MANAGEMENT OF ITCHING IN PREGNANCY AND OBSTETRIC CHOLESTASIS.

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AIM OF GUIDANCE

To give guidance to obstetricians and midwives on the management of women with Obstetric Cholestasis (OC).

INTRODUCTION

Pruritus in pregnancy is common, affecting 23% of pregnancies, of which a small proportion will have Obstetric Cholestasis. Obstetric Cholestasis, sometimes referred to as Intrahepatic Cholestasis of Pregnancy (ICP). Itching that involves the palms and soles of the feet, is particularly suggestive of OC.

A systematic review and individual patient data meta-analysis from 2019 showed that intrahepatic cholestasis of pregnancy is associated with increased rates of spontaneous and iatrogenic preterm birth, meconium stained amniotic fluid and neonatal unit admission. In addition the risk of still birth was found to be increased only for women with peak serum bile acid concentrations of 100µmol/L or higher. Ovadia et al, (2019), in contrast to the previously held belief that the risk of stillbirth was increased for all women with intrahepatic cholestasis of pregnancy. Puljic et al (2015).

Risk Factors

The prevalence of OC is approximately 0.7% in the UK (RCOG). The following factors are associated with an increased risk;

- A personal or family history of obstetric cholestasis
- Multiple pregnancy
- Carriage of hepatitis C
- Presence of gallstones.
- Women of Indian and Pakistani descent have a twofold increase in risk.

Initial assessment for diagnosis of Obstetric Cholestasis

Initial assessment, blood tests and diagnosis is made in the ADAU. Women over 20 weeks gestation are to be tested, under 20 weeks women are to observe symptoms and see GP if concerned:

A detailed history should be taken including the following:

- Unexplained pruritus
- Usually no rash (excoriations only)
- Pale stools, dark urine, jaundice
- Family history or personal history of cholestasis (or gallstones)
- Multiple pregnancy & Hepatitis C (earlier onset before 26 weeks)
- Drug history- herbal remedies or recent antibiotics.

A full antenatal examination should be performed including:

- Abdominal palpation and fundal height measurement
- Fetal heart auscultation
- Check for presence of normal fetal movements
- Blood pressure and maternal pulse
- Urinalysis

Blood Tests

- FBC
- Liver function tests (LFTs). Pregnancy specific reference range which is 20% lower than non pregnant range should be used.
- Bile acids.
- Urea and electrolytes

Clinical Chemistry Test	Normal level
Bile Acid	<14 umol/L
ALT (Alanine transaminase)	<33 iu/L

If results are normal but unexplained pruritus persists, bloods should be repeated **fortnightly** until LFT/bile acids become abnormal or symptoms stop (NICE 2015).

Aqueous menthol 1% cream (dermacool) may be given to alleviate symptoms. If severe a TTO of chlorphenamine (piriton) 4mg can be given (Can have up to 6 times a day).

Diagnosis

Obstetric Cholestasis alone is **not** an obstetric emergency. Therefore, if a woman complains of itching in the absence of other symptoms (i.e Altered Fetal Movements), it is perfectly acceptable to arrange an appointment via ADAU Monday to Friday. Urgent out of hours assessment is **not** required for itching alone.

If **bile acid** levels are raised **and/or ALT** then a provisional diagnosis of OC should be made and woman should be made an appointment to ADAU for further investigations including 2nd line bloods and Obstetric Consultant antenatal clinic appointment can be arranged.

2nd line bloods

- Viral screen for Epstein Barr and cytomegalovirus and hepatitis C if not checked at booking.
- Liver antibodies in particular AMA for primary biliary cirrhosis
- Gamma GT
- Clotting screen initially as a baseline.
- Liver ultrasound to be arranged if bilirubin raised.

There is no need to repeat the first line bloods again if done a few days before unless the results were very deranged.

Forms to complete/bottles to use.

Microbiology form.

2 yellow top bottles

- EBV screen
- CMV screen
- Hepatitis C (if not done at booking).

Normal white blood form.

1 blue bottle

- Clotting screen

2 yellow top bottles

- Gamma GT
- AST
- Liva/AMA

Once second line bloods are completed full antenatal check to be completed.

