Development of a tool to guide the immediate management and escalation of care of the pregnant or recently pregnant patient in non-obstetric areas

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Introduction

Over two thirds of deaths in pregnancy and the post-partum period are due to non-obstetric medical problems. The most recent Confidential Enquiry into Maternal Deaths and Morbidity shows cardiac disease remains the leading single cause of death[1]. Making a diagnosis is crucial – the report emphasises the importance of treating pregnant patients the same as non-pregnant individuals unless there is a very clear reason not to, and highlights the ongoing risk of clinicians' focus on concerns about a woman's pregnancy taking precedence over concerns about the woman herself[1].

Pregnant and recently pregnant women may present to any acute hospital service and it is important that clinical management takes into account the physiological differences of pregnancy – to this end communication with the obstetric team is central to care.

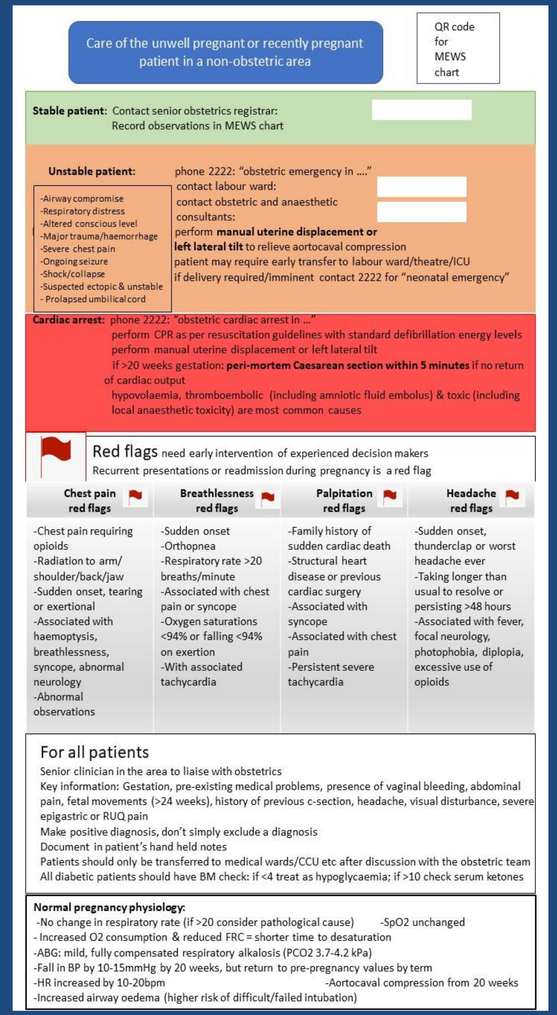
Methods

A review of serious adverse events involving the management of pregnant or recently pregnant women in non-obstetric areas in NHS Lothian identified the common themes of a lack of communication with the obstetric team and inadequate senior involvement and escalation of care. A workshop was held by a network of 40 multidisciplinary experts to develop a guideline for a site-specific communication and escalation route for the care of these patients in non-obstetric areas across the region.

Following engagement with the Scottish Obstetric Cardiac Network it was decided there was a need to develop a national tool that can be immediately accessed in non-obstetric areas, and that can be readily adapted across the regions of NHS Scotland. An immediate reference poster was developed incorporating the key themes of the NHS Lothian document, guidance from NHS Grampian and from the Royal College of Physicians Acute Care toolkit: Managing acute medical problems in pregnancy[2].

Results

A document to guide the triage of acutely unwell pregnant or recently pregnant patients presenting to non-obstetric areas was developed as a poster that can readily be accessed by clinicians working in these areas. It includes guidance for the initial management of the clinically unstable patient or the patient in cardiac arrest, including details about whom to contact - the chart can be adapted to each area with local contact details. A summary of red flags for acute medical presentations is included with a prompt that the presence of these flags should trigger the need for experienced and senior decision making. The poster highlights salient information that should be discussed with the obstetric team. It summarises clinically relevant important physiological changes of pregnancy that need to be taken into account and provides an electronic link to an obstetric MEWS chart in the form of a QR code.



