Clinical Guidance

Thrombocytopenia (ITP and GTP) in pregnancy

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Contents

1.0 Introduction

Thrombocytopenia (defined as platelet count of under $150x10^9$) is the second most common haematological abnormality in pregnancy, after anaemia. It is common in pregnancy, occurring in 6.6-11.6% of women in the third trimester. It can be secondary to obstetric causes (gestational thrombocytopenia, pre-eclampsia/eclampsia) or systemic causes (immune thrombocytopenia, thrombotic thrombocytopenic purpura). The management of thrombocytopenia will depend on its cause.

Causes of thrombocytopenia:

	PREGNANCY SPECIFIC	NOT PREGNANCY SPECIFIC
ISOLATED THROMBOCYTOPENIA	Gestational Thrombocytopenia (70-80%)	Primary ITP (1-4%) Secondary ITP Drug induced thrombocytopenia Type IIB von Willebrand disease Congenital thrombocytopenia
THROMBOCYTOPENIA ASSOCIATED WITH SYSTEMIC DISORDERS	Severe pre-eclampsia (15-20%) HELLP syndrome (<1%) Acute fatty liver of pregnancy (<1%)	TTP/HUS SLE/APLS Viral infections Bone marrow disorders Nutritional deficiency Thyroid disorders Splenic sequestration (liver diseases, etc)

The two most common causes of isolated thrombocytopenia in pregnancy are gestational thrombocytopenia (GTP) and idiopathic thrombocytopenic purpura (ITP).

Gestational thrombocytopenia is a diagnosis of exclusion and a benign condition with no bleeding risk to mother or fetus. It is most common in the third trimester and platelets rarely fall below 70. It is thought to be a result of increased platelet consumption within the placental circulation and physiological haemodilution. Platelet count normalises at about 6 weeks post-partum.

Idiopathic thrombocytopenic purpura should be considered in women who develop thrombocytopenia in the first or second trimester. This condition can affect the baby, and all women should be referred to the maternal medicine clinic as well as to the haematologists.

2.0 Scope

This guideline covers the diagnosis and management of the 2 most common causes of isolated thrombocytopenia in pregnancy.

3.0 Guidance

3.1 Screening

Full blood count (FBC) is done routinely at booking and at 28 weeks. Additionally, FBC should be repeated in the presence of unexplained bruising or bleeding, petechial rash, abnormal liver function or signs of pre-eclampsia.

3.2 Diagnosis

Thrombocytopenia is diagnosed when platelets are $<150x10^9$. A repeat FBC should be done to confirm thrombocytopenia.

Characteristic	GTP	ITP
Onset during pregnancy	Mid-late second trimester and third trimester Frequency increases as term approaches	Anytime in pregnancy, usually present in first trimester
Platelet count	Rarely <80x10^9 Progressively decreases towards term	Usually <80
Thrombocytopenia outside of pregnancy	No	Yes
Neonatal thrombocytopenia	No	Possible
Postpartum resolution	Yes	Possible

3.3 History taking in the presence of thrombocytopenia

- Bleeding history
- Any previous history of thrombocytopenia and causes/treatment
- Constitutional symptoms including fever and weight loss
- Drug history
- Recent blood transfusion
- Symptoms of pre-eclampsia
- Family history (eg. vWD)

3.4 Recommended investigations in the presence of thrombocytopenia

- Repeat FBC
- Blood film – if platelets clumping, request a citrate sample
- Coagulation screen (to exclude DIC)
- Virology (HIV/Hep B or C)
- LFTs
- U+Es
- Other specific investigations after discussion with haematology

3.5 Management of specific causes of thrombocytopenia

Gestational thrombocytopenia:

- Monthly platelet count
- Referral to obstetric anaesthetist
- If platelet count 100-150
    - No other specific antenatal management
    - IV access, FBC, G+S on admission in labour
    - Active management of 3rd stage
    - Notify GP for FBC 3 months postnatally (will need referral to haematology if platelet count has not recovered)

Idiopathic thrombocytopenic purpura:

- Refer to maternal medicine, anaesthetics and haematology
- Monthly platelet count in first and second trimester
- 2-weekly platelet count in third trimester
- Weekly platelet count after 36/40
- Treatment will be started if:
    - Plt <30 before 36/40
    - Plt <50 after 36/40
- First line treatment if oral corticosteroids or intravenous immunoglobulin (IVIG)
- Oral prednisolone if started at a dose of 20-40mg daily, titrated to response and up to 1mg/Kg/day (initial response 2-14 days, peak 4-28 days)
- Whilst on steroids, arrange home blood sugar monitoring and prescribe Omeprazole 20mg OD
- IVIg is dosed at 1g/Kg/day (initial response 1-3 days, peak 2-7 days)
- Second line therapy is combined Prednisolone and IVIg or splenectomy in refractory cases (from second trimester)
- Third line includes Anti-d (for non-splenectomised women who are Rh D positive) or Azathioprine (takes up to 8 weeks for effect)
- Delivery:
    - Mode of delivery is guided by obstetric indications
    - FBC and clotting on admission in labour and repeated every 6 hrs
    - If plt <30 → Treat prior to delivery (vaginal or CS) – Platelet transfusion + IVIG
    - If plt <80 → No regional anaesthetic
    - Avoid FSE/instrumental (especially rotational forceps or ventouse)
    - Active management of third stage
    - If patient was on prednisolone >5mgs within 2 weeks of delivery, give IV hydrocortisone 50-100mgs 8hrly in labour, or single dose 100mgs if having a caesarean section
- Neonate
    - Cord bloods at delivery
    - If normal – no need to repeat
    - If plt<150 – repeat day 2 and 5, nadir count usually seen by day 7
    - Cranial ultrasound suggested when pls count at birth < 50x 10^9
    - Avoid IM vitamin K
- Post-partum:
    - Avoid NSAIDs if plt<50
    - LMWH if plt>75

4.0 References and abbreviations

1) "Thrombocytopenia in Pregnancy" ACOG 2019 https://www.acog.org/clinical/clinical-guidance/practice-bulletin/articles/2019/03/thrombocytopenia-in-pregnancy.

2) " Thrombocytopenia in pregnancy " ASH 2022 https://doi.org/10.1182/hematology.2022000375

3) "Diagnosis and management of thrombocytopenia in pregnancy." Blood Research 2022, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9057658/.

4) Immune thrombocytopenia (ITP) in pregnancy. Br JHaematol. 2024 https://doi.org/10.1111/bjh.19230

ITP – Idiopathic thrombocytopenic purpura
HELLP – Haemolysis, Elevated liver enzymes, Low platelets
Plt – Platelets
vWD – von Willebrand Disease
TTP – Thrombotic thrombocytopenic purpura

HUS – Haemolytic Uraemic syndrome
APLS – Antiphospholipid syndrome
SLE – Systemic lupus erythematous

5.0 Patient Information Leaflet

itpsupport.org.uk/download/ITPSA Pregnancy Patient Booklet.pdf

Appendix 1 **: Care plan summary**

Monitoring

- **ITP** - If plts >30x10^9 & no bleeding, no intervention required if the gestation <34/40
- **GTP** - If plts >70x10^9 & no bleeding, no intervention required if the gestation <34/40 but continue to monitor Fbc every two weeks, then weekly from 34 weeks
- If plts <80 x 10^9 – please request a blood film. If platelet clumping on film please request a citrate sample
- If plts <70x10^9 think of HELLP/PET - check Bp, UPCR, LDH, blood film, reticulocyte count, clotting screen
- **PLEASE SEND A REPEAT FBC IN A CITRATE BOTTLE TO CONFIRM DIAGNOSIS IF PLATELETS ARE LESS THAN 70 X10^9**

Treatment – if Platelet <70 x10^9

- **1st line – prednisolone start at 20mgs od x 1wk**
- **Arrange home blood sugar monitoring while on steroids**
- **Prescribe 20mgs Omeprazole with steroids**
- If no response, and tolerating steroids, increase to 30mgs od x 1wk
- If still no response and <36 wk increase to 40 mgs x 1 week (if tolerating) then reduce to 30mgs or lowest dose to maintain plts >70x10^9
- If 36 – 38 wks give 30mgs od x monitor fbc weekly
- Avoid > 40mgs/day prednisolone for more than 1 week due to the increased risk of PPROM
- **2nd line – IVIG 1 g/kg in a single or 2 divided doses**, can be used alone or in combination with prednisolone to maintain platelet levels, maximum IVIG frequency is every two weeks. Onset of action approx. 48hours, effect sustained x 2 week.
- *change from prednisolone to IVIG if side effects poorly tolerated or if suboptimal response
  Taper steroids by 5 mgs every 3-4 days over 2 weeks then stop
- If 38 - 39wks and plts are not > 70 give IVIG - repeat fbc x 1 week
- **3rd line – platelets**. Give platelets if no response to prednisolone or IVIG. Rapid rise in platelet count, effect sustained for 48 hours. Emergency stock not guaranteed to be available on site, order 1 day prior to planned delivery.
  Transfuse close to delivery to ensure maximal increment at delivery