Associated Risks

Fetal

- Spontaneous or iatrogenic prematurity
- Foetal intracranial bleeding
- Meconium stained amniotic fluid
- Intrapartum fetal distress

Maternal

- Postpartum Haemorrhage secondary to Vitamin K deficiency
- Chronic sleep deprivation

Monitoring of Obstetric Cholestasis

Women diagnosed with obstetric cholestasis should be transferred to Consultant led care and advised to give birth in an Obstetric Unit.

Maternal Monitoring;

- Measure LFT, FBC, U&E and bile acids weekly.
- Weekly blood pressure and urine.

Fetal Monitoring;

- Fetal auscultation as part of the antenatal check.
- Maternal monitoring of movements.
- Ultrasound and CTG are **not** reliable methods for preventing fetal death in OC and are **not necessary** unless other indications for monitoring exist.
- Continuous fetal monitoring in labour should be offered.

No specific method of antenatal fetal monitoring for the prediction of fetal death can be recommended. Ultrasound and cardiotocography are **not** reliable methods for preventing fetal death in obstetric cholestasis.

The current additional risk of stillbirth in obstetric cholestasis above that of the general population has not been determined, but is likely to be small.

Treatment

Although there is no current evidence that any specific treatment improves either maternal symptoms or neonatal outcomes, the following may be considered;

- **Topical emollients** -These are safe in pregnancy and clinical experience suggests that for some women they may provide slight temporary relief of pruritus. Aqueous cream and 1% menthol (Dermacool), Calamine lotion or diprobase can be offered.
- **Antihistamines** (e.g. chlorphenamine 4 mg prn or promethazine 25 mg at night) may help relieve pruritus and provide some sedation if needed.
- **Vitamin K** (Water soluble). **Only to be given after 34/40.** A discussion should take place with the woman regarding the use of vitamin K. The usual dose is 10 mg daily by mouth, aiming to improve both maternal and neonatal levels, which are assumed to be deficient, and therefore reduce postpartum haemorrhage and fetal or neonatal bleeding. The use of water-soluble vitamin K (menadiol sodium phosphate) 5–10 mg daily is indicated.
  NB. Postnatal vitamin K must still be offered to the babies in the usual way.

Ursodeoxycholic acid - Recent evidence shows that the use of ursodeoxycholic acid **does not** reduce maternal bile acids concentrations (Chappell et al, 2019) and therefore it's use is no longer recommended.

Timing of Birth

Poor outcome cannot currently be predicted by biochemical results and decisions regarding timing of birth should not be based on results alone.

A meta-analysis by Ovadia et al (2019) identified that risk of stillbirth increases with women with intrahepatic cholestasis of pregnancy with peak bile acid concentrations of at least 100µmol/L and that the risk of preterm birth increases with peak bile acid concentrations of at least 40µmol/L.

- A discussion should take place with women regarding induction of labour (IOL). If the bloods are normal and symptoms are well controlled IOL should be arranged for 40/40. If the Bile acids are above 100 µmol/L then IOL should be arranged for 37/40.

- Women should be informed of the increased risk of perinatal morbidity from early intervention.

- Women should be informed that the case for intervention (after 37+0 weeks of gestation) may be stronger in those with more severe biochemical abnormality (transaminases and bile acids).

- Women should be advised that there is currently no good evidence that induced early delivery affects the risk of stillbirth

- Women should be informed of the increased risk of maternal morbidity from intervention at 37/40 of gestation.

- Women should be informed of the inability to predict stillbirth if the pregnancy continues.

Postnatal Management

Postnatal resolution of symptoms and normalisation of LFTs is crucial in confirming the diagnosis of OC.

All women with provisional diagnosis of OC should have a repeat LFT two weeks after delivery in the community by the GP (LFTs increase in the first 10 days of the puerperium). A discussion regarding future pregnancies and contraception should also be undertaken. If LFTs are still abnormal refer to gastroenterology team.

Women with OC should be advised:

- Advise women that there is a 10% risk of developing pruritus or hepatic impairment or both with oestrogen containing contraception.
- The recurrence rate in the following pregnancy is 40- 90%
- There are no known developmental problems for the baby and no increased risk of developing neonatal jaundice.

Flow chart for suspected obstetric cholestasis

Woman presents with itching in pregnancy (No rash)

Refer to **ADAU** for assessment (Weekday no need to be seen out of hours as suspected OC is **not** an emergency situation).

