COVID-19 and pregnancy

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Origins

• SARS-COV-2 = COVID-19
  – There are other coronaviruses e.g. MERS, common cold
• Wuhan City in November 2019
Current figures

<table>
<thead>
<tr>
<th>Location</th>
<th>Cases</th>
<th>Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worldwide</td>
<td>770,106</td>
<td>36,938</td>
</tr>
<tr>
<td>USA</td>
<td>156,632</td>
<td>2,870</td>
</tr>
<tr>
<td>Italy</td>
<td>101,739</td>
<td>11,591</td>
</tr>
<tr>
<td>UK</td>
<td>22,141</td>
<td>1,408</td>
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</tbody>
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![Graphs showing total cases and deaths over time](image-url)
Transmission

- Respiratory secretions
- Faeces
- Fomites
- NOT genital tract / placental in majority
  - Placentas swabbed = negative
  - Babies screened = negative
  - Amniotic fluid, cord blood, breast milk = negative
  - 1 baby found to have IgM+ suggesting neonatal immune response
Current advice to prevent spread

• Only go outside for food, health reasons, work (if unable to work from home)
• Maintain 2m distance from others
• Wash hands as soon as home
• Do not meet anyone outside your household
Detection

• Symptoms of concern
  – High temperature
  – Persistent dry cough

• Up to 14d incubation period
Risks to pregnancy

- Most will have mild flu-like symptoms only, or be asymptomatic
- Small risk of pneumonia, hypoxia, PTL
- Similar to influenza risks appear greater in last trimester
- 1 single case of 34wk EMCS (IUD), multi-organ failure and ITU admission
- No deaths in pregnant women
Risk to baby

- No increase in early pregnancy loss or infection leading to second trimester loss
- No evidence to suggest congenital effects/teratogenicity
- PTL – case reports, may be iatrogenic effect, one case related to PPROM
What can we tell our patients?

• No increased risk of contracting COVID-19
• We are experienced in managing pregnancy and viral illness
• Restrictions are to reduce the spread of infection, and reduce the small number of women that would be severely affected
• If symptoms are worsening you may need care in hospital (risk of more severe infection/pneumonia)
What is social distancing?

- UK Chief Medical Officer advises pregnant women to increase their social distancing
- Particularly those >28wk who should have minimal contact with others
Routine appointments

• Contact maternity unit for advice on upcoming appointments
• Do not attend routine clinic if symptoms of COVID-19
• No children to be brought to appointments
Obstetrics and midwifery

• An essential service
• Telecommunication where possible
• Record keeping paramount
• Register all confirmed cases of COVID-19
  – Delay appointment 7d from symptom onset
  – Delay for 14d if self isolating because of affected household member
• Repeated DNA should be contacted
• If >3w delay should contact
Advice to pts with COVID-19

• Call 111 for advice / use online symptom checker
• Use own transport
• Inform staff prior to entering building
Assessment of COVID-19

• Wear surgical mask, gown and gloves
• Meet pt at hospital entrance
• Give pt a surgical mask and escort to isolation room
  – Ante-chamber
  – En-suite
  – Remove non-essential items prior to arrival
• Essential staff only to enter
• Visitors minimal
Suspected COVID-19

Treat as confirmed COVID-19 until results available
Obstetric emergency

• Isolate and PPE
• Manage obs emergency BEFORE testing for COVID-19
High risk ANC pts

- Require senior decision for timing of appts
Developing symptoms during admission

• Temp >37.8 or new respiratory symptoms
  – COVID-19 test (+ other viral screen)
  – Isolate and manage as positive until results known
  – Healthcare workers exposed to pt during incubation period – do not need to self isolate as exposure likely to have been limited
Labour with ? COVID-19

• Latent phase = stay at home
• Advise obstetric unit for delivery
• Isolate on arrival
• Avoid pool (*faecal transmission*)
• Continuous CTG (*risk of hypoxia - fetal compromise in 9/18 babies in Chinese case series*)
• Full MDT assessment include ID / medical specialist
• Treat sepsis if suspected
• Hourly oxygen sats >94% in addition to routine obs
In labour

- Inform:
  - consultant obstetrician,
  - consultant anaesthetist,
  - midwife in charge,
  - consultant neonatologist,
  - neonatal nurse in charge,
  - infection control team
Birth partners

• Asymptomatic = possibly infected
  – Ask to wear a mask and wash hands frequently
• Symptomatic = self-isolate, do not attend
Mode of delivery

• Should not be influenced by the presence of COVID-19, unless respiratory condition demands urgent delivery.

• Shortening second stage should be considered if pt exhausted/hypoxic
Obstetric theatres

- Put COVID-19 positive pts at end of list
- Emergency cases – use second theatre where available
- Minimise staff in theatre
- Consider running simulation to ensure all staff aware of PPE use

*NB: open suctioning = AGP, consider using swabs instead of suction??*
What does AGP mean?

• Aerosol generating procedure
  – General anaesthetic
What should we wear?

• Labour
• Pushing / assisted vaginal delivery
• Entonox
• Regional anaesthetic

Gloves, apron, surgical mask + visor
What should we wear?

