COVID-19 and pregnancy

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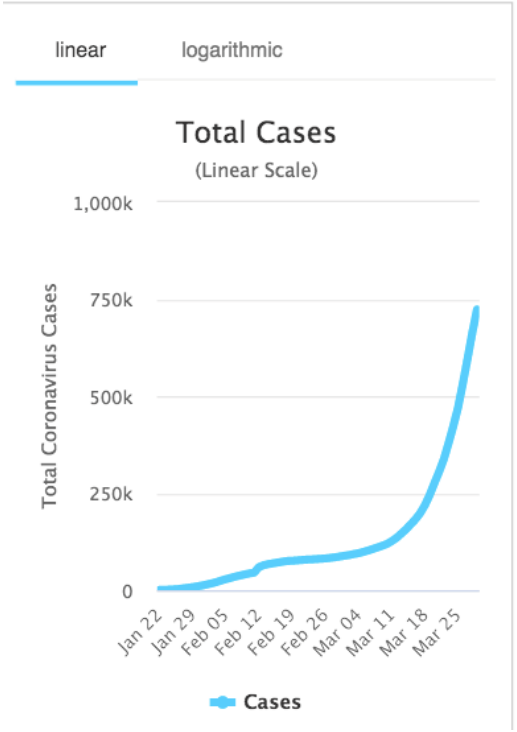
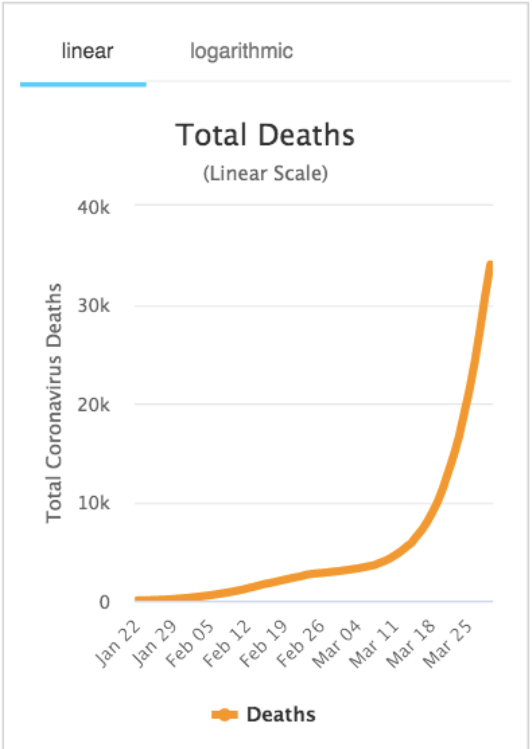
Origins

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

Current figures

Location	Cases	Deaths
Worldwide	770,106	36,938
USA	156,632	2,870
Italy	101,739	11,591
UK	22,141	1,408





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

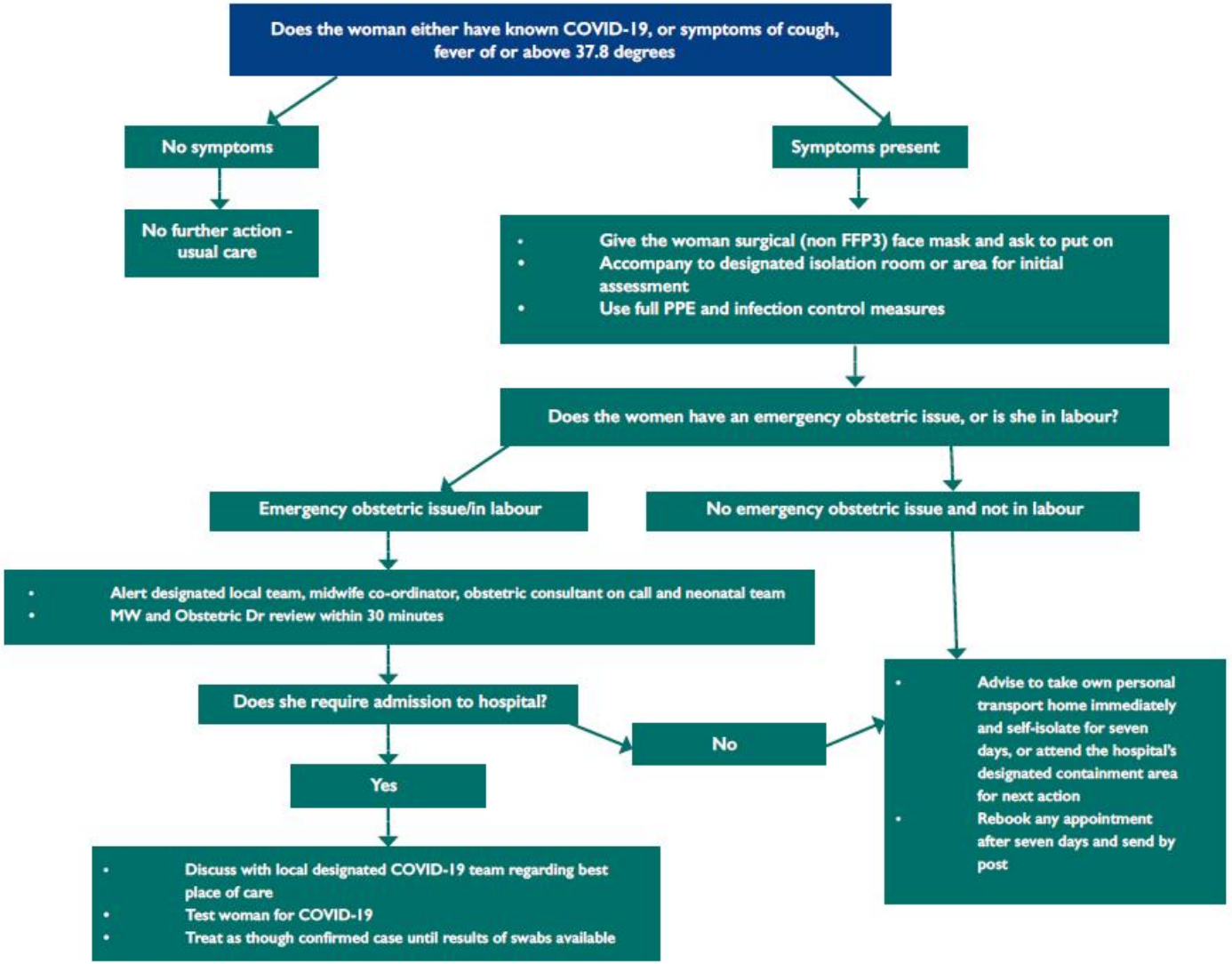
- Keep mum and baby together if well
- Follow RCPCH guidelines for baby
- Breastfeeding currently acceptable
  - Hand wash before touching baby
  - Avoid coughing/sneezing on baby whilst feeding
  - Consider facemask
  - Pump cleaning after each use
  - Consider asking well person to give baby expressed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

Derived from Royal London flowchart developed by Dr Misha Moore



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.

Intercollegiate General Surgery Guidance on COVID-19

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

bsg

AUGIS

Full guidelines available:

RCSI RCS Ed Royal College of Surgeons of England ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW

References

- *https://www.rcog.org.uk/globalassets/documents/guidelines/2020-03-28-covid19-pregnancy-guidance.pdf*
- *https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/874316/Infection_prevention_and_control_guidance_for_pandemic_coronavirus.pdf*
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