PIPADOR REVISION

# MRCOG Part 1 Revision Notes

## *Hypothalamic and Pituitary Pathology*

PATHOLOGY • LECTURE 316

VISUAL EXAMINATION REVISION NOTES

*2026 Edition*

316

MRCOG PART 1 REVISION NOTES | PATHOLOGY

# Hypothalamic and Pituitary Pathology

*Pituitary adenomas, mass effects, other sellar and hypothalamic lesions, and pregnancy-related pituitary pathology*

| Prolactinoma | Bitemporal hemianopia | Sheehan's | Hypophysitis |
|---|---|---|---|
| Commonest functioning adenoma | Chiasmal compression | Postpartum infarction | Late pregnancy / postpartum |

■ **KEY FACTS: Learning objectives**

- Describe the classification and presentation of pituitary adenomas (hormone excess, mass effect, hypopituitarism).
- Describe non-adenomatous hypothalamic–pituitary lesions.
- Describe pituitary pathology related to pregnancy (Sheehan's syndrome, lymphocytic hypophysitis, apoplexy, adenoma growth).

## 316.1 Pituitary adenomas

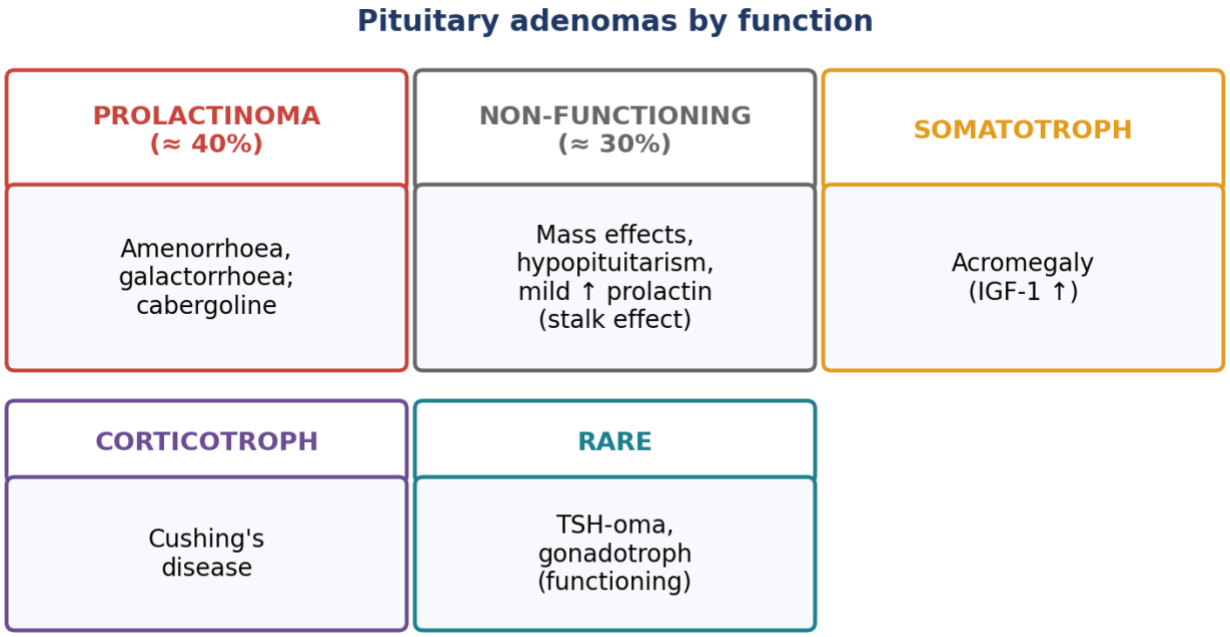



*Figure 316.1 — Adenomas by function*

- Microadenoma < 10 mm; macroadenoma ≥ 10 mm (mass effects).
- Present with **hormone excess** (prolactinoma, acromegaly, Cushing's disease), **mass effects** or **hypopituitarism**
  - Often incidental on imaging ('incidentaloma').
- Histology: monomorphic cells, loss of acinar architecture; classified by transcription factors (PIT1, TPIT, SF1).
- Familial: MEN1 (pituitary, parathyroid, pancreas), AIP mutations.