Investigations:- LFT/U&E/ Bile acids/FBC

Fetal auscultation if not done (CTG if altered fetal movements)

Normal blood results

Reassure woman

If MLC, no need to transfer to CLC.

Repeat assessment in 2 weeks if symptoms persist.

Abnormal blood results

Typical history of pruritis without a rash

ALT > 33iu/L

Bile acid >14umol/L

Exclusion of other causes of abnormal liver function. Viral screen (2nd line bloods)

Liver scan if indicated.

Refer to CLC if MLC. If CLC ensure ANC Appt in place within the next 2 weeks.

ANTENATAL CARE

Consultant led care

Prescribe:- topical emollients, vitamin K, Antihistamines

Weekly LFT's, Blood pressure, urine, check symptoms and medication review if needed.

Ultrasound and CTG are not necessary unless other indications to do so.

BIRTH

Should be in an obstetric unit

Consider IOL after 37+0 weeks gestation if bile acids above 100umol/L

40/40 if bloods normal.

Continuous fetal monitoring in labour

POSTNATAL FOLLOW UP

LFT's 2 weeks after delivery to confirm diagnosis of OC arranged via community midwife/GP.

Blood anomalies may be raised for longer with breast feeding.

If results remain abnormal after 8 weeks refer to specialist gastroenterology team.

References:-

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ADAU OBSTETRIC CHOLESTASIS ASSESSMENT

EDD_____ Parity_____ Gestation _____

Consultant_____ Date of diagnosis_____

Initial ADAU Attendance

Results of itching bloods: Date:_____ALT_____ Bile Acid_____

Obstetric cholestasis discussed with woman ☐ Patient information leaflet given (RCOG) ☐ Fetal movement leaflet ☐

Date:_____ BP:_____ Pulse:_____ Temp:_____ SFH_____cms

Presentation_____ Lie:_____ Engagement:_____ Fetal Heart auscultation:_____bpm Urine: _____ Fetal movements normal: YES/NO (If no commence CTG).

Symptoms **Itching:** Mild ☐ Moderate ☐ Severe ☐ **Skin:** Rash ☐ Broken skin ☐ Intact ☐

Sleep: Normal ☐ Disturbed ☐ Lack of sleep affecting daily activities ☐

Management plan

Review by:_____ Con/SPR

Medication

Vitamin K ☐ Chloramphenamine (Piriton) ☐ Aqueous/Menthol 1% cream ☐

ADAU midwife: Name_____ Sign_____ Date:_____

Tests

Date:_____ Cytomeglovirus: POS/NEG Epstein barr virus: POS/NEG Hep C: POS/NEG

Liver scan: NORMAL/ABNORMAL/N/A (only need if ALT raised) ANTIBODIES_____

Follow up consultations **Date:** _____ **Time:** _____ **Obstetric cholestasis bloods** ☐

BP:_____ Pulse:_____ Temp:_____ SFH_____cms Presentation_____

Lie:_____ Engagement:_____ Fetal Heart auscultation:_____bpm Urine_____

Fetal movements normal: YES/NO (If no commence CTG: Comments_____

Check medication (any changes): YES/NO _____ Enough supply: YES/NO

Itching: Mild ☐ Moderate ☐ Severe ☐ **Skin:** Rash ☐ Broken skin ☐ Intact ☐

Sleep: Normal ☐ Disturbed ☐ Lack of sleep affecting daily activities ☐

Blood results: Date:_____ **Hb**_____**g/l** **WCC:**_____ **Plts**_____ **ALT:**_____ **Bile Acid:**_____

PLAN:_____

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Midwife sign:_____ **Midwife name:** _____

Follow up consultations **Date**:_____ **Time**:_____ **Obstetric cholestasis bloods** ☐

BP:_____ Pulse:_____ Temp:_____ SFH_____cms Presentation_____

Lie:_____ Engagement:_____ Fetal Heart auscultation:_____bpm Urine_____

Fetal movements normal: YES/NO (If no commence CTG: Comments_____

Check medication (any changes): YES/NO _____ Enough supply: YES/NO

Itching: Mild ☐ Moderate ☐ Severe ☐ **Skin:** Rash ☐ Broken skin ☐ Intact ☐

Sleep: Normal ☐ Disturbed ☐ Lack of sleep affecting daily activities ☐

Blood results: Date:_____ **Hb**_____**g/l** **WCC:**_____ **Plts**_____ **ALT:**_____ **Bile Acid:**_____

