



PURPOSE

To describe a striking case of **severe lipemia retinalis** diagnosed incidentally during routine diabetic retinal screening in a young female with complex metabolic disease — highlighting the importance of **ophthalmic recognition** in preventing systemic morbidity.



METHODS

Observational case report summarizing ocular findings, systemic investigations, and clinical course.



CASE PRESENTATION

26 Years Old
Female

Routine Diabetic
Screening

Unusual bilateral retinal
vessel appearance

- An asymptomatic 26-year-old female was urgently referred by her optometrist after an unusual **bilateral retinal vessel appearance** was noted on routine screening.
- Fundoscopy showed bilateral **yellowish-white retinal vessels** consistent with severe lipemia retinalis.
- Following **systemic lipid-lowering therapy** and lifestyle modification, retinal appearance improved markedly with significant biochemical reduction at **4 months**.



COMPLEX METABOLIC BACKGROUND

Type 1 Diabetes Mellitus
Long-standing

Familial Partial Lipodystrophy 2
Inherited metabolic disorder

Prior Necrotising Pancreatitis
History of severe complication

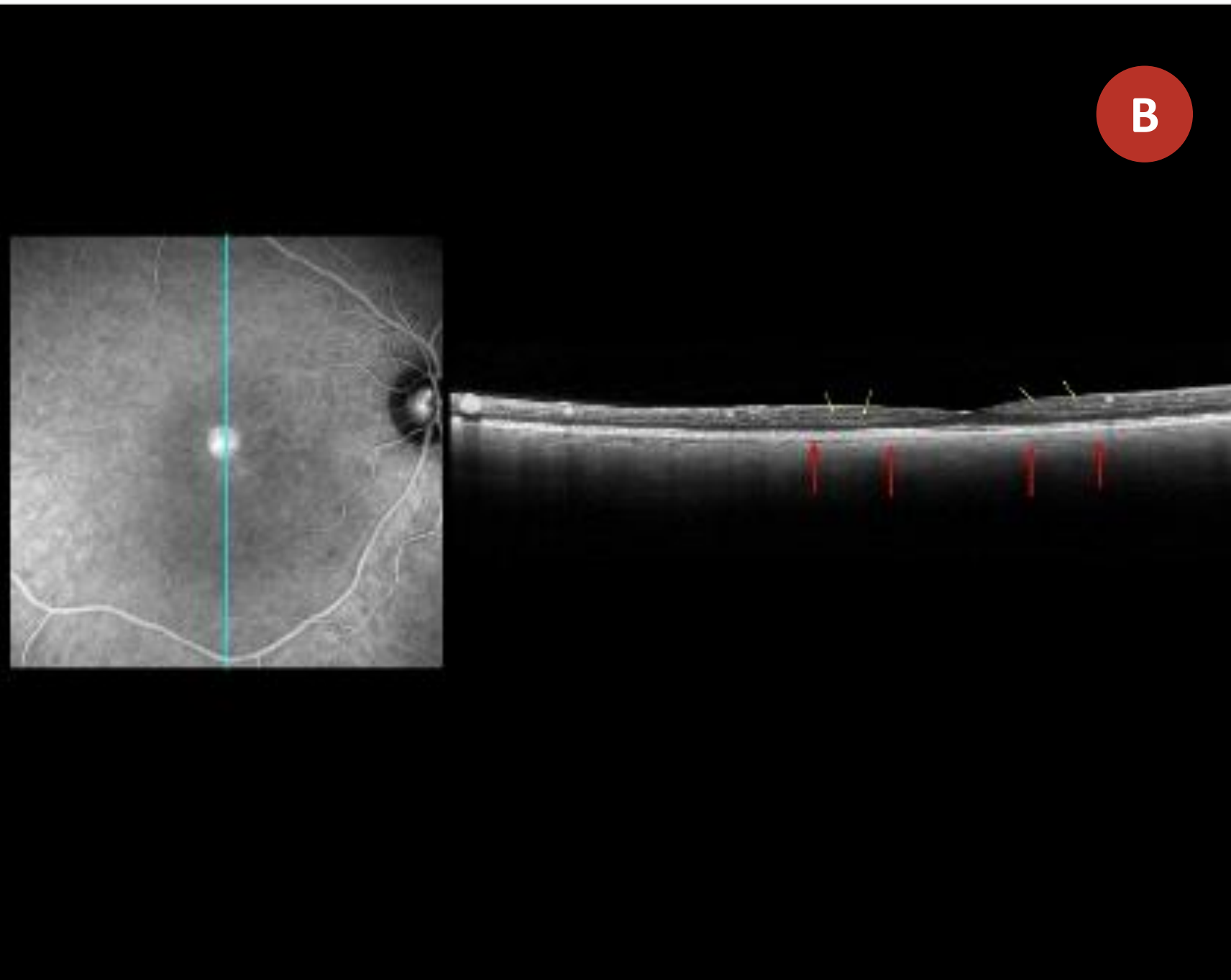


CLINICAL IMAGING FINDINGS

AT PRESENTATION — SEVERE LIPEMIA RETINALIS



Picture A: Right eye fundus: creamy-colored blood vessels (white arrows)

