PIPADOR REVISION

MRCOG Part 1 Revision Notes

HELLP Syndrome

PATHOLOGY • LECTURE 333

VISUAL EXAMINATION REVISION NOTES

2026 Edition

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MRCOG PART 1 REVISION NOTES | PATHOLOGY

HELLP Syndrome

Pathophysiology, liver pathology, diagnostic criteria, differential diagnosis and management

≈ 0.5%	≈ 30%	Epigastric pain	Deliver
Of pregnancies (≈ 10–20% of severe PE)	Present postpartum	Commonest symptom	Definitive treatment

■ **KEY FACTS: Learning objectives**

- Describe the pathophysiology and pathology of HELLP syndrome.
- Describe diagnostic criteria and differential diagnosis.
- Describe complications and management.

333.1 Pathophysiology

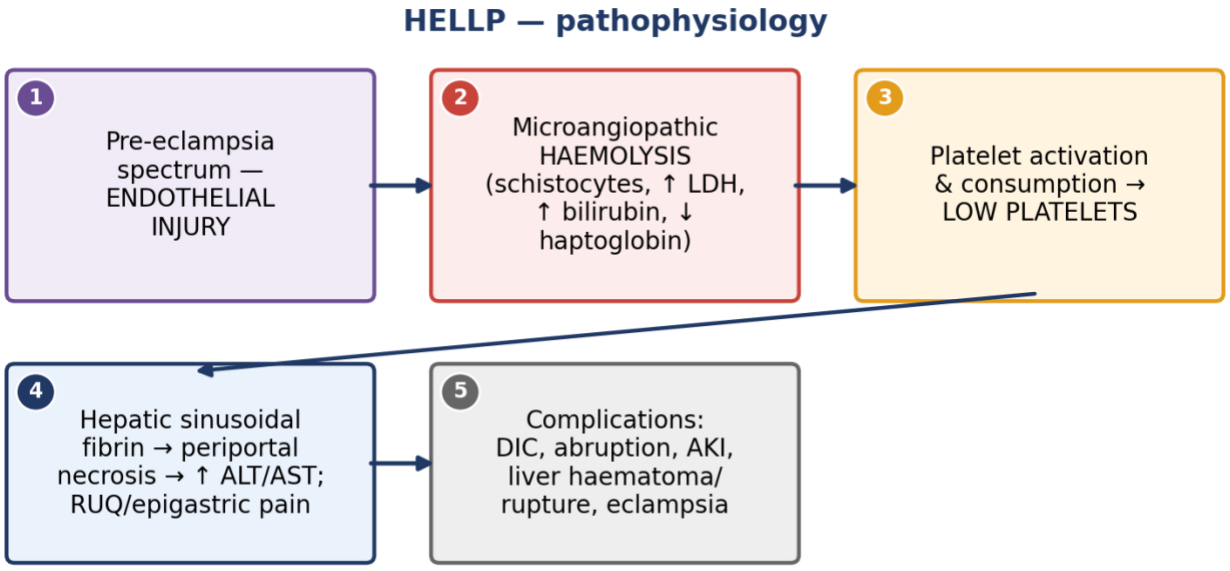


Figure 333.1 — Pathophysiology of HELLP

- A severe form of pre-eclampsia with prominent endothelial injury, platelet activation and complement activation
  - Hypertension and proteinuria may be mild or absent in ≈ 15–20%.
- Liver pathology: **periportal haemorrhagic necrosis**, sinusoidal fibrin deposition, **subcapsular haematoma** that may rupture (shoulder-tip pain, shock — surgical emergency).