## 316.2 Mass effects and other lesions

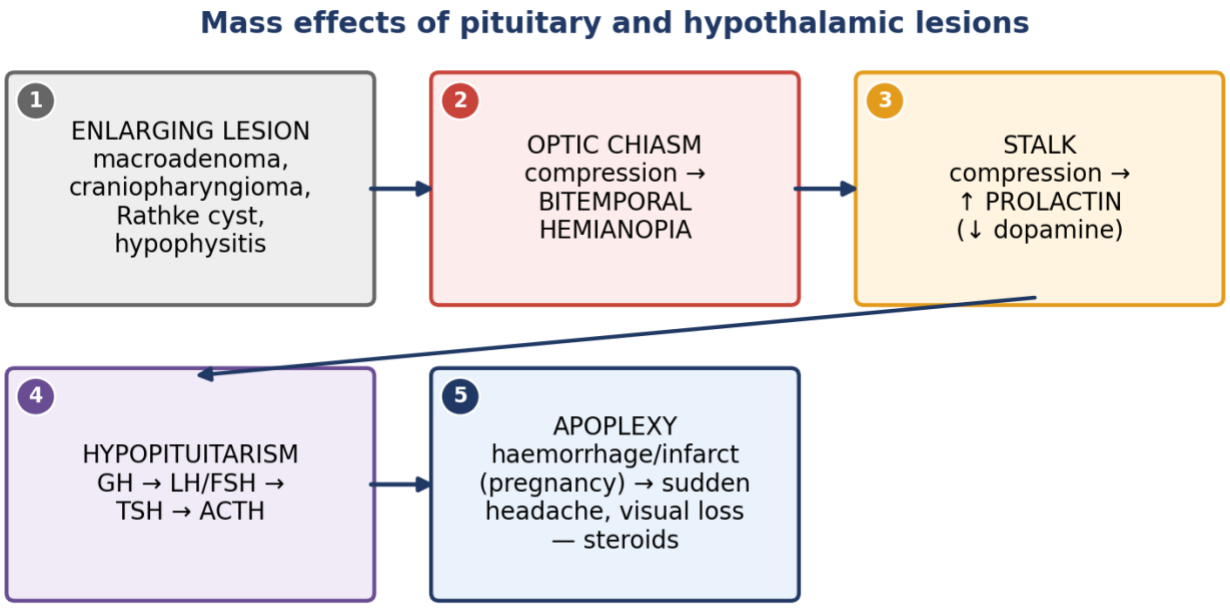



*Figure 316.2 — Mass effects*

| Lesion | Features |
|---|---|
| **Craniopharyngioma** | • Rathke's pouch remnant<br>• Children and adults<br>• Calcified cystic suprasellar mass ('machinery oil')<br>• Hypopituitarism, DI, visual loss |
| **Rathke's cleft cyst** | Usually incidental |
| **Meningioma, glioma, metastases (breast, lung)** | Mass effects; metastases → DI |
| **Infiltrative** | Sarcoidosis, Langerhans cell histiocytosis, haemochromatosis |
| **Hypothalamic** | Kallmann (GnRH deficiency + anosmia), functional hypothalamic amenorrhoea, tumours/irradiation, trauma |

## 316.3 Pregnancy-related pathology

| Condition | Pathology / features |
|---|---|
| **Physiological enlargement** | • Lactotroph hyperplasia → gland up to ≈ 2× size<br>• Normal pituitary MRI in pregnancy looks enlarged |
| **Sheehan's syndrome** | • **Ischaemic necrosis** of the enlarged anterior pituitary after massive PPH/hypotension → failure of lactation, amenorrhoea, hypothyroidism, adrenal insufficiency<br>• Later empty sella (Lecture 200) |
| **Lymphocytic hypophysitis** | • Autoimmune lymphoplasmacytic infiltration<br>• Late pregnancy/postpartum<br>• Headache, visual loss, ACTH deficiency, DI<br>• Enhancing enlarged gland/stalk<br>• Steroids |

| Condition | Pathology / features |
|---|---|
| **Pituitary apoplexy** | • Haemorrhage/infarction of an adenoma — sudden headache, ophthalmoplegia, visual loss, collapse (hypocortisolism)<br>• IV hydrocortisone, ± surgery |
| **Adenoma growth** | Macroprolactinomas may enlarge (≈ 20–30% if untreated) — visual fields (Lecture 198) |

## 316.4 Must-know summary

■ EXAM TIP

- Adenomas: prolactinoma > non-functioning > GH > ACTH; micro < 10 mm, macro ≥ 10 mm.
- Mass effects: bitemporal hemianopia, stalk effect (↑ prolactin), hypopituitarism, apoplexy.
- Craniopharyngioma: calcified suprasellar cyst, DI.
- Pregnancy: physiological enlargement; Sheehan's (PPH → necrosis); lymphocytic hypophysitis (ACTH loss, DI).

■ MNEMONIC / MEMORY AID

**Hypopituitarism order — 'Go Look For The Adenoma Please'**: GH, LH, FSH, TSH, ACTH, Prolactin.