Delivery

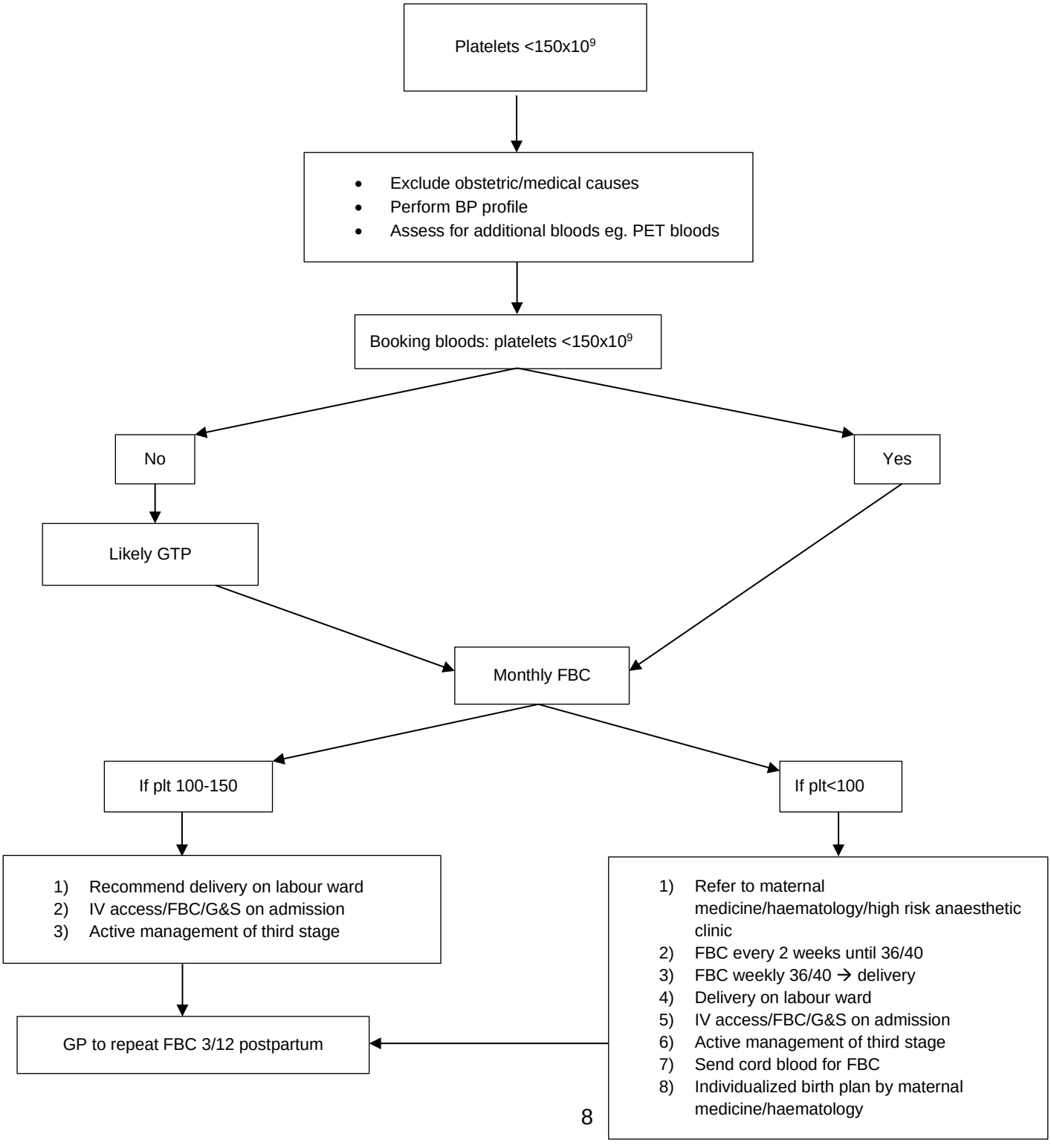
- **Safe levels** : Plts>50 x10^9 for C/s, Plts>40x 10^9 for vaginal delivery, Plts >70x10^9 for epidural/spinal
- FBC, G&S on admission to LW
- **ITP** – 10 % risk of neonatal plt<50, avoid midcavity forceps, vaccum delivery and FSE
- **GTP** – negligible risk of neonatal ITP, no restrictions for delivery
- If patient was on steroids within 2 weeks of delivery, give IV hydrocortisone 50-100mgs 8 hourly in labour or single dose if having Elective C/S

Neonate

In babies of mothers with ITP only

- Cord sample at delivery to determine the need for immediate therapy
- If the plt count is normal, no need for repeat but parents should be instructed to observe for unexplained bruising or petechiae
- If plt < 150x10^9 repeat Day 2 and Day 5, nadir count is usually seen by day 7
- Cranial ultrasound suggested when the count at birth is < 50 x 10^9/L, even in the absence of symptoms.
- Avoid IM injections until the plt count is known – give Vit K orally

Appendix 2: Thrombocytopenia flowchart



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Appendix 3: Evaluation of thrombotic microangiopathies presenting in 2nd and 3rd trimesters. ASH 2022