Brighton and Sussex University Hospitals NHS Trust

GP007 Ovarian Hyperstimulation Syndrome (OHSS)

The Care & Management of Women with Ovarian Hyperstimualtion Syndrome

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Consultation committee:	Protocol and Guideline Group
Date:	12th November 2015
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Contents

KEY PRINCIPLES

A protocol is a set of measurable, objective standards to determine a course of action.
Professional judgement may be use in the application of a protocol.

SCOPE

This guideline applies to:

- All staff producing protocols and guidelines for maternity care
- All members of the Maternity and Gynaecology Risk Management Group
- All members of the Protocol and Guideline Group

RESPONSIBILITES

- Clinicians and Nurses:
  - To access, read, understand and follow this guidance
  - To use their professional judgement in application of this protocol
- A&E Clinical Staff:
  - To access, read, understand and follow this guidance
  - To use their professional judgement in application of this protocol
- Management:
  - To ensure the protocol is reviewed as required in line with Trust and National recommendations
  - To ensure the protocol is accessible to all relevant staff
  - To ensure that protocols are available for service users on request

OBJECTIVE STANDARDS

1.0 INTRODUCTION & DEFINITION

1.1 OHSS is an iatrogenic condition that happens only after taking medications to stimulate the ovaries for fertility treatment. It is a systemic disease resulting from vasoactive products released by hyperstimulated ovaries.

1.2 The pathophysiology of OHSS is characterised by increased capillary permeability, leading to leakage of fluid from the vascular compartment, with third space fluid accumulation and intravascular dehydration.

1.3 Severe manifestations include a tendency to develop thrombosis, renal and liver dysfunction and acute respiratory distress syndrome (ARDS), causing serious morbidity. Although the true incidence of mortality from OHSS is unknown, and possibly under-reported, deaths from OHSS are rare. The reported causes of death include ARDS, cerebral infarction and hepatorenal failure in a woman with pre-existing hepatitis C. (RCOG Green-top Guideline 2006).

1.4 All patients with suspected OHSS should be seen in GAU (RSCH) or A&E (PRH) and reviewed by the SpR or Consultant on duty. Ultrasound scan should be requested to assess the size of the ovaries and presence of ascites. Blood should be sent for FBC, U&Es and LFTs. HCG level should be checked in blood only if the date of admission is more than 12 days from egg collection.

2.0 DIAGNOSIS

2.1 Diagnosis of OHSS is usually straightforward, given a history of ovarian stimulation, either by gonadotrophins (FSH injections) or antiestrogens (Clomid, Letrozole or Tamoxifen) followed by the typical symptoms of abdominal distension, abdominal pain, nausea and vomiting

3.0 DIFFERENTIAL DIAGNOSIS

3.1 Alternative diagnoses should always be considered, such as:

- Complication of an ovarian cyst (torsion, haemorrhage),
- Pelvic infection,
- Intra-abdominal haemorrhage,
- Ectopic pregnancy
- Appendicitis

4.0 ASSESSING SEVERITY & REPORTING ADVERSE OUTCOMES

4.1 Women with OHSS should have the severity of their condition assessed and documented as management should be guided by the severity of the condition. It should be remembered that the severity could worsen over time as the condition evolves (See table)

4.2 In the UK, any death related to OHSS must be reported to the Confidential Enquiries into Maternal Deaths, irrespective of whether the woman was pregnant. The treating IVF centre should be informed of the admission. The IVF centre should follow relevant Human Fertilisation and Embryology Authority (HFEA) guidelines for reporting severe untoward incidents by telephone within 12 working hours of the identification of the incident and submission of an Incident Report Form within 24 working hours

5.0 CLASSIFICATION OF SEVERITY

Grade	***Symptoms, Signs & Investigations results***
Mild OHSS	Abdominal bloating Mild abdominal pain Ovarian size usually < 8 cm
Moderate OHSS	Moderate abdominal pain Nausea ± vomiting Ultrasound evidence of ascites Ovarian size usually 8–12 cm
Severe OHSS	Clinical ascites (occasionally hydrothorax) Oliguria Haemoconcentration haematocrit > 45% Hypoproteinaemia Ovarian size usually > 12 cm
Critical OHSS	Tense ascites or large hydrothorax Haematocrit > 55% White cell count > 25 000/ml Oligo/anuria Thromboembolism Acute respiratory distress syndrome

