CLINICAL VIGNETTE

Milky Serum: What Can Serum's Color Tell You About the Final Diagnosis?

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Presentation

A 37 year old Caucasian female with no known past medical history presented to the emergency room with acute onset chest pain associated with dyspnea and diaphoresis.

She was a non- smoker and was not on any regular medications. The family history was significant for a brother with hypertriglyceridemia and premature coronary artery disease.

Assessment

On examination the patient had tachycardia (102 beats / min), mildly elevated blood pressure (150/92) and respiratory rate of 18 breaths /min. Her body-mass index was 38. Rest of her physical examination was normal.

An admission electrocardiogram was unremarkable but the serum level of troponin I was elevated at 2.4ng/ml (normal levels < 0.02ng/ml). A blood sample which was drawn for routine analysis on admission had shown milky white blood suggestive of lipemia (Figure 1).

The lipid profile showed total cholesterol of 254 mg/dl, high density lipoprotein <20 mg/dl, but remarkably elevated triglycerides at 2,500 mg/dl. Her blood chemistry and complete blood count were normal.

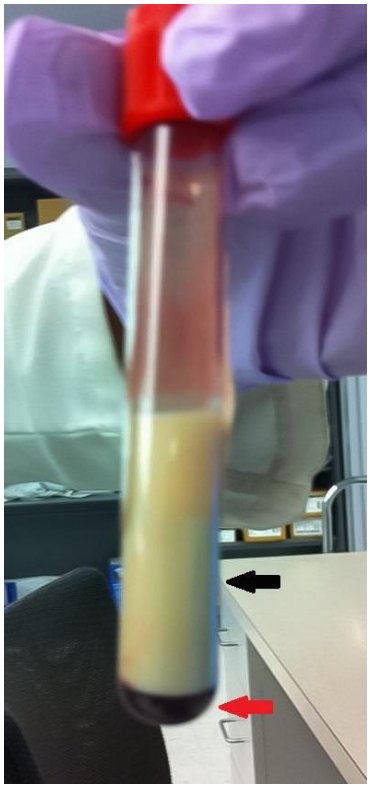

Figure 1: Bedside blood sample drawn for routine labs and cardiac enzymes, red arrow shows the cellular component and black arrow shows the lipemic portion.

Diagnosis and Management

She was diagnosed with non-ST segment elevation myocardial infarction and was initiated on acute coronary syndrome protocol. The cardiac catheterization showed normal coronary arteries.

To treat severe hypertriglyceridemia, she underwent plasmapheresis on three consecutive days with 5% albumin replacement.

Thereafter the serum levels of triglyceride decreased significantly to 560 mg/dl. She was diagnosed with familial hypertriglyceridemia, and was discharged home on atorvastatin 80 mg once a day and Gemfibrozil 600 mg twice a day.

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