Breathlessness 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

? When does the symptom occur? e.g. does it occur at rest, at night, on lying flat?
? Did the shortness of breath come on suddenly?
? How many pillows does the patient sleep with, & for what reason?
? Are there any associated symptoms e.g. chest pain, dizziness, fast heart rate/palpitation, blackouts, new onset neurological symptoms/signs?
? Recent presentation to healthcare with similar symptoms?

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 to triage with breathlessness require an ECG

NTpro-BNP: marker of myocardial strain. Use in line with local heart failure diagnostic pathway. Caution required when interpreting result in pregnancy - seek advice from cardiology

ABG: If shocked, SaO2 <94% on air, raised respiratory rate, showing signs of tiring. Normal PCO2 in pregnancy is 3.7-4.2 kPa – higher levels may indicate impending respiratory failure

Chest X-ray: necessary to exclude pneumothorax, pneumonia, widened mediastinum & signs of fluid overload; or prior to V/Q scan

V/Q scan or CTPA: where there is suspicion of PE without symptoms or signs of DVT. CTPA should be used if CXR abnormal

CT aorta/chest: for evaluation of possible aortic dissection. ECG gated scan required

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

Consider and exclude these life-threatening causes of breathlessness

Pulmonary Embolism

! Pleuritic chest pain
! Dyspnoea
! Symptoms/signs of DVT

Consider VTE risk factors
Risk of VTE 4-5x higher in pregnant women

Manage according to RCOG VTE in pregnancy guideline

Acute pulmonary oedema

! Orthopnea/PND
! New inspiratory crepitation or wheeze
! Note: almost half of women presenting with heart failure do not have classic signs
Causes include: left ventricular failure, myocardial ischaemia, cardiomyopathies, valve disease, arrhythmias, pre-eclampsia, amniotic fluid embolism
May also result from reduced cardiac output
ECG & early echocardiogram with input from a cardiologist is required

Life threatening asthma

! May be exacerbation of known asthma or new presentation
! Presence of any of:
-PEFR <33% predicted
-SpO2 <92%
-Altered consciousness
-Exhaustion
-Cardiac arrhythmia
-Cyanosis
-Silent chest
-Hypotension
-Poor respiratory effort
-Confusion

Pneumothorax / pneumomediastinum

! Pleuritic, sharp, positional, sudden onset
! Associated with breathlessness

Increased risk following vaginal delivery or excessive retching in hyperemesis gravidarum

CXR is the primary investigation

Other causes to consider:
Pneumonia: associated with cough, sputum, fever, pleuritic chest pain
Anaemia: acute blood loss may not be immediately apparent and may be initially well tolerated until sudden decompensation
Systemic conditions: such as sepsis, anaphylaxis, diabetic ketoacidosis
Physiological breathlessness: common symptom in pregnancy (increased O2 consumption, reduced FRC); not associated with change in SpO2 or resting RR (if >20 consider a pathological cause)

Management of breathlessness

Ensure appropriate obstetric review
Dyspnoea requires a positive diagnosis – exclusion of a condition is not sufficient
Seek senior review by relevant clinician if unsure of how to investigate, make a diagonosis and to develop management plan
Patients who are clinically unstable require immediate consultant review & early HDU/ITU referral in the appropriate setting for their presentation (obstetric, medical or cardiac HDU/CCU/ICU)
Actively escalate care to the 'Pregnancy Heart Team' including discussion for intervention if required (e.g. thrombolysis, mechanical circulatory support)
Access SOCN acute pathways and further information at www.socn.scot.nhs.uk

SOCN SCOTTISH OBSTETRIC CARDIOLOGY NETWORK

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