Cardiogenic Shock and Hypothyroidism

A 62 years old lady, nondiabetic, mild hypertensive on non-pharmacological measures, presented with alteration in consciousness of 2 hours duration. There was no history of pain in chest, dyspnea, sweating, fever, loose motion and vomiting; had not suffered from such episode in the past. On examination, she was in cardiogenic shock. Immediately oxygen inhalation, intravenous normal saline, inotrop (dopamine) infusion started, hydrocortisone sodium succinate 200 mg given and repeated in next five minutes. In the mean time EKG (Fig. 1), showed sinus node arrest third degree with nodal escape rhythm of 33 per minute with normal QRS and T wave morphology and normal QTc (QT, 0.560 sec., RR interval 1.880 sec. and QTc 0.408 sec.). Immediately intravenous atropine 0.6 mg given, repeated after 5 minutes, 10 minutes and again after 30 minutes. Up to next one hour neither ventricular rate nor hypotension improved, intravenous atropine 0.6 mg repeated. Cardiac enzymes, random blood sugar, renal function tests and serum electrolytes were normal. Lipidogram showed hypercholesteremia (S. cholesterol 340 mg%). Pacing facilities were not available at our center and since patient was haemodynamically unstable, so could not be shifted to tertiary center (which is about 110 Km. far away). During these initial two hours, neither patient condition improved, nor there was any change in electrocardiogram.

Meanwhile, one of the relative informed that 6 years back some private practitioner advised L-thyroxine to her, which she took only for 3-4 months. Serum for thyroid function test was collected, since parental preparation of L-thyroxine was not available, so 100 µgm orally given. After about an hour of oral L-thyroxine, her blood pressure started improving, 100 µgm of L-thyroxine repeated. After another hour she became fully conscious, alert and her pulse was 62 per minute, B.P. 110/84 mm of Hg and her EKG showed normal P wave, QRS complex, T wave with regular sinus heart rate of 62 per minute (Fig. 2). She became haemodynamically stable, shifted to tertiary center, where she was observed for 48 hours and during this observation regular L-thyroxine was given and finally discharged on L-thyroxine. Her thyroid functions were suggestive of hypothyroidism. X-Ray chest showed cardiomegaly, echocardiography revealed minimal pericardial effusion and biventricular dilatation without any systolic/diastolic dysfunction. There was no inducible ischaemia on stress echo and Holter studies were normal.

Hence, the present case of hypothyroidism with SA block third degree and AV nodal escape rhythm, not responded to atropine during initial 2 hours and further took almost 1-2 hours for response to oral L-thyroxine. Since bradycardia is a well-known clinical presentation of hypothyroidism, but SA arrest with nodal ventricular escape rhythm without overt clinical symptoms and signs of hypothyroidism is a rare entity in literature.

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