333.2 Diagnosis

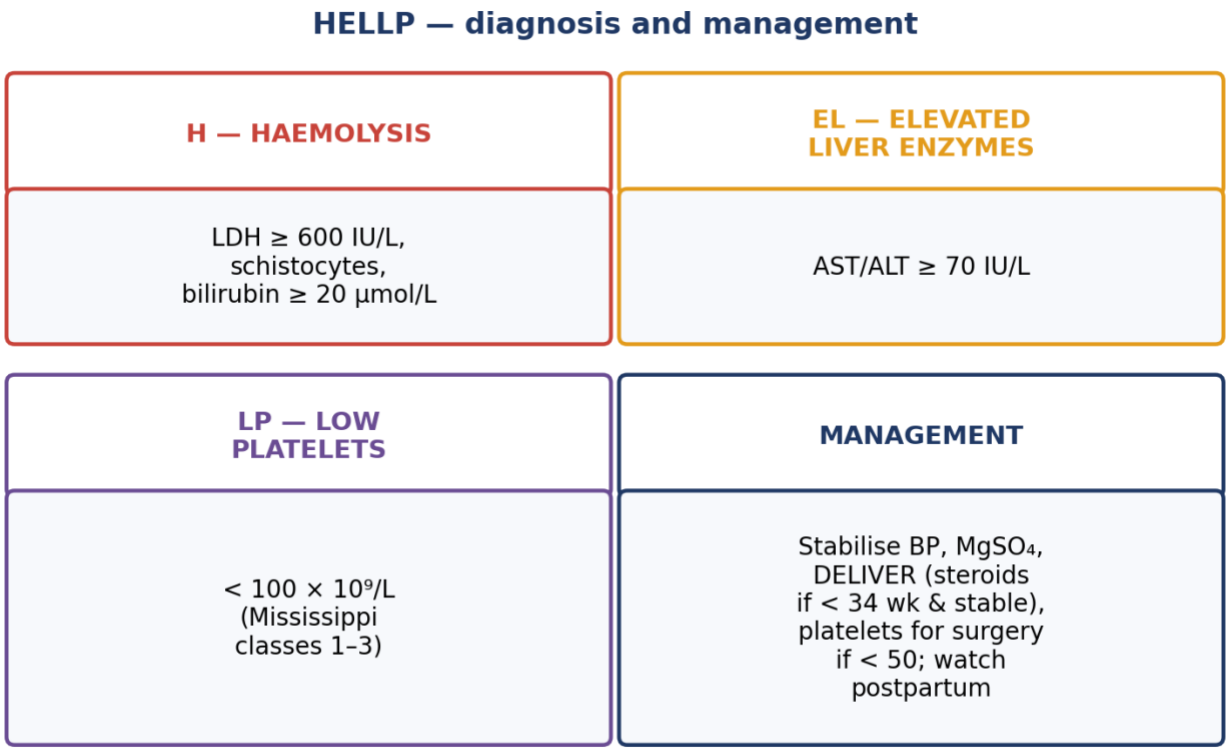


Figure 333.2 — Diagnosis and management

Differential	Distinguishing features
AFLP	Hypoglycaemia, marked coagulopathy, high bilirubin/ammonia
TTP	Severe thrombocytopenia, neurology, ADAMTS13 < 10%
aHUS	• Predominant renal failure, postpartum • Complement mutations — eculizumab
Viral hepatitis, ICP, gallstones	Serology, imaging, bile acids
SLE/APS (catastrophic)	Antibodies, multi-organ thrombosis

333.3 Management and complications

- Assess and stabilise: BP control (labetalol, nifedipine, hydralazine), **$MgSO_4$** for seizure prophylaxis, fluid restriction, bloods every 6–12 h.
- **Deliver** (after steroids if < 34 weeks and maternal condition allows)
  - Vaginal birth possible
  - Regional anaesthesia generally avoided if platelets < 75–80 × 10^9/L
  - Platelet transfusion if < 50 for CS.
- Complications: **DIC, placental abruption, AKI, pulmonary oedema, liver haematoma/rupture, eclampsia, stroke, maternal death**
  - Lab values often worsen for 24–48 h postpartum before improving.
- Recurrence of HELLP/pre-eclampsia in future pregnancy — aspirin from 12 weeks.

333.4 Must-know summary

■ **EXAM TIP**

- Haemolysis (LDH ≥ 600, schistocytes), elevated liver enzymes (AST/ALT ≥ 70), low platelets (< 100).
- Epigastric/RUQ pain; hypertension may be mild; 30% postpartum.
- Differentiate from AFLP (hypoglycaemia), TTP (ADAMTS13), aHUS (renal).
- Stabilise, $MgSO_4$, deliver; watch for liver rupture, DIC, AKI.

■ **MNEMONIC / MEMORY AID**

'HELLP' — Haemolysis, Elevated Liver enzymes, Low Platelets.