- **Cat 1 CS under GA** - all scrub team members should scrub and have FFP3 mask etc. on before the GA is commenced

- **Elective CS** - all staff not required for siting regional block should stay out of theatre until block adequate – then would need surgical mask + visor only

- **Elective with high risk of conversion to GA** – consider wearing FFP3 mask + visor from outset
Analgesia / anaesthetic

• Entonox does not = AGP
• Regional analgesia not contra-indicated
• Better than GA if urgent intervention needed

• If Category 1 Caesarean needed
  – PPE must be done despite delay in decision-delivery time
  – Pt should be informed about this possible delay
Neonatal care

• Delayed cord clamping not contraindicated
• Suctioning airways / intubation of baby born to COVID-19+ mum = unlikely that baby is positive :: FFP3 not required
The unwell patient

• CXR and chest CT with fetal shield
• Stabilise mum as priority
  – Increase in resps = start oxygen (even if sats normal)
• Senior MDT decision regarding timing/mode of delivery and best ward to care for her
• Give steroids as usually would – no impact on COVID-19
• Hourly input-output
• Caution with fluid – bolus > slow infusion
Additional investigations

- ECG, CTPA
- FBC – note lymphocytes usually normal/low with COVID-19
The unwell patient in labour

- Inform neonatal team asap
- Aim for neutral fluid balance (ARDS + overload = bad)
Postnatal care

- Keep mum and baby together if well
- Follow RCPCH guidelines for baby
- Breastfeeding currently acceptable
  - Hand wash before touching baby
  - Avoid coughing/sneezing on baby whilst feeding
  - Consider facemask
  - Pump cleaning after each use
  - Consider asking well person to give baby expressed milk
After recovery from COVID-19

- Re-arrange scheduled ANC for after the isolation period
- Growth scans recommended, start 14 days after acute illness resolved
Flow chart to assess COVID-19 risk in maternity unit attendees

Does the woman either have known COVID-19, or symptoms of cough, fever of or above 37.8 degrees

No symptoms
- No further action - usual care

Symptoms present
- Give the woman surgical (non FFP3) face mask and ask to put on
- Accompany to designated isolation room or area for initial assessment
- Use full PPE and infection control measures

Does the women have an emergency obstetric issue, or is she in labour?

Emergency obstetric issue/in labour
- Alert designated local team, midwife co-ordinator, obstetric consultant on call and neonatal team
- MW and Obstetric Dr review within 30 minutes

Does she require admission to hospital?
- Yes
  - Discuss with local designated COVID-19 team regarding best place of care
  - Test woman for COVID-19
  - Treat as though confirmed case until results of swabs available

No
- No emergency obstetric issue and not in labour
- Advise to take own personal transport home immediately and self-isolate for seven days, or attend the hospital’s designated containment area for next action
- Rebook any appointment after seven days and send by post
Intercollegiate General Surgery
Guidance on COVID-19

• COVID-19 should be sought in any patient needing emergency surgery by history, COVID-19 testing, recent CT chest (last 24h) or failing that CXR. Any patient undergoing abdominal CT scan must also have CT chest.

• Any patient currently prioritised to undergo urgent planned surgery must be assessed for COVID-19 as above and the current greater risks of adverse outcomes factored into planning and consent.

• Full Personal Protective Equipment (PPE) should be used for laparotomy except perhaps when the patient is convincingly negative for COVID-19, but note that current tests maybe false negative. Full PPE includes wearing visors or eye protection. It is imperative to practise donning and doffing PPE in advance.

• Laparoscopy should generally not be used as it risks aerosol formation and infection. Consider laparoscopy only in extremely selected cases where the mortality benefit is substantially beyond doubt in the current situation.
Intercollegiate General Surgery
Guidance on COVID-19

• In theatre:
  – Minimum number of staff in theatre
  – Full protective PPE including visors for all staff in theatre
  – Stop positive ventilation in theatre during procedure and for at least 20 minutes after the patient has left theatre
  – Smoke evacuation for diathermy / other energy sources
  – Patients are intubated and extubated in theatre – staff immediately present should be at a minimum.

• Risk situations in surgery also include:
  – Approaching a coughing patient, for example, even if COVID-19 has not been diagnosed. Protection including eye shield is needed.
  – Naso-gastric tube placement is an aerosol generating procedure (AGP). AGPSs are high risk. Full PPE is needed. Consider carrying out in a specified location.
  – **Only emergency endoscopic** procedures should be performed. No diagnostic work to be done and BSG guidance followed. Upper GI procedures are high risk AGPs and full PPE must be used.
**Emergency Surgery**
- Test all for COVID-19
- Treat all as +ve
- CT thorax in last 24 hours
- Add CT thorax if having CT abdo

**Planned Surgery**
- Risk assessment for COVID-19
- Greater risks of surgery
- Consent
- Risk-reducing strategies (e.g. stoma)

**PPE**
- PPE for all laparotomies
- Unless COVID-19 negative (beware false negative)
- Include eye protection
- Practise donning & doffing

**Theatre**
- Minimum staffing levels
- All staff PPE including visors
- Stop +ve pressure ventilation
- Smoke extraction
- Intubation / extubation in theatre

**Laparoscopy**
- Generally should not be used
- Filters etc. difficult to implement
- Appendicitis: open / conserv.
- Cholecystitis: conserv. / cholecystostomy

**Endoscopy**
- Emergency only
- Follow guidance from BSG
- Upper GI endoscopy requires full PPE

**Full guidelines available:**
References

