PIPADOR REVISION

MRCOG Part 1 Revision Notes

Tumour Markers

PATHOLOGY • LECTURE 336

VISUAL EXAMINATION REVISION NOTES

2026 Edition

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MRCOG PART 1 REVISION NOTES | PATHOLOGY

Tumour Markers

Principles, gynaecological and GTD markers, limitations, RMI and pregnancy effects

CA-125	AFP · hCG · LDH	Inhibin	RMI ≥ 200
Ovarian (serous); many false +	Germ cell tumours	Granulosa cell tumour	Refer to gynae-oncology

■ KEY FACTS: Learning objectives

- Define tumour markers and their uses (screening, diagnosis, prognosis, monitoring).
- Describe markers used in gynaecological oncology and GTD, and their limitations.
- Describe the Risk of Malignancy Index and pregnancy effects on markers.

336.1 Principles

- Tumour markers are substances produced by tumours (or the host in response) measured in blood, urine or tissue.
- Uses: **monitoring response and recurrence** (most valuable), aiding diagnosis/triage, prognosis
  - Rarely screening (low specificity in low-prevalence populations).
- No marker is perfectly sensitive or specific — interpret with clinical context and imaging.

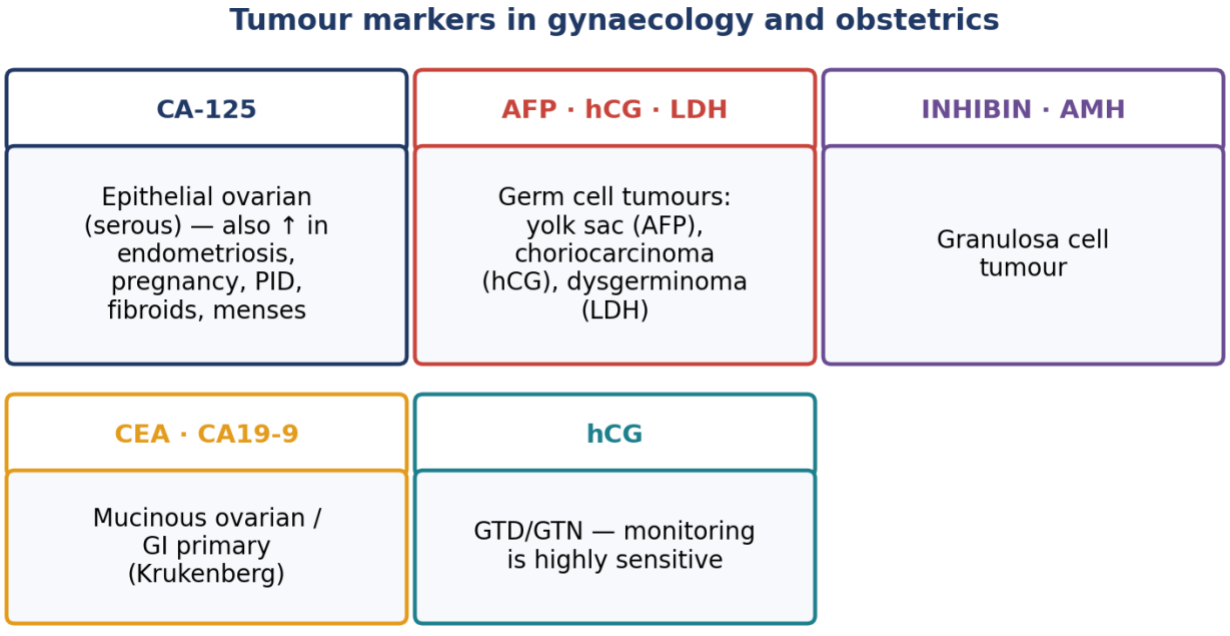


Figure 336.1 — Markers in gynaecology and obstetrics

Marker	Physiological / benign elevations
CA-125	Menstruation, pregnancy (1st trimester), endometriosis, fibroids, PID, ascites/peritoneal irritation of any cause, heart/liver failure
AFP	• Pregnancy (fetal), hepatitis, liver regeneration • ↑ maternal serum AFP with NTD/abdominal wall defects

