COVID-19 vaccination

Clinical Guideline Presentation v2

45 minutes
Towards CPD Hours
References:
Queensland Clinical Guideline: *Maternity care for mothers and babies during the COVID-19 pandemic* is the primary reference for this package.

Recommended citation:

Disclaimer:
This presentation is an implementation tool and should be used in conjunction with the published guideline. This information does not supersede or replace the guideline. Consult the guideline for further information and references.

Feedback and contact details:

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Learning objectives

• For pregnant and breastfeeding women
  ◦ Identify importance of COVID-19 vaccination
  ◦ Identify recommendations for COVID-19 vaccination administration
  ◦ Discuss the safety of COVID-19 vaccinations
  ◦ Identify contraindications and cautions relevant to vaccine administration
## Abbreviations

<table>
<thead>
<tr>
<th>Term</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>ATAGI</td>
<td>Australian technical advisory group on immunisation</td>
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<tr>
<td>AZ</td>
<td>Astra Zeneca (vaccine)</td>
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<tr>
<td>BMI</td>
<td>Body mass index</td>
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<tr>
<td>mRNA</td>
<td>Messenger ribonucleic acid</td>
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<tr>
<td>NICU</td>
<td>Neonatal intensive care</td>
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<td>PEG</td>
<td>Polyethylene glycol</td>
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<tr>
<td>VOC</td>
<td>Variant of concern</td>
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Background

- COVID-19 is the disease caused by the virus SARS-CoV-2
- New variants of concern (VOC) have emerged (e.g. alpha, beta, delta, omicron)
- Delta VOC
  - More severe in pregnancy
- Omicron VOC
  - Rapid spread
  - Vaccine less effective
Pregnancy and COVID-19

• Pregnant women are:
  ◦ Not at greater risk of contracting COVID-19 than the general population
  ◦ More likely to have severe illness and adverse pregnancy outcomes with delta VOC
Pathophysiology

- Not fully understood
- Various mechanisms proposed
  - Related to physiological changes of pregnancy
  - Placental fetal vascular malperfusion
  - Proinflammatory state producing systematic endothelial dysfunction
Who is most at risk?

- Risk increased for pregnant women with:
  - Increased maternal age
  - Higher BMI
  - Pre-existing co-morbidity
  - Pre-existing diabetes
  - Pre-eclampsia

Outcomes (delta VOC)

- Pregnant women without COVID-19
- Pregnant women with mild COVID-19
- Pregnant women with severe COVID-19

**Outcomes**

- Admission to intensive care
- Preterm birth (< 37 weeks)
- Stillbirth
- Pre-eclampsia

**Percentage affected**

- Preterm birth: 35%
- Stillbirth: 20%
- Admission to intensive care: 15%
- Pre-eclampsia: 10%

Other adverse outcomes from COVID-19 infection

- Caesarean birth
- Mechanical ventilation
- Admission to NICU
- Death

Vaccination: type

- Pregnant women are a priority group
- mRNA vaccines (Pfizer or Moderna) are recommended in pregnancy
- ATAGI approved
- If first dose was AstraZeneca (AZ) (Vaxzevria)
  - Can have either of mRNA or another AZ as second dose

Contraindications to mRNA vaccines

- Anaphylaxis to a previous dose of mRNA COVID-19 vaccine or any component of the vaccine, including polyethylene glycol (PEG)
- Myocarditis and/or pericarditis attributed to a previous dose of mRNA COVID-19 vaccine

Vaccination: Primary course

- Can be given at any stage of pregnancy or prior to conception
- 2 doses a minimum 14 days apart
- At least 7 day interval between COVID-19 vaccine, and flu and whooping cough vaccines
- If COVID-19 positive, delay up to six months

Vaccination: Boosters

- Can be given at any stage of pregnancy or prior to conception
- Interval between primary course and booster as per ATAGI recommendations for general population

Vaccine: safety

• Good real world evidence

• No evidence of adverse effect for women:
  ◦ Pregnant or planning pregnancy
  ◦ Breastfeeding
  ◦ Undergoing IVF
  ◦ With previous COVID-19 infection

Vaccine: safety

• No evidence increases risk of:
  ◦ Spontaneous miscarriage
  ◦ Adverse pregnancy outcomes
  ◦ Infertility

• No difference in side effects from those experienced by general population

Benefits

• May provide passive immunity to baby
• Decreases risk of adverse pregnancy outcomes associated with COVID-19

Summary messages

Is it safe? Yes
Any trimester? Yes
Does it work? Yes
Evidence of harm? No

When to recommend? NOW!