Care of the unwell pregnant or recently pregnant patient in a non-obstetric area

QR code for MEWS chart

Stable patient: Contact senior obstetrics registrar:
Record observations in MEWS chart

Unstable patient: phone 2222: "obstetric emergency in ...."
-Airway compromise
-Respiratory distress
-Altered conscious level
-Major trauma/haemorrhage
-Severe chest pain
-Ongoing seizure
-Shock/collapse
-Suspected ectopic & unstable
- Prolapsed umbilical cord
contact labour ward:
contact obstetric and anaesthetic consultants:
perform **manual uterine displacement or left lateral tilt** to relieve aortocaval compression
patient may require early transfer to labour ward/theatre/ICU
if delivery required/imminent contact 2222 for "neonatal emergency"

Cardiac arrest: phone 2222: "obstetric cardiac arrest in ..."
perform CPR as per resuscitation guidelines with standard defibrillation energy levels
perform manual uterine displacement or left lateral tilt
if >20 weeks gestation: **peri-mortem Caesarean section within 5 minutes** if no return of cardiac output
hypovolaemia, thromboembolic (including amniotic fluid embolus) & toxic (including local anaesthetic toxicity) are most common causes

Red flags need early intervention of experienced decision makers
Recurrent presentations or readmission during pregnancy is a red flag

Chest pain red flags	Breathlessness red flags	Palpitation red flags	Headache red flags
-Chest pain requiring opioids -Radiation to arm/ shoulder/back/jaw -Sudden onset, tearing or exertional -Associated with haemoptysis, breathlessness, syncope, abnormal neurology -Abnormal observations	-Sudden onset -Orthopnea -Respiratory rate >20 breaths/minute -Associated with chest pain or syncope -Oxygen saturations <94% or falling <94% on exertion -With associated tachycardia	-Family history of sudden cardiac death -Structural heart disease or previous cardiac surgery -Associated with syncope -Associated with chest pain -Persistent severe tachycardia	-Sudden onset, thunderclap or worst headache ever -Taking longer than usual to resolve or persisting >48 hours -Associated with fever, focal neurology, photophobia, diplopia, excessive use of opioids

For all patients
Senior clinician in the area to liaise with obstetrics
Key information: Gestation, pre-existing medical problems, presence of vaginal bleeding, abdominal pain, fetal movements (>24 weeks), history of previous c-section, headache, visual disturbance, severe epigastric or RUQ pain
Make positive diagnosis, don't simply exclude a diagnosis
Document in patient's hand held notes
Patients should only be transferred to medical wards/CCU etc after discussion with the obstetric team
All diabetic patients should have BM check: if <4 treat as hypoglycaemia; if >10 check serum ketones

Normal pregnancy physiology:
-No change in respiratory rate (if >20 consider pathological cause) -SpO2 unchanged
- Increased O2 consumption & reduced FRC = shorter time to desaturation
-ABG: mild, fully compensated respiratory alkalosis (PCO2 3.7-4.2 kPa)
-Fall in BP by 10-15mmHg by 20 weeks, but return to pre-pregnancy values by term
-HR increased by 10-20bpm -Aortocaval compression from 20 weeks
-Increased airway oedema (higher risk of difficult/failed intubation)

Discussion

This clinical tool is intended to improve multidisciplinary communication and escalation of care for pregnant and recently pregnant women presenting with acute medical problems to areas where clinicians may be unfamiliar with the normal physiology of pregnancy. As the maternity population becomes more clinically complex, with increasing maternal age, obesity and other morbidities, this is likely to be an increasingly common occurrence.

References

1) Knight M, Bunch K, Tuffnell D, Patel R, Shakespeare J, Kotnis R, Kenyon S, Kurinczuk JJ (Eds.) on behalf of MBRRACE-UK. Saving Lives, Improving Mothers' Care - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2017-19. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2021.

2) Banerjee A, Neuberger F, Prinja P, Cooper N. on behalf of the Royal College of Physicians. Acute care toolkit 15: Managing acute medical problems in pregnancy. London: Royal College of Physicians 2019.