Marker	Physiological / benign elevations
hCG	Pregnancy, phantom hCG (heterophile antibodies), pituitary hCG (perimenopause)
CEA	Smoking, IBD, liver disease
HE4	• Renal impairment • ↑ with age • Less affected by endometriosis than CA-125

336.2 Risk of Malignancy Index

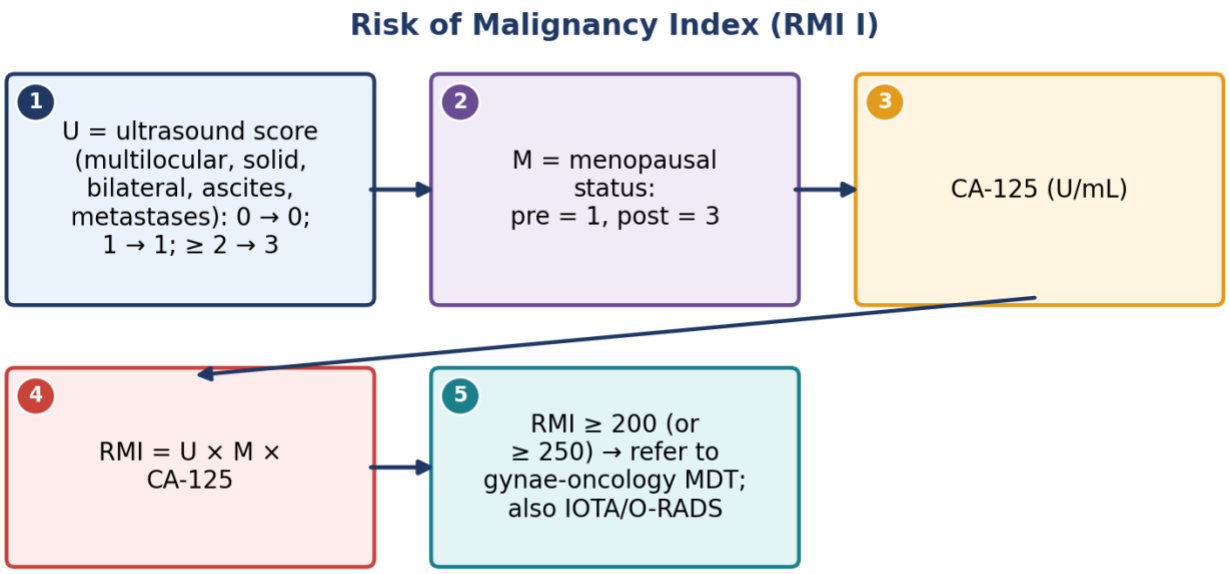


Figure 336.2 — RMI calculation

- NICE CG122: measure CA-125 in women with symptoms suggestive of ovarian cancer (bloating, early satiety, pelvic/abdominal pain, urinary frequency)
  - ≥ 35 IU/mL → ultrasound.
- Women < 40 with complex masses: add **AFP, hCG, LDH** (germ cell tumours).
- Alternative ultrasound rules: **IOTA** simple rules/ADNEX, **O-RADS** — increasingly used.

336.3 Must-know summary

■ EXAM TIP

- Best use: monitoring; poor for screening.
- CA-125 ↑ in endometriosis, pregnancy, PID, menses — specificity limited, esp. premenopausal.
- Germ cell: AFP (yolk sac), hCG (choriocarcinoma), LDH (dysgerminoma); granulosa: inhibin/AMH.
- RMI = U × M × CA-125; ≥ 200 → refer; hCG is the ideal GTD marker.

■ MNEMONIC / MEMORY AID

Germ cell markers — 'Yolk sac → AFP, Chorio → hCG, Dysgerminoma → LDH'.