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Obstetrics & Gynaecology - Topic 6 - Diagnosis of pregnancy

Recognising and Confirming Pregnancy

Three Questions to Answer

- Pregnancy assessment asks whether pregnancy is present, where it is located and whether its development is appropriate for the stage.
- A positive urine test answers the first question by detecting a hormone, but it cannot answer the other two by itself.
- The assessment combines symptoms, examination, pregnancy testing and ultrasound when indicated.
- Pain, bleeding, fainting or circulatory instability require urgent assessment for an ectopic pregnancy or another emergency.

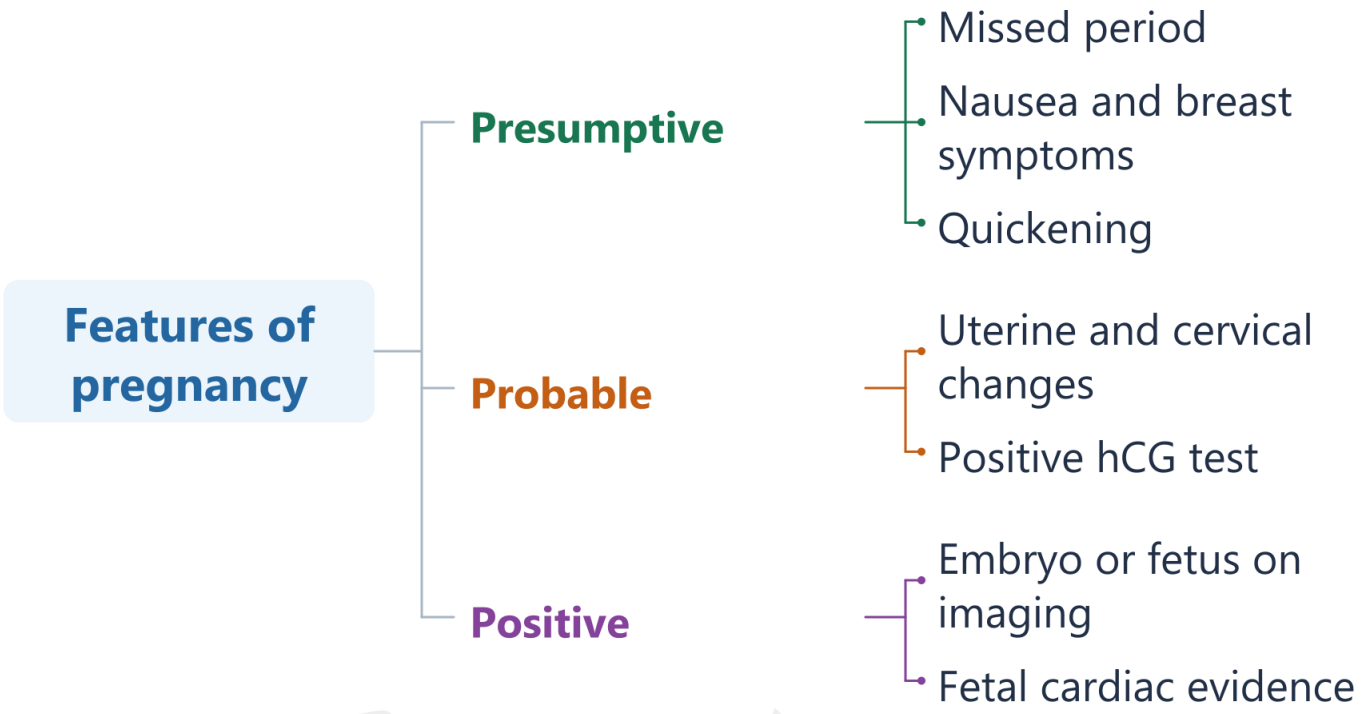
Taking the History

- Ask about the first day of the last menstrual period, usual cycle length, cycle regularity and recent hormonal contraception.
- Record missed periods, nausea, breast changes, fatigue, urinary frequency and any perceived fetal movement.
- Ask about intercourse, contraception, fertility treatment and previous pregnancy tests in a respectful and confidential way.
- Explore pain, vaginal bleeding, shoulder-tip pain, dizziness and fainting because these can indicate internal bleeding.
- Previous ectopic pregnancy, tubal surgery, pelvic infection and assisted conception increase concern but are not required for an ectopic pregnancy to occur.
- Pregnancy remains possible after contraceptive failure, during breastfeeding and before the first period after a previous pregnancy.

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Clinical Features and Their Limits

Clinical Categories of Pregnancy Evidence



1. Presumptive Features

- Presumptive features are changes experienced by the woman that suggest pregnancy but also occur in other conditions.
- Amenorrhoea is an important clue, especially in a person with previously regular cycles.
- Nausea, vomiting, breast tenderness and fatigue are common early symptoms but are not diagnostic.
- Quickening means the woman's first perception of fetal movement, often noticed in the second trimester.
- It is often first recognised around 18–20 weeks in a first pregnancy and around 16–18 weeks after a previous pregnancy, but individual timing varies.
- Bowel activity or other abdominal sensations may be mistaken for fetal movement, so quickening alone cannot confirm pregnancy.