6.0 CLINICAL MANAGEMENT

6.1 The management of OHSS is essentially supportive until the condition resolves spontaneously

6.2 All women with suspected OHSS should have blood taken for FBC, U&Es, LFTs and clotting screen. Also, they should all have ultrasound scan to assess ovarian size and the presence of ascites

6.3 Symptomatic relief is important, particularly regarding pain and nausea

7.0 OUTPATIENT MANAGEMENT

7.1 Treatment for women with mild OHSS and many with moderate OHSS can be managed on an outpatient basis

7.2 Women can stay at home and review can be done every 3 days by running blood for FBC, U&Es and LFTs. Ultrasound scan may have to be repeated depending on severity of symptoms. This should be arranged through GAU (RSCH) and Horsted Keynes Ward (PRH)

7.3 Urgent clinical review is necessary if the woman develops increasing severity of pain, increasing abdominal distension, shortness of breath and a subjective impression of reduced urine output

7.4 The following should be advised:

7.4.1 Analgesia using paracetamol or codeine is appropriate. Non-steroidal anti-inflammatory drugs should not be used

7.4.2 Women should be encouraged to drink to thirst, rather than to excess

7.4.3 Strenuous exercise and sexual intercourse should be avoided for fear of injury or torsion of hyperstimulated ovaries.

8.0 INPATIENT MANAGEMENT

8.1 All women with severe or critical OHSS should be admitted to hospital until resolution of the condition. Also, women with moderate OHSS who are unable to achieve control of their pain and/or nausea with oral treatment should also be admitted.

8.2 The medical staff should work in conjunction with the nursing staff to ensure the following is completed on admission (See also appendix A):

8.2.1 Observation chart should be started for pulse, blood pressure, respiratory rate, weight, abdominal girth and urine output. Pulse, blood pressure, respiratory rate and fluid input/urine output should be monitored 4-hourly

8.2.2 Weight and abdominal girth should be repeated daily

8.2.3 FBC, U&Es, LFTs and clotting screen. FBC, U&Es and LFTs should be repeated daily

8.2.4 Ultrasound scan for ovarian size and ascites

8.2.5 Chest X-ray or ultrasound if respiratory symptoms or hydrothorax is suspected

8.2.6 ECG and echocardiogram if pericardial effusion is suspected

8.2.7 Pain relief is best provided with paracetamol and if necessary oral or parenteral opiates

8.2.8 Antiemetic drugs used should be those appropriate for the possibility of early pregnancy, such as Cyclizine (1st line) or Metoclopramide.

8.2.9 VTE assessment must be completed and venous support stockings and prophylactic Tinzaparin should be used to minimise the risk of thrombo-embolism

8.2.10 Where oral intake cannot be maintained, intravenous crystalloids, such as normal saline, should be used. Most women will need a fluid intake of 2–3 litres in 24 hours, guided by a strict fluid balance chart

8.2.11 Women with haemoconcentration (haemoglobin greater than 14g/dl, haematocrit greater than 45% may need more intensive initial rehydration, such as 1 litre of normal saline over 1 hour

8.2.12 Women with persistent haemoconcentration and/or urine output less than 0.5ml/kg/ hour may benefit from colloids. Human albumin, 6% hydroxyethylstarch (HES), dextran, mannitol and Haemaccel have been used for this purpose

8.2.13 If haemoconcentration and/or oliguria persist despite these measures, paracentesis should be considered. Paracentesis should be considered in women with discomfort or respiratory embarrassment because of severe abdominal distension, abdominal paracentesis should be considered

8.2.14 Further fluid management may be guided by central venous pressure monitoring and anaesthetists should be involved

8.2.15 Aspiration of ascites should take place under ultrasound guidance to minimise the risk of injury to enlarged, vascular ovaries

8.2.16 Repeated paracenteses may be avoided by the use of pigtail or suprapubic catheter that can be left in place

8.2.17 Drainage of ascites alone may suffice to resolve hydrothorax, if present, but symptomatic hydrothorax that persists despite abdominal paracentesis may be drained directly

