Visible lipaemia in a man with early onset metabolic syndrome

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DESCRIPTION

A 27-year-old man of Indian descent who is 174 cm tall, weighed 85 kg, with a body mass index of 29 kg/m² presented with polyuria, polydipsia, dyslipidaemia, hyperglycaemia and ketonuria. He has a family history of type 2 diabetes and drinks around one unit of alcohol a week. On clinical examination, there were no eruptive xanthomas or corneal arcus and retinal examination was not undertaken. His blood results showed random triglycerides 87.4 mmol/L and glycated haemoglobin 134 mmol/mol.

After initial phlebotomy, a lipid layer in his blood began to noticeably separate after half an hour and visible lipaemia reached maximum extent after 4 hours without centrifugation (figure 1). The rate of blood flow was normal.

This man recounts weighing 105 kg 2 years ago; since then, he has lost weight with the aim of

Learning points

- ▶ Uncommonly, dyslipidaemia can be seen as a lipid layer in blood without centrifugation. Showing this to a patient can be a powerful tool in encouraging beneficial lifestyle changes.
- ▶ Social factors such as work arrangements have an essential role in maintaining a healthy lifestyle. This man's work arrangements limited his exercise and worsened his diet. Once these were addressed, profound dyslipidaemia improved.
- ▶ Increasingly diabetogenic lifestyles cause type 2 diabetes in the young. This often presents with features more typically associated with type 1 diabetes. In this case, the patient presented with early onset hyperglycaemia and ketonuria.

Figure 1 Blood drawn at first presentation to accident and emergency, left to rest for 4 hours before centrifugation showing visible lipaemia.

meeting weight restrictions required for tug-of-war competition. He did this by cooking for himself, increasing vegetable consumption, reducing fat consumption, portion restriction and by going on four 30-minute moderate intensity runs a week. Although successful in reducing his weight, he started working in shifts requiring long commutes last year. This has led him to regularly replace meals with sugary sweets and drinks (six per day), eat more take-away food and exercise less often.

He was diagnosed with metabolic syndrome and advised to reduce carbohydrate and sugar intake. He was prescribed 500 mg of metformin for 1 week and then 500 mg two times per day. Although metformin may have some lipid modulatory effects,¹ he was not started on a specific lipid modifying treatment because the patient wanted to trial lifestyle modifications first.

Lifestyle counselling and the shock of seeing the lipid content of his blood (figure 1) motivated him to modify his lifestyle. He re-commenced regular running and eliminated ready meal and sugary drink consumption. Four months later, he weighed 88 kg, had a random triglyceride level of 9 mmol/L, his blood had no visible lipid supernatant and had a random glucose of 13 mmol/L.

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