2. Probable Features

- Probable features include objective changes that strongly suggest pregnancy but are not individually conclusive.

Clinical Changes

- The uterus enlarges and becomes softer, while increased pelvic blood flow can produce a bluish vaginal or cervical appearance.
- Goodell sign refers to cervical softening, and Hegar sign refers to softening of the lower uterine segment.

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- Braxton Hicks contractions are irregular uterine contractions that do not by themselves establish labour.

Biochemical Evidence and Historical Sign Limits

- A positive hCG test is strong biochemical evidence, but hCG can also occur after a recent pregnancy or in trophoblastic disease.
- Historical physical signs should not replace reliable testing or justify an unnecessary internal examination.

3. Positive Evidence

A. Ultrasound Evidence

- Ultrasound identification of an embryo or fetus within the uterus provides direct evidence of an intrauterine pregnancy.
- Visible cardiac activity establishes activity at the time of the scan but does not guarantee the later outcome.

B. Fetal Heart and Examination Evidence

- Fetal heart sounds detected by an appropriate device and fetal movements palpated by a trained examiner provide later clinical evidence.
- A handheld Doppler may detect fetal cardiac activity from about 10–12 weeks, whereas a fetoscope is generally useful later.
- An unsuccessful early attempt must not be used alone to diagnose fetal death.
- Distinguish the fetal heart rate from the maternal pulse by checking the maternal pulse at the same time.

Examination with Consent

- Explain the examination, obtain consent, offer a chaperone when appropriate and maintain privacy and comfortable positioning.
- Check pulse, blood pressure, temperature and general appearance before focusing on the abdomen.
- Assess pallor, dehydration, abdominal tenderness, guarding and uterine enlargement according to the clinical presentation.
- A pelvic examination may be indicated for pain, bleeding or another specific question, but it is not required for every positive test.
- In an unstable patient, resuscitation and urgent specialist assessment take priority over a prolonged routine examination.

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Understanding Pregnancy Tests

The Principle of hCG Detection

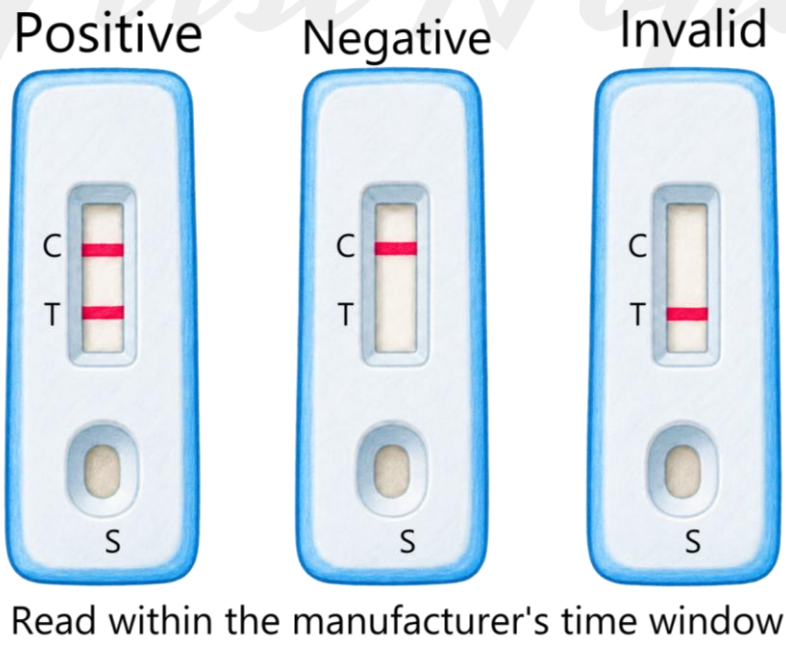
Hormone Production and Qualitative or Quantitative Testing

- Human chorionic gonadotrophin is produced by trophoblastic tissue after implantation.
- Urine and serum tests use antibodies to detect hCG, often targeting its beta component to improve specificity.
- A qualitative test reports whether hormone is detected above the test's threshold.
- A quantitative serum test measures the concentration and can support follow-up when the clinical question requires a trend.

Sensitivity, Specificity and Assay Thresholds

- Serum assays can detect lower concentrations than many urine kits, which can help when a very early pregnancy remains possible.
- The alpha subunit resembles that of some other glycoprotein hormones, while beta-directed assay components improve specificity for hCG.
- Different assays have different thresholds, so the manufacturer and laboratory instructions matter.

Performing a Urine Test



A control line is required for a valid test, and the result must be read within the manufacturer's stated time window

1. Prepare the Test

- Confirm the patient's identity, explain the purpose and check the kit's expiry date and storage condition.
- Collect urine in a clean container or use the device as instructed, avoiding contamination.

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