PIPADOR REVISION

MRCOG Part 1 Revision Notes

Immunology Results

DATA INTERPRETATION • LECTURE 445

VISUAL EXAMINATION REVISION NOTES

2026 Edition

445

MRCOG PART 1 REVISION NOTES | DATA INTERPRETATION

Immunology Results

Interpreting autoantibodies, complement, red-cell antibodies and Kleihauer — definitions and worked cases

APS	Anti-Ro	Anti-D > 4 IU/mL	Low C3/C4
Two positives 12 weeks apart	Fetal heart block risk	Refer fetal medicine	SLE activity

■ KEY FACTS: Learning objectives

- Define the main autoantibodies and immunological tests used in O&G (aPL, ANA, anti-dsDNA, anti-Ro/La, TPO, TRAb, complement, red-cell antibodies, Kleihauer).
- Interpret antiphospholipid, lupus and thyroid antibody results.
- Interpret red-cell antibody levels and decide on referral.

445.1 Key definitions

Test	What it means / why it matters
Lupus anticoagulant (LA)	• Clotting-based test (dRVVT) detecting antiphospholipid antibodies • Prolongs APTT in vitro but causes THROMBOSIS
Anticardiolipin (aCL) / anti-β_2-glycoprotein I	Antiphospholipid antibodies (ELISA) — medium/high titre significant
ANA	Antinuclear antibody — screening test for connective tissue disease (sensitive, not specific)
Anti-dsDNA	Specific for SLE; levels track lupus nephritis activity
Complement C3/C4	Consumed (↓) in active SLE — helps distinguish lupus flare from pre-eclampsia
Anti-Ro (SSA) / anti-La (SSB)	Cross the placenta → congenital heart block (≈ 2%) and neonatal lupus
TPO antibodies	Autoimmune thyroiditis — ↑ hypothyroidism and postpartum thyroiditis
TRAb	TSH-receptor antibodies (Graves') — cross placenta → fetal/neonatal thyrotoxicosis
Red-cell antibody quantification / titre	Amount of maternal anti-D/c/K etc. — predicts HDFN risk
Kleihauer / flow cytometry	Estimates volume of fetomaternal haemorrhage to dose anti-D

■ IN PLAIN ENGLISH: Immunology results

Some maternal antibodies **attack the mother** (lupus, thyroid), some **cause clotting** (APS) and some **cross the placenta to affect the baby** (anti-Ro, TRAb, red-cell antibodies). Knowing which group a result belongs to tells you what to monitor.