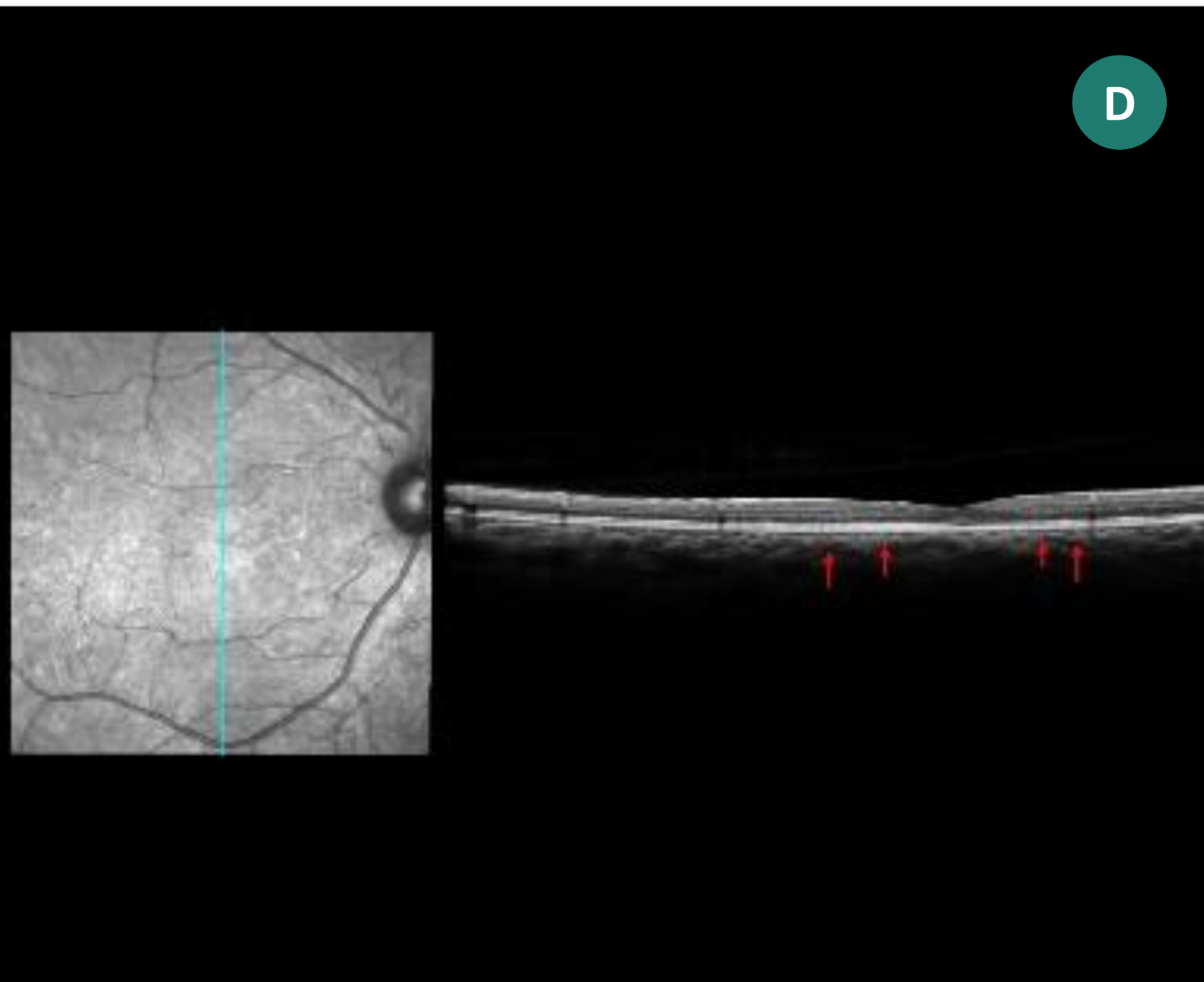


Picture B: Right eye OCT: hyperreflective changes in the large retinal vessels and choriocapillaris (red arrows); hyperreflective dots in the inner retina (yellow arrows);

AT 4 MONTHS — POST LIPID-LOWERING THERAPY



Picture C: Right eye fundus: normalised vascular appearance (white arrows)



Picture D: Right eye OCT: the hyperreflective changes in the large retinal vessels have disappeared (red arrows).



