The Shrewsbury and Telford Hospital NHS Trust

Thrombocytopenia in Pregnancy and the Peripartum period

VERSION 1

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Care Group	**:**	Women and Children's
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Consultation	**:**	Dr Hodgett.
Comments	**:**	References to SaTH Guidelines in the text pertain to the latest version of the Guideline on the intranet. Printed copies may not be the most up to date version. Pre-eclampsia Guideline

Version	Implementation Date	History	Ratified By	Review Date
1	25th November 2021	New	MGG and Maternity Governance	November 2024
2	November 2022	Audit & Monitoring paragraph updated to reflect new process		November 2024
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4. **Introduction**

4.1 The normal serum level of platelets in pregnancy is 150-400 x 10^9/L. The platelet count falls during normal pregnancy, with levels in third trimester being approximately 10% less than the pre-pregnancy level. The exact mechanism is unknown but thought to be a combination of dilutional effects and acceleration of platelet destruction across the placenta.

4.2 Thrombocytopenia is defined as a platelet count below 150x10^9/l. A platelet count below normal range is seen in 8-10% of pregnancies. Approximately 75% of these cases are due to benign process of gestational thrombocytopenia; 15-20% can be attributed to hypertensive disorders, 3-4% to an immune process and the remaining 1-2% is made up of rare constitutional thrombocytopenia, infections, and haematological malignancies. In general, counts that are stable and >100 do not require further investigations but should be monitored.

4.3 Guideline standards
Severity is classified as
Mild: >100x10^9 /L
Moderate: 50-100x10^9 /L
Serve: <50x10^9 /L

5. Aim

The aim of this guideline is to provide a framework for the investigation and management of thrombocytopenia in pregnancy

3.0 Objectives

3.1 To provide a clear process for the management of Thrombocytopenia in pregnancy & peripartum period for staff working within SaTH

4.0 Definitions and/or objectives

4.1 **FBC –** full blood count
4.2 **U&E –** urea and electrolytes
4.3 **ITP-** Immune Thrombocytopenia
4.4 **LFTs –** liver function test
4.5 **G&S-** group and save
4.6 **r/v-** review
4.7 **H/O -** history off
4.8 **PO** - per oral

5.0 Process

5.1 **In general**

In general, mild thrombocytopenia in pregnancy is benign and can be monitored by monthly FBC check by the midwife or the GP. Referral to Haematology Obstetric clinic should be prompted if the platelet counts fall below 100x10^9 /L.

5.2 **Safe levels for intervention**

Intervention	Platelet count
Antepartum, no invasive procedures planned	>20x10^9 /L
Vaginal delivery	>40x10^9 /L
Operative or instrumental delivery	>50x10^9 /L
Epidural anaesthesia	>80x10^9 /L

5.3 When to refer to Haematology-Obstetric clinic

Patients with thrombocytopenia in pregnancy should be referred to Haematology-Obstetric clinic under the following circumstances

- Platelet count of $<100x10^9$ /L
- Thrombocytopenia associated with a bleeding disorder
- A known cause of thrombocytopenia (non-obstetric) such as ITP/congenital thrombocytopenia.

5.4 Antenatal management of thrombocytopenia in pregnancy

Platelet count during pregnancy	Recommended action
≥ $150x10^9$ /L	Normal, No action required
80 - $<150x10^9$ /L	- Check blood pressure & urinalysis depending on gestation - Send blood for U&E, LFTs - Repeat FBC every 4 weeks - Repeat FBC prior to any intervention with an associated bleeding risk - Advise women to seek medical attention in the event of bleeding symptoms - Refer to Haematology-Obstetric clinic for further - Investigation if $<100x10^9$ /L
$<80x10^9$ /L	- Check blood pressure & urinalysis depending on gestation - Send blood for U&E, LFTs, blood film - Refer to Haematology-Obstetric clinic for further investigation - Anaesthetic clinic appointment
$<50x10^9$ /L	- Check blood pressure & Urinalysis depending on gestation - Send blood for U&E, LFTs, blood film - Contact Haematology Obstetric team to arrange an urgent review - Anaesthetic clinic appointment

5.5 Intrapartum management of women with thrombocytopenia

Where women with known thrombocytopenia are admitted in labour, follow specific intrapartum care plan.

- Take bloods for FBC on admission – please note additional bloods may be required including G&S/Crossmatch, coagulation and any tests specified in the intrapartum care plane.

