Whittington Health NHS

Ovarian Hyperstimulation Syndrome

Subject:	Ovarian Hyperstimulation Syndrome
Policy Number	
Ratified By:	Maternity Clinical Audit and Guidelines Group
Date Ratified:	January 2016
Version:	2
Policy Executive Owner:	Miss C Biswas
Designation of Author:	Consultant Gynaecologist
Name of Assurance Committee:	Maternity Clinical Audit and Guidelines Group
Date Issued:	January 2016
Review Date:	January 2019
Target Audience:	Gynaecology medical and nursing staff
Key Words:	Ovarian hyperstimulation syndrome (OHSS); superovulation; fluid balance; renal failure; thromboembolism; ascites; paracentesis

Version Control Sheet

Version	Date	Author	Status	Comment
1	Jan 2008	G Lieberman	Consultant Obstetrician	New Guideline
2	Jan 2016	G Lieberman	Consultant Obstetrician	Update: Anticoagulant changed from Clexane to Tinzaparin Contact details for maternal death changed to Mbrrace

➢ Criteria for use

Inpatient management of patients with signs and symptoms of ovarian hyperstimulation syndrome.

➢ Background/ introduction

Ovarian hyperstimulation syndrome is the most serious consequence of super ovulation during IVF/ ICSI regimes with gonadotrophins e.g. Menopur/ Gonal F/ Puregon). It is rare with Clomiphene citrate.

Despite careful monitoring, some degree of OHSS occurs in 3 to 5% of all IVF/ICSI treatment cycles and it may be severe in 1 or 2%.

OHSS can be potentially life threatening, and management needs to be taken in conjunction with the gynaecology consultant on call, and if necessary Mr Lieberman (can be contacted out of hours by switch board)

➢ Clinical features:

Risk factors

- Patients with polycystic ovaries.
- Those that develop multiple follicles (>15) on stimulation
- History of previous hyperstimulation
- Patients <30 years of age
- BMI<20

Signs and symptoms

- Abdominal pain and distension from enlarged ovaries and ascites
- Oliguria and hypotension from intravascular depletion
- Dyspnoea from pleural effusion
- Nausea and disturbance of bowel habit
- In severe cases there may be:
  Oliguric renal failure
  Acute Respiratory Distress Syndrome
  Thromboembolic episodes
  Disordered hepatic function

Haemorrhage into &/or torsion of cystic ovaries

Differential diagnoses

- Complications of an ovarian cyst
- Pelvic infection
- Intra-abdominal haemorrhage
- Ectopic pregnancy
- Appendicitis

➢ Clinical management of OHSS

Inpatient treatment is necessary if there is respiratory distress or considerable discomfort. If a patient is being admitted the assisted conception unit that is treating the patient needs to be informed (with documentation in Whittington notes).

Baseline Investigations

- Pelvic/abdominal ultrasound scan to assess the ovarian size, amount of free fluid and uterine cavity
- FBC (check HCT/ PCV for haemoconcentration)
- Clotting studies (increased risk of thromboembolic episodes)
- U&E (may get hypovolaemic renal impairment)
- LFT (enzymes may increase and albumin decrease if marked ascites)
- CXR if respiratory symptoms
- βhCG if ≥ 10 days post embryo transfer
- Weight & girth measurement (to estimate degree of ascites)

In patient management

1. Daily FBC, U&E and LFT (clotting screen needs to be performed on admission and only repeated if clinically needed)

2. Strict fluid balance monitoring is crucial (input, output, daily weight and girth (mark skin to ensure reproducible measurements))

3. Initially 2 hourly BP, pulse and respiratory rate and hourly urine output (if not catheterised then discuss with consultant). The patient needs to be reviewed at least 6 hourly by the on call gynaecology team.

4. 4500 iu Tinzaparin once daily (if weight is less than 50kg give 2500 iu Tinzaparin once daily) subcutaneous daily & TEDS stockings to all symptomatic patients even if treated as outpatient.

5. Anti-emetics and analgesia as required. Strong analgesics (avoid non steroidals) are often required but relief of tense ascites will provide instant relief and should be performed sooner in these cases.

6. Prescribe folic acid (400mcg or 5mg as obstetrically indicated) and ensure continuation of luteal phase support if post embryo transfer (commonly cyclogest 200mg BD PV)

7. If serum albumin is less than 30g then transfuse 2 units of 20% human albumin

8. Balance input/ output with Normal Saline fluid- most women will need 2-3 litres /24 hours

9. If there is significant ascites present in symptomatic patients then paracentesis can be performed following discussion with the on call consultant (see below)

10. Alert Critical Care Outreach team according to trust guidelines

11. Inform consultant of any signs of deterioration

12. The primary IVF centre needs to be informed of the admission, as the primary centre will need to inform the HFEA of the admission. It is not the responsibility of the Whittington Hospital to inform the HFEA

13. If there is a maternal death then Mbrrace-UK (mothers and babies reducing risk through audits confidential enquires across the UK) needs to be contacted on 01865 289715. The reporting needs to be undertaken by the admitting consultant.

Indications for placement of drain

A small number of patients admitted with OHSS will require a drain.

1. Severe abdominal distension secondary to ascites causing extreme discomfort
2. Worsening renal output
3. Respiratory compromise such as shortness of breath and low oxygen saturation
4. Occasionally a patient will have an isolated pleural effusion causing respiratory compromise

A discussion needs to take place with the patient explaining the risks of the drain and a consent form should be signed.