PLAN:_____

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Midwife sign:_____ **Midwife name:** _____

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ADAU OBSTETRIC CHOLESTASIS ASSESSMENT

CONTINUATION SHEET

EDD_____ Parity_____ Consultant_____ Date of diagnosis_____

Follow up consultations **Date**:_____ **Time**:_____ **Obstetric cholestasis bloods** ☐

BP:_____ Pulse:_____ Temp:_____ SFH_____cms Presentation_____

Lie:_____ Engagement:_____ Fetal Heart auscultation:_____bpm Urine_____

Fetal movements normal: YES/NO (If no commence CTG: Comments_____

Check medication (any changes): YES/NO _____ Enough supply: YES/NO

Itching: Mild ☐ Moderate ☐ Severe ☐ **Skin:** Rash ☐ Broken skin ☐ Intact ☐

Sleep: Normal ☐ Disturbed ☐ Lack of sleep affecting daily activities ☐

Blood results: Date:_____ **Hb**_____**g/l** **WCC:**_____ **Plts**_____ **ALT:**_____ **Bile Acid:**_____

PLAN:_____

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Midwife sign:_____ **Midwife name:** _____

Follow up consultations **Date**:_____ **Time**:_____ **Obstetric cholestasis bloods** ☐

BP:_____ Pulse:_____ Temp:_____ SFH_____cms Presentation_____

Lie:_____ Engagement:_____ Fetal Heart auscultation:_____bpm Urine_____

Fetal movements normal: YES/NO (If no commence CTG: Comments_____

Check medication (any changes): YES/NO _____ Enough supply: YES/NO

Itching: Mild ☐ Moderate ☐ Severe ☐ **Skin:** Rash ☐ Broken skin ☐ Intact ☐

Sleep: Normal ☐ Disturbed ☐ Lack of sleep affecting daily activities ☐

Blood results: Date:_____ **Hb**_____**g/l** **WCC:**_____ **Plts**_____ **ALT:**_____ **Bile Acid:**_____

PLAN:_____

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Midwife sign:_____ **Midwife name:** _____

Follow up consultations **Date**:_____ **Time**:_____ **Obstetric cholestasis bloods** ☐

BP:_____ Pulse:_____ Temp:_____ SFH_____cms Presentation_____

Lie:_____ Engagement:_____ Fetal Heart auscultation:_____bpm Urine_____

Fetal movements normal: YES/NO (If no commence CTG: Comments_____

Check medication (any changes): YES/NO _____ Enough supply: YES/NO

Itching: Mild ☐ Moderate ☐ Severe ☐ **Skin:** Rash ☐ Broken skin ☐ Intact ☐

Sleep: Normal ☐ Disturbed ☐ Lack of sleep affecting daily activities ☐

Blood results: Date:_____ **Hb**_____**g/l** **WCC:**_____ **Plts**_____ **ALT:**_____ **Bile Acid:**_____

PLAN:_____

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Midwife sign:_____ **Midwife name:** _____

Maternity Services

Checklist for Clinical Guidelines being Submitted for Approval

Title of Guideline:	MANAGEMENT OF ITCHING IN PREGNANCY AND OBSTETRIC CHOLESTASIS.
Name(s) of Author:	Jayne Bowden
Chair of Group or Committee approving submission:	Antenatal Forum
Brief outline giving reasons for document being submitted for ratification	Care of a woman who is itching and who may have Obstetric cholestasis. Updated earlier than policy needed revising due to new research.
Details of persons included in consultation process:	Ms L-E Shaw Antenatal forum
Name of Pharmacist (mandatory if drugs involved):	Anne Catherine Wilson
Issue / Version No:	2
Please list any policies/guidelines this document will supercede:	MANAGEMENT OF ITCHING IN PREGNANCY AND OBSTETRIC CHOLESTASIS 2017
Date approved by Group:	4/02/2020
Next Review / Guideline Expiry:	4/02/2023
Please indicate key words you wish to be linked to document	Obstetric cholestasis, OC, Itching, Liver
File Name: Used to locate where file is stores on hard drive	