8.2.18 If thromboembolism is suspected, therapeutic anticoagulation should be commenced, and additional diagnostic measures performed such as arterial blood gases, and ventilation/perfusion scan

8.2.19 Ovarian torsion should be suspected in the presence of further ovarian enlargement, worsening particularly unilateral pain, nausea, leucocytosis and anaemia. Colour Doppler assessment of ovarian blood flow may help in diagnosis. Untwisting of the twisted adnexa followed by observation of improved colour at laparoscopy or laparotomy is associated with a favourable prognosis for ovarian function

8.2.20 Features of critical OHSS should prompt consideration of the need for intensive care

8.3 Patients who are pregnant should continue taking the following medications if they are already taking any of them:

8.3.1 Progesterone (Cyclogest) 400mg vaginal pessaries, once or twice daily.
8.3.2 Gestone (Progesterone) 100mg daily intramuscular injections.
8.3.3 Oral Aspirin 75mg a day.
8.3.4 Heparin (Clexane) 40mg, daily subcutaneous injections.
8.3.5 Prednisolone 20-25mg daily oral dose

9.0 DISCHARGE & FOLLOW UP

9.1 All women should inform primary clinician of admission and a discharge letter must be sent to the referring clinic and GP

9.2 Women must be discharged with their usual medications

9.3 All women must be given patient information leaflet and contact numbers

10.0 REFERENCES

RCOG Green-top guideline, September 2006

11.0 APPENDIX

GYNAECOLOGY CORE CARE PLAN:

CARE OF PATIENT WITH OVARIAN HYPERSTIMULATION SYNDROME (OHSS)

Ward:

PROBLEM: This woman has OHSS and is experiencing: abdominal distension, pain, nausea / vomiting, dehydration &/or oliguria. (delete as according to individual patient)	
GOAL: To help manage the woman's symptoms (above) to a level acceptable to the patient so that she can be independent in activities of daily living.	
ACTIONS (Circle appropriate actions)	**AMENDMENTS** (Date/Signature)
1. Admit to ward. Ensure that this woman understands why all the information requested is required and that she has given consent for all investigations. • Complete admission documentation including all risk assessments. Complete full set of observations using NEWS to provide baseline and to identify trigger for their subsequent frequency. • Record patient weight & abdominal girth stating the time measured. This will need to be recorded daily. • Obtain urine specimen for a pregnancy test and to monitor for infection. • Ensure patient aware of maintaining a low sodium diet and the kitchen staff are aware for meal times and choices. • Ensure that current signs and severity of symptoms are identified. E.g.: Abdominal distension, temperature, pain. These will act as baseline to identify efficacy of treatment when symptoms start to resolve	
2. This woman needs an early consultant involvement. Once the doctors have examined this patient: • Ensure FBC, U&E's, LFTs, coagulation and creatinine levels taken; identify when these need to be repeated. • Ultrasound of the abdomen and pelvis is requested/performed and reviewed. • Chest XRAY requested (if applicable) • Decision on whether patient needs an indwelling catheter for accurate fluid balance. If so manage the catheter as per Core Plan for Ongoing Care of Indwelling Catheter. • Appropriate medications have been prescribed • VTE assessment completed.	
3. Ensure that IV cannula is sited and commence IV rehydration therapy. • Manage the cannula as per Core Plan for Ongoing Care of Peripheral Cannula. • Maintain a strict fluid balance chart for the patients stay.	

4. Administer pain relief if required, initiating Pain Management Core Care Plan for Gynaecology Patients	
5. Administer anti emetics as required. Ensuring adequate anti emetic medications prescribed evaluating their effectiveness.	
6. If a paracentesis is required as part of the patient's plan of care initiate Abdominal Paracentesis Core Care Plan . This may need individualising to include albumin infusion and wedge pressure measurements (if applicable)	
8. Give emotional support and reassurance consistently ensuring adequate explanation of issues. Offer health promotion where possible.	
9. Discharge home and advise to contact GAU if any concerns	
Signature of nurse generating care plan:	**Date:**
Evidence: Royal College of Obstetricians & Gynaecologists - The Management of Ovarian hyperstimulation syndrome (2006)	

GIRTH MEASUREMENT CHART (OHSS)

DATE	TIME	ABDOMINAL GIRTH	Weight (KG)	SIGN