

Acute Myocardial Infarction (AMI) off Eight Years Old Boy at Shaheed Ziaur Rahman Medical College Hospital, Bogra – A Case Report

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No age group is actually immune from acute myocardial infarction. Though heart attack is quite uncommon in children still it is an unusual threat to human being. An eight years old boy was admitted at Shaheed Ziaur Rahman Medical College Hospital with atypical chest pain. On clinical examination, ECG and other biochemical marker (cardiac marker – Troponin.1), echo evidence it was described as a case of AMI (anterior) by LMWH therapy with successful result.

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Introduction

Acute myocardial infarction is an acute emergency condition generally prevalent in the middle age and old age group in the past. But now scenario has been changed. It has become a food of thought that it may happen in children or younger age group too. The presence of risk factors associated with pre-existing ischemic heart disease and post inflammatory conditions specially carditis may culminate acute cardiac emergency like acute MI. Kawasaki disease in Japan is an exception in this context.¹ Children may have the chance of developing AMI due to presence of emerging risk factors or due to some unknown causes.

Case Summary

A boy of 8 years old of Shibganj Upazilla under Bogra district was admitted in coronary care unit (CCU) at Shaheed Ziaur Rahman Medical College

Hospital (SZRMCH), Bogra on 16 July 2008 at about 2 PM. He was the only one son of his parents. His father was a government service holder and mother was a house wife. He was presented as a case of acute carditis. Fever, chest pain and SOB were present as main complaints. The pain was felt during inspiration and it was aggravated during coughing. Initially the boy was admitted at Jaypurhat sadar hospital and he was treated there for few days. The boy was dyspnoic at that time. As the pain was to some extent noticed at upper abdomen also, diagnostic confusion was in the mind that it could be a case of peptic ulcer disease or pneumonia or functional disorder like school phobia.² But subsequently these provisional diagnoses were excluded on the basis of clinical examinations and other pathological investigations.

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On examination the child was toxic looking and his weight was 35 Kg. His heart rate was 120 / min which was regular and temperature was 99⁰ F. General examination revealed no abnormality except anxious looking appearance and tachycardia. There was no pericardial rub at that time. Blood sample was sent for cardiac markers (Troponin-I), homocysteine level, lipid profile and C-reactive protein. Homocysteine level was 21.1 mmol/L (normal range 5 – 15 mmol/L), C-reactive protein was within normal limit 6 mg/L (normal <10 mg/L) and lipid profile was also within normal limit except HDL. Total cholesterol was 144 mg/dl, HDL cholesterol 33 mg/dl, LDL cholesterol 83.8 mg/dl, and triglyceride was 136 mg/dl. Echo evidence was regional (septal) wall motion abnormality which was consistent with AMI (anterior) or myocarditis. Serial ECG was done. Initially there was ST elevation in all the leads (V₁-V₆) and formation of Q wave (pathological) with the disappearance of ST elevation on the second day. T-wave was found to be inverted in the corresponding leads.²

Diagnosis was made as a case of AMI (Anterior) and treatment was started accordingly. Absolute bed rest was ensured with propped up position.² Intravenous channel (I/V) were opened. High flow oxygen was administered (4-6 L/min).² Other supportive measures were ensured. Sublingual nitrate (GTN spray) was given frequently. Aspirin 75 mg along with clopidogrel 75 mg was prescribed on once daily basis.² Intravenous pethidine was not given as there was no significant chest pain. Oral nitrate (Tab. nidocard 2.6 mg, 1 tab. BD dose) was also started. Anti anginal drugs – trimetazidine³ (Tab. Angimet 25 mg) was given at BD dose. Injection frusemide was given at BD dose to combat the heart failure. Injection clexane (LMWH enoxaparin) 35 mg subcutaneously (S/C) was started at BD dose. The patient was gradually improving and he was finally discharged from hospital after 7 days from the date of symptoms free. Subsequently he was advised for CT angiogram and follow up care.

Discussion

This case report is a good learning for the physicians as well as for the common people also. For any unusual case the emerging risk factors should be borne in mind like haemostatic profiles

(high fibrinogen level and anti phospholipids antibody), paediatric obesity, microalbuminuria should not be forgotten as this case was not at all in that group.¹ Children of today prefer more “Fast food” like hot dogs, pizza, etc. in the schools.⁵ Family history is to be explored exclusively. Diets deficient in fresh fruits, vegetables and poly unsaturated fatty acids could be a probable cause. Low level of vitamin C, E and other antioxidants may enhