous gonadotrophins, although in rare circumstances it has been seen during administration of clomiphene citrate for ovulation induction and there are even reports of it occurring spontaneously.

RISK FACTORS

- Young age
- Polycystic ovarian syndrome
- Past history of OHSS
- High or rapidly rising oestradiol levels
- History of allergy or hypersensitivity

PREVENTIVE MEASURES

1. Recognise high-risk clinical profile.
2. Commence ovulation induction with low-dose gonadotrophins and “step-up” based on response.
3. Monitor oestradiol levels, follicular number and size closely.

WITHIN AN IVF CYCLE

1. Withhold human chorionic gonadotrophin (hCG) or reducing dose.
2. Use gonadotrophin releasing hormone agonist to trigger ovulation.
3. Perform follicular aspiration.
4. Use progesterone and not hCG for luteal phase support.
5. Practise cryopreservation of all embryos from the cycle.
6. Administer intravenous albumin at the time of oocyte retrieval in high-risk cases.
7. Consider abandoning cycle if severe OHSS develops early in the cycle.
CLINICAL STAGING OF OHSS

<table>
<thead>
<tr>
<th>Grade</th>
<th>Abdominal distension and ovarian enlargement</th>
<th>Nausea and vomiting</th>
<th>Ascites and/or pleural effusion</th>
<th>Haemoconcentration, coagulopathy, oliguria</th>
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</thead>
<tbody>
<tr>
<td>Mild</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
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<tr>
<td>Moderate</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Severe</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</table>

SIGNS OF SEVERE DISEASE

- Abdominal pain
- Tense ascites
- Pulse over 100 beats/min
- Oliguria – less than 100mL / four hours
- Haematocrit greater than 48%
- Albumin less than 25g/L
- Creatinine greater than 0.100 mmol/L

MANAGEMENT

MILD OHSS
- Seen in many women undergoing ovarian stimulation.
- Reassure, encourage oral fluids, avoid excessive physical exertion
- Warn about symptoms of progressive disease

MODERATE TO SEVERE OHSS
- Full physical examination
- Abdominal ultrasound
- Full blood count, urea and electrolytes and creatinine
- Regular phone calls and clinic visits to exclude progressive disease
- Oral fluid intake of at least one litre per day

For inpatient management of OHSS see Clinical Guidelines, Section C 8.4.1 Inpatient Management.

REFERENCES (STANDARDS)

National Standards – 1 Clinical care is Guided by Current Best Practice
Legislation - Nil

Related Policies – Reproductive Medicine
Other related documents – Nil

RESPONSIBILITY

Policy Sponsor | HoD Gynaecology
Initial Endorsement | August 2002
Last Reviewed | August 2014
Last Amended | August 2017
Review date | August 2017