Palpitations in pregnancy & early postpartum: Triage & assessment

NHS SCOTLAND

Red flags:

- ! Sudden-onset breathlessness
- ! Orthopnoea
- ! Breathlessness with chest pain or syncope
- ! Respiratory rate >20 breaths per minute
- ! Oxygen saturation <94% or falls to <94% on exertion
- ! Breathlessness with associated tachycardia

! Obstetric specific early warning scores (MEWS) must be used to document observations in all pregnant women or those within 6 weeks post delivery

History taking

? How does the heart feel? e.g. racing, irregular, fluttering, or a "skipped beat" sensation?
? When do palpitations occur? e.g. at rest, on exertion, at night, postnatally?
? How do episodes start and stop? Sudden onset and abrupt termination, or gradual?
? How long do episodes last?
? Are there associated symptoms? e.g. chest pain, breathlessness, dizziness, syncope, or presyncope?
? Are there any identifiable triggers? e.g. caffeine, exertion, stress, change in position?

Family history

? Family history of heart disease, sudden death or blackouts
? Ask about any cardiovascular disease (congenital, inherited or acquired) in relatives.
? Ask specifically about CVD in younger relatives (<50yrs), relatives that died suddenly or who have had conditions such as aneurysms, dissections or required interventions e.g. surgery or implantable cardiac devices (ICDs)

Investigations

ECG: all pregnant women presenting with palpitations require an ECG. Obtain during symptoms if possible to capture the rhythm. Assess for pre-excitation (delta wave), prolonged QT interval, or features of structural disease

Blood tests: FBC – anaemia raises heart rate and causes palpitations; U&E – electrolyte disturbances (particularly potassium, magnesium, calcium) can precipitate arrhythmia; TFTs – thyroid disorders, especially thyrotoxicosis, are a recognised cause; note trimester-specific reference ranges apply in pregnancy

24-hour Holter monitor: consider for paroxysmal or recurrent palpitations to capture rhythm during symptoms. Extended ambulatory monitoring may be required if Holter is non-diagnostic

Echocardiogram: should be considered if arrhythmia or high ectopic burden is detected, or there is suspicion of structural heart disease. Impaired LV function is a known predictor of maternal cardiac events including arrhythmia

Do not withhold necessary investigations because of concern about radiation exposure in pregnancy if they are the most appropriate or readily available investigation for the diagnosis in question

Differential diagnoses

Supraventricular tachycardia (SVT)

! Sudden onset and abrupt termination of fast, regular palpitations
! May be associated with breathlessness, chest discomfort or presyncope
Most common symptomatic arrhythmia in pregnancy
! Vagal manoeuvres are first-line; adenosine is safe and effective for acute termination in pregnancy

Atrial fibrillation / atrial flutter

! Irregular, rapid palpitations
! May cause haemodynamic compromise, breathlessness, or chest pain
! Anticoagulation must be considered given the 4–5× elevated VTE risk in pregnancy
! DC cardioversion is safe in pregnancy and should be used promptly if haemodynamically unstable

Bradyarrhythmia / heart block

! Symptomatic bradycardia (HR <40bpm) may cause syncope, near-syncope or exercise intolerance
! May be associated with drug therapy (e.g. beta-blockers) or underlying conduction disease
! Requires 12-lead ECG is the primary investigation; cardiology review required

Ventricular arrhythmia

! May be associated with syncope, chest pain, or haemodynamic collapse
! Can be a presenting feature of underlying structural heart disease or cardiomyopathy
! Requires urgent senior cardiology review and ECG; echo essential
! If haemodynamically unstable: immediate DC cardioversion/defibrillation, haemodynamically stable: pharmacological cardioversion

Other causes to consider:

Physiological sinus tachycardia: Common in pregnancy due to increased cardiac output; resting HR typically 10–15bpm above non-pregnant baseline; diagnosis of exclusion

Ectopic beats (SVEs/PVCs): Often felt as a "skipped beat" or flip; usually benign but can be exacerbated by caffeine, fatigue, anaemia or stress; high ectopic burden warrants echocardiogram

Anaemia: Tachycardia and palpitations may result from reduced oxygen-carrying capacity; acute blood loss may not be immediately apparent

Thyrotoxicosis: Associated with tremor, sweating, weight loss, diarrhoea and anxiety; check TFTs with trimester-specific reference ranges

Anxiety/panic: May present with palpitations; cardiac causes must first be excluded

Management of palpitations

Ensure appropriate obstetric review
Palpitations require a positive diagnosis - exclusion of a serious arrhythmia is not sufficient
If haemodynamically unstable tachyarrhythmia: follow ALS algorithm. Do not delay DCCV where indicated
Seek senior review by relevant clinician if unsure of how to investigate, make a diagnosis and develop a management plan
Patients who are clinically unstable require immediate consultant review & early HDU/ITU referral in the appropriate setting
Actively escalate care to the 'Pregnancy Heart Team' including discussion for intervention if required (e.g. DC cardioversion, anti-arrhythmic therapy, catheter ablation)
Access SOCN acute pathways document and further information at www.socn.scot.nhs.uk

SOCN SCOTTISH OBSTETRIC CARDIOLOGY NETWORK

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