A request should be personally taken to a consultant radiologist to site the drain after discussion with the consultant gynaecologist on call. The type of drain should be under the discretion of the consultant radiologist.

The risks are infection, bleeding, damage to surrounding organs in particular enlarged ovaries, bowel and blood vessels, small risk of loss of an early pregnancy. An up to date full blood count and clotting screen should be available.

Intravenous Augmentin 1.2 mg TDS should be administered one drain has been sited and should continue until drain removal.

The drain should be left open, with 2 hourly-recorded observations of drainage, or when drain is emptied (whichever is sooner).

A nurse or doctor on the ward could remove the drain provided they understand and have been trained in drain removal.

➢ Contacts (inside and outside the Trust including out-of-hours contacts)

Mr G. Lieberman, via switchboard
Gynaecology on-call team – SpR bleep **3040**, SHO bleep **3070**
Critical Care Outreach Team – bleep **2837 (0730-1930 hrs)**
ITU SpR – bleep **2613 (1930-0730 hrs)**

➢ References (evidence upon which the guideline is based)

RCOG (2006)"The Management of Ovarian Hyperstimulation Syndrome",

RCOG Green-top Guideline No.5 (http://www.rcog.org.uk/index.asp?PageID=1720)

The Practice Committee of the American Society for Reproductive Medicine (Nov 2006), "Ovarian Hyperstimulation Syndrome", *Fertility and Sterility*, *Vol 86, Suppl 4, pp178-183*

➢ Compliance with this guideline (how and when the guideline will be monitored e.g. audit and which committee the results will be reported to)

To be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval

		Yes/No	Comments
1.	**Does the procedural document affect one group less or more favourably than another on the basis of:**		
	Race	No	
	Ethnic origins (including gypsies and travellers)	No	
	Nationality	No	

		Yes/No	Comments
	Gender	No	
	Culture	No	
	Religion or belief	No	
	Sexual orientation including lesbian, gay and bisexual people	No	
	Age	No	
	Disability - learning disabilities, physical disability, sensory impairment and mental health problems	No	
2.	**Is there any evidence that some groups are affected differently?**	No	
3.	**If you have identified potential discrimination, are any exceptions valid, legal and/or justifiable?**	No	
4.	**Is the impact of the procedural document likely to be negative?**	No	
5.	**If so can the impact be avoided?**	N/A	
6.	**What alternatives are there to achieving the procedural document without the impact?**	N/A	
7.	**Can we reduce the impact by taking different action?**	N/A	

If you have identified a potential discriminatory impact of this procedural document, please refer it to the Director of Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact the Director of Human Resources.

Checklist for the Review and Approval of Procedural Document

To be completed and attached to any procedural document when submitted to the relevant committee for consideration and approval.

	Title of document being reviewed:	Yes/No	Comments
1.	**Title**		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	

	Title of document being reviewed:	Yes/No	Comments
2.	**Rationale**		
	Are reasons for development of the document stated?	Yes	
3.	**Development Process**		
	Is it clear that the relevant people/groups have been involved in the development of the document?	Yes	
	Are people involved in the development?	Yes	
	Is there evidence of consultation with stakeholders and users?	Yes	
4.	**Content**		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
5.	**Evidence Base**		
	Are key references cited in full?	N/A	
	Are supporting documents referenced?	N/A	
6.	**Approval**		
	Does the document identify which committee/ group will approve it?	Yes	
7.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	Yes	
8.	**Document Control**		
	Does the document identify where it will be held?	Yes	
9.	**Process to Monitor Compliance and Effectiveness**		
	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Yes	
	Is there a plan to review or audit compliance with the document?	Yes	
10.	**Review Date**		
	Is the review date identified?	Yes	
	Is the frequency of review identified? If so is it acceptable?	Yes	

	Title of document being reviewed:	Yes/No	Comments
11.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes	

Executive Sponsor Approval			
If you approve the document, please sign and date it and forward to the author. Procedural documents will not be forwarded for ratification without Executive Sponsor Approval			
Name		Date	
Signature			
Relevant Committee Approval			
The Director of Nursing and Patient Experience's signature below confirms that this procedural document was ratified by the appropriate Governance Committee.			
Name		Date	
Signature			
Responsible Committee Approval – only applies to reviewed procedural documents with minor changes			
The Committee Chair's signature below confirms that this procedural document was ratified by the responsible Committee			
Name		Date	
Name of Committee		Name & role of Committee Chair	
Signature			

Tool to Develop Monitoring Arrangements for Policies and guidelines

What key element(s) need(s) monitoring as per local approved policy or guidance?	Who will lead on this aspect of monitoring? Name the lead and what is the role of the multidisciplinary team or others if any.	What tool will be used to monitor/check/observe/Assess/inspect/ authenticate that everything is working according to this key element from the approved policy?	How often is the need to monitor each element? How often is the need complete a report ? How often is the need to share the report?	What committee will the completed report go to?
Element to be monitored	**Lead**	**Tool**	**Frequency**	**Reporting arrangements**
Was OHSS recognised **Was OHSS managed appropriately**	**G Lieberman**	**Audit Tool**	**When required**	**Maternity clinical audit and guidelines group**