445.2 Antiphospholipid syndrome

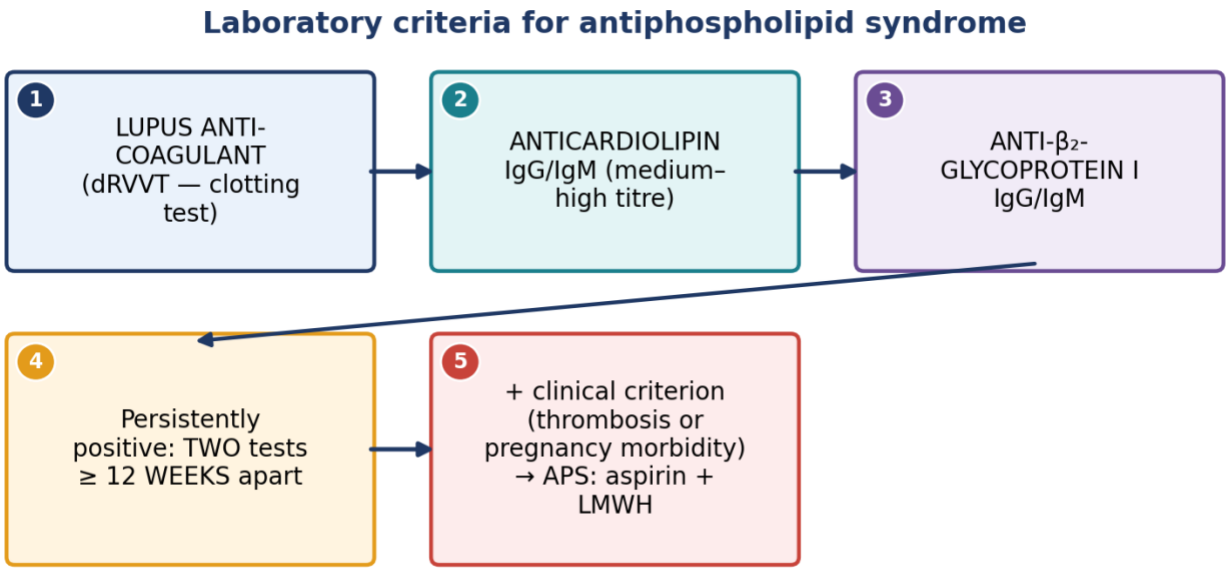


Figure 445.1 — Laboratory criteria for APS

445.3 Red-cell antibodies

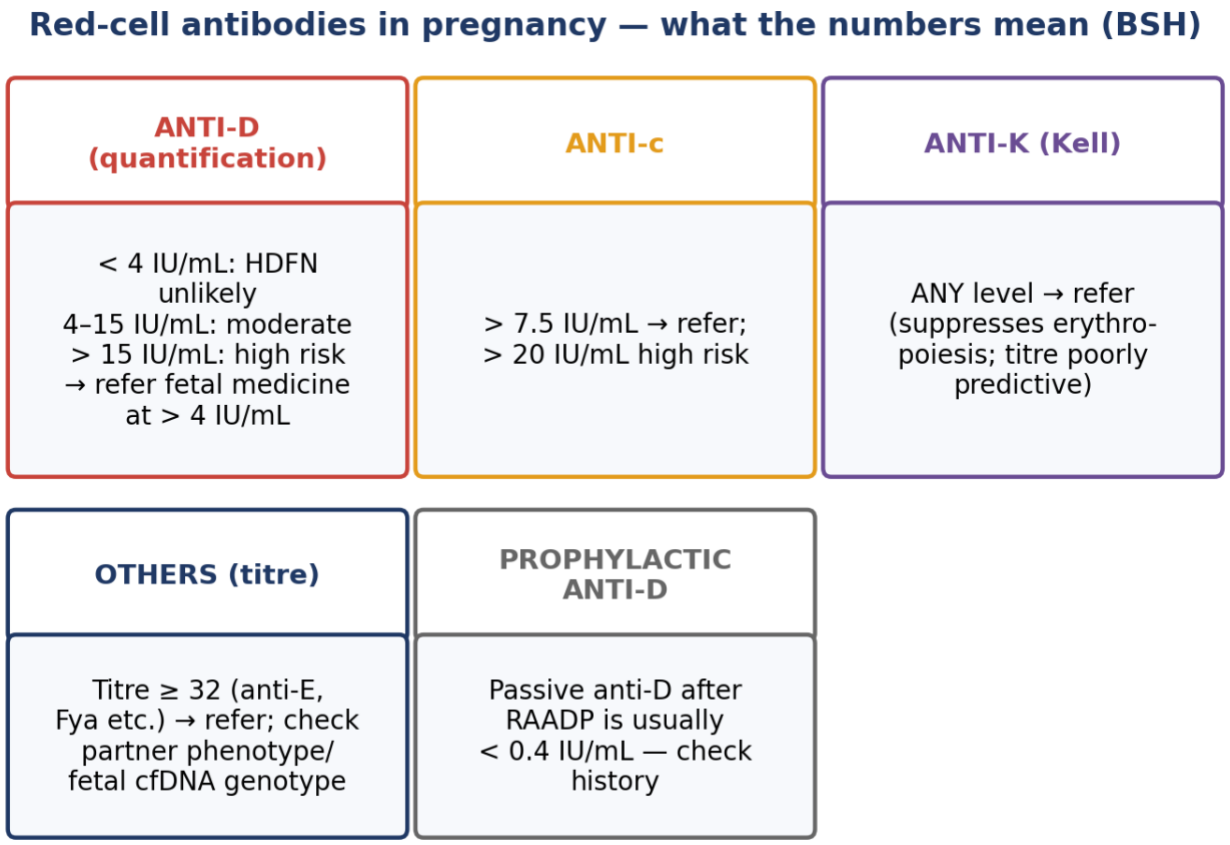


Figure 445.2 — Red-cell antibodies: what the numbers mean

445.4 Worked cases

■ WORKED EXAMPLE

Case 1 — 3 miscarriages < 10 wk: LA positive at 8 wk and again at 20 wk → **APS** → low-dose aspirin + prophylactic LMWH in next pregnancy.

Case 2 — SLE at 30 wk, ↑ BP and proteinuria: C3/C4 low, anti-dsDNA rising, urine active sediment → **lupus nephritis flare** (pre-eclampsia: normal complement, ↑ sFlt-1/PlGF).

Case 3 — anti-Ro positive → serial fetal echocardiography (PR interval) 16–28 wk; hydroxychloroquine reduces recurrence risk.

Case 4 — anti-D 6 IU/mL at 24 wk (no recent prophylaxis) → **moderate risk** → refer fetal medicine; MCA PSV Dopplers; check fetal RHD by cfDNA.

Case 5 — Kleihauer after abdominal trauma at 32 wk estimates 8 mL fetal red cells → anti-D needed ≈ 125 IU per mL of fetal red cells = **≈ 1,000 IU** (give additional anti-D beyond the standard 500 IU), repeat FMH test after 72 h (IM) or 48 h (IV).

■ COMMON PITFALLS

Diagnosing APS from a single positive test.

Mistaking passive (prophylactic) anti-D for immune anti-D — check timing of RAADP.

Low titre anti-K reassuring — it isn't; refer any anti-K.

445.5 Must-know summary

■ EXAM TIP

- APS: LA, aCL or anti-β_2GPI positive twice ≥ 12 weeks apart + clinical criterion.
- Anti-Ro → heart block (fetal echo); TRAb → fetal thyrotoxicosis; low C3/C4 → SLE flare.
- Anti-D > 4 IU/mL → refer (> 15 high risk); anti-c > 7.5 IU/mL; any anti-K → refer.
- Kleihauer guides extra anti-D after FMH.

■ MNEMONIC / MEMORY AID

APS labs — 'LA, ACL, β_2 — twice, 12 weeks apart'.