Reference Number: UHBOBS095 **Version Number: 4**	**Date of Next Review:** **Previous Trust/LHB Reference Number:**

Obstetric Cholestasis

Introduction and Aim

Obstetric Cholestasis is the most common pregnancy induced liver disorder. It typically presents with pruritus (itching) of hands and feet in the third trimester of pregnancy and is associated with raised Bile Acid/ ALT blood tests. It is rapidly reversible post-natally.

The pathophysiology is not entirely clear but is multifactorial with genetic susceptibility. It is associated with a risk of stillbirth and other negative fetal outcomes.

Please note that this Guideline was approved awaiting new RCOG Green Top Guideline.

Objectives

The purpose of this guidance is to aid the investigation and management of Obstetric Choleostasis

Scope

This policy applies to all healthcare professionals in all locations including those with honorary contracts

Equality Health Impact Assessment	*An Equality Health Impact Assessment (EHIA) has not been completed.*
Documents to read alongside this Procedure	
Approved by	*Maternity Professional Forum*

Accountable Executive or Clinical Board Director	*Ruth Walker, Executive Nurse Director*
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Summary of reviews/amendments			
Version Number	**Date of Review Approved**	**Date Published**	**Summary of Amendments**
1	Nov 2010	*Nov 2010*	
2	Jan 2012	Jan 2012	Reviewed and amended by Sue Jose
3	Aug 2013	Sep 2013	Reviewed and amended by Ruth Guy / Pina Amin
4	11/03/2019	26/03/2019	Reviewed and amended by Joanna Cuttell and Amy Robb, Consultant Obstetrician

Diagnosis

Presenting Complaint is typically itching that involves the palms and soles of the feet, which is worst at night. Women may also present with right upper quadrant pain, nausea, poor appetite, sleep deprivation, or steatorrhea.
There is no rash with OC but excoriations from scratching may be present.
It affects 0.7% of a multi-ethnic population and almost double that in women of Indian or Pakistani origin and highest in women of Chilean origin.

Risk factors include:

- Multiple pregnancy
- Chronic hep C infection
- Previous cholestasis
- Family history of OC
- Increased maternal age

Other causes of itching and liver dysfunction should be excluded prior to diagnosis.

- Blood tests at initial presentation should include:
- Liver function tests
- Bile acids
- Coagulation screen
- Viral screen for hepatitis A, B, and C, Epstein Barr and cytomegalovirus,
- Anti-smooth muscle and antimitochondrial antibodies
- A Liver ultrasound should also be performed.

Raised Bile acids or abnormal LFT tests may be delayed in OC so in symptomatic patients, these bloods should be repeated weekly to avoid missing the diagnosis.

Counselling about Risks

The most concerning risk is stillbirth. The incidence of stillbirth after 37 weeks of gestation attributed to OC is reported to be 1.2%, compared to 0.5% of general population, but this figure is imprecise. The risk of fetal demise appears to increase with higher bile acid levels and with advancing gestational age.

Other negative outcomes can include:

- Premature delivery (usually due to iatrogenic induction of labour)
- Fetal distress and passage of meconium
- Respiratory distress syndrome
- Admission to neonatal intensive care unit

Management

- Once Obstetric Cholestasis is diagnosed, it is necessary to measure LFTs and bile acids in Day Assessment Unit on weekly basis.
- In some, not all cases, the bile acid result will not be interpretable as the assay used within the biochemistry laboratory in Cardiff will also detect the bile acid within Ursodeoxycholic acid and therefore may cause unnecessary anxiety, if the levels are not low.
- Therefore the whole clinical picture as well as the LFTs should always be considered.
- Needs consultant led care and referral to next available Consultant ANC.
- High level of Bile acid (not on Urso) (>40) or high level of ALT (>100) is considered severe OC.

Bile acid level ≥40 micromol/L increases adverse fetal outcomes including Preterm birth, RDS and Meconium

Bile acid level ≥100 micromol/L correlates with high chances of fetal demise 10-15% in some studies.

*Note stillbirth has also been recorded in women with bile acids less than 40 micromol/L

- Ultrasound and CTG are not reliable methods for preventing fetal death in OC as it is thought to cause a rapid deterioration in cases of fetal demise.
- Poor outcome cannot be predicted by biochemical results and delivery decisions should not be based on results alone.

Medical Treatment

Aim of medical treatment is resolution of symptoms for pregnant women and reducing risks to the fetus.

Calamine lotion or aqueous cream with 2% menthol may relieve pruritus.

Ursodeoxycholic acid (UDCA) has been correlated to:

- resolution of pruritus,

- reduction in
  - alanine aminotransferase levels,
  - bile acid level,
  - premature birth,
  - fetal distress,
  - respiratory distress syndrome,
  - neonatal intensive care unit admission
- Increased gestational age and birth weight.

No known fetal/neonatal/childhood side effects

If there is clinical suspicion of OC, **Ursodeoxycholic Acid 300mg BD/TDS** can be started with or without raised bile acids and LFTs This dose can be increased to resolution of symptoms every 1-2 weeks to a maximum 21mg/kg/day. This may cause mild gastrointestinal upset.

This can be stopped when woman is in labour.

Vitamin K

Vitamin K should be discussed with all women with OC. It is given to reduce the risk of bleeding due to prolonged Prothrombin Time (PT). Even if PT is normal, vitamin K can be given, this must be balanced against the risk of venous thromboembolism.

Vitamin K water-soluble (Manadiol sodium phosphate) in doses of 10 mg daily should be given from 32/40 to be taken until delivery.

Should women with OC be offered elective early delivery?

- Decision for delivery should be by a Consultant Obstetrician.
- Women should be informed of increased risk of perinatal morbidity from early intervention.
- Women should be offered Induction of Labour (IOL) between 37-38 weeks of gestation if favourable.
- Earlier IOL (after 36/40 completed week) should be considered in case of severe biochemical abnormality Bile acid (>40) or high level of ALT (>100) after discussion with consultant obstetrician.
- Clinical decision-making should be based on maternal symptoms and on the highest total bile acid level before treatment was initiated.

Follow-up should be offered to women who have had a pregnancy affected by OC?

- Post-natal, measurements of LFTs should be deferred for at least 10 days following delivery.
- 6-week blood tests with GP to ensure LFTs and bile acids back to normal.

References:

RCOG, Green-top Guideline No.43, Obstetric Cholestasis, April 2011
Intrahepatic Cholestasis of pregnancy. UpToDate. Literature Review 2018.