LABORATORY FINDINGS

TRIGLYCERIDES

9,360 mg/dL

Normal: < 150 mg/dL

≈ 60× upper limit

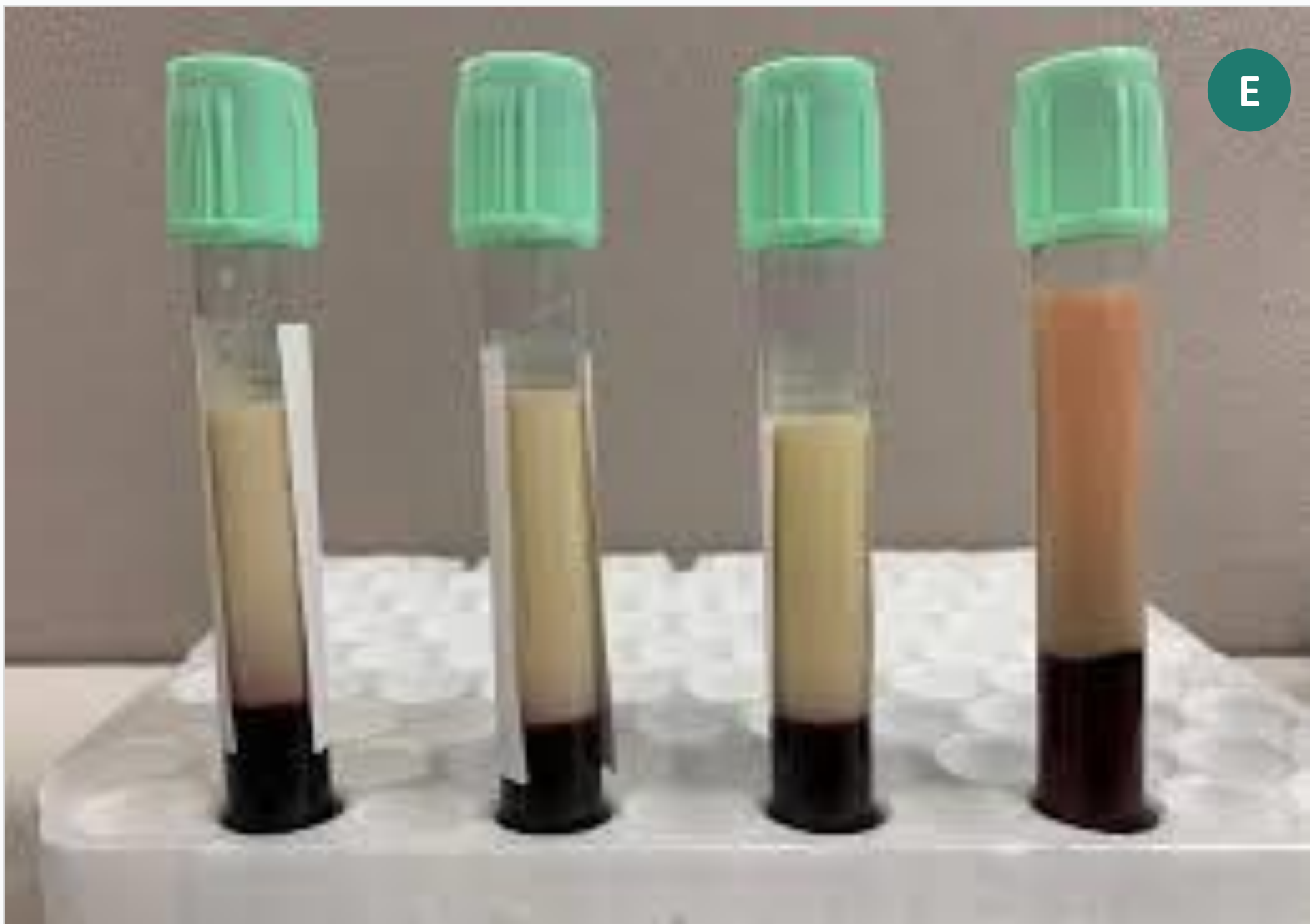
TOTAL CHOLESTEROL

1,016 mg/dL

Normal: < 200 mg/dL

≈ 5× upper limit

▲ Severe hypertriglyceridaemia is the underlying driver of lipemia retinalis.



Picture E: Blood samples following centrifugation showing different degrees of lipemia, with a markedly milky supernatant. The packed red blood cells are visible at the bottom of each tube.



CONCLUSION

- Lipemia retinalis is a rare but important ocular sign of severe hypertriglyceridaemia.
- Early ophthalmic recognition enables timely systemic management and reversal of retinal changes.
- This case underlines the need for prompt lipid profiling and coordinated multidisciplinary care.

★ The eye can be the first window onto a life-threatening metabolic crisis — recognising lipemia retinalis transforms the ophthalmologist into a frontline physician.