- Where women are diagnosed with thrombocytopenia for the first time in labour, in the absence of pre-eclampsia, follow management of ITP.

- Inform senior Obstetrician, Anaesthetist and on call Haematologist of admission.

5.6 Management in specific conditions

	Presentation	Management
Gestational Thrombocytopenia	- Diagnosis of exclusion - No associated maternal Bleeding - No past history Thrombocytopenia outside pregnancy - Occurrence in third trimester - No associated fetal thrombocytopenia - Spontaneous resolution after delivery - May recur in subsequent pregnancies	Antepartum: - Monthly platelet checks if platelets are above $100x10^9$ /L - Refer to consultant if $<100x10^9$ /L - Exclude other pathological causes - Anaesthetic referral if count <80 - Consider trial of steroids if count between 50-70 (20mg/day) Intrapartum/Delivery: - Fetus not affected - Caesarean section only for obstetric indications - If diagnostic uncertainty, plan for delivery as per ITP - Epidural is safe if count >80 - If platelet count <50, platelets should be available on stand by Postpartum: If maternal count <80 at the time of delivery: - Cord samples taken at delivery and neonatal platelet count checked on days 1 & 4 - Avoid IM Vitamin K until count confirmed (PO vit K if <50) - Check maternal platelets in 6 weeks Postnatal
Hypertensive disorders of pregnancy	See serve pre-eclampsia guideline	

Immune Thrombocytopenia (ITP)	- Incidence of ITP 0.1-1/1000 Pregnancies, accounting for 3% of cases of thrombocytopenia in pregnancy - Around 2/3 of cases ITP in	Antenatal management: - Patient review in joint Haematology-Obstetric clinic - Monitor platelet count at least monthly

	pregnancy have pre-existing disease - ITP more likely if platelet count <70 or if personal or family history of autoimmune disorders - No specific diagnostic test is available	- Treatment is indicated in early pregnancy if platelet count drops to <20 or if Patient is symptomatic of thrombocytopenia after discussion with haematologist - The following treatments can be used Prednisolone 10-20mg OD With omeprazole for gastric protection. Can be titrated up to a maximum dose of 60mg/day. IV immunoglobulins should be considered where the counts are very low/inadequate response to steroids/patient experiencing bleeding. Platelet transfusion if active/life threatening bleeding in combination with above treatments. Labour/delivery: - Platelets should be available if count <50 - Case should be discussed with obstetrician, haematologist, and anaesthetist - Epidural/regional anaesthesia contraindicated if count <80 - Avoid ventouse delivery, FBS, FSE, high/mid-cavity operative delivery due to potential bleeding risks to the baby - Caesarean section for obstetric indications - If count >50, Syntometrine IM can be given - If count <50, IV oxytocin 5IU followed by oxytocin infusion should be given Postnatal management:

		Cord blood sample at delivery If neonatal thrombocytopenia at delivery, check FBC on days 1 & 4 - Avoid IM Vit K to the baby until count known - Babies with severe thrombocytopenia treated with IV immunoglobulins/platelets - Cranial doppler USS can be helpful
Thrombotic thrombocytopenic purpura	- Life threatening disorder - Pentad of signs and symptoms microangiopathic haemolytic anaemia, thrombocytopenia, neurological symptoms varying from headache to coma, renal dysfunction, and fever	- Urgent plasma exchange indicated after discussing with haematologist - Anaesthetist involvement - Platelet transfusion is contraindicated
Haemolytic Uraemic syndrome	- Microangiopathic haemolytic anaemia & Thrombocytopenia with predominant renal involvement	- Poor response to plasma exchange - Supportive management including renal dialysis if indicated

6.0 Training

6.1 All new midwives, students and medical staff will be informed about the process for accessing guidelines, protocols and policy during their induction.

7.0 Monitoring/audit

Compliance with this guideline / SOP will be audited as part of the Shrewsbury and Telford Hospital NHS Trust's five-year rolling programme of NICE and local guideline audits, unless circumstances require an earlier or more frequent audit. The audit will be carried out against the auditable standards and the results of the audit will be reported and acted on in accordance with the Trust Clinical Audit Policy (CG25).

8.0 References

1. https://doi.org/10.1576/toag.11.3.177.27502 Thrombocytopenia in pregnancy

2. High Risk pregnancy, management options, Fifth edition, Chapter 37 by Bethan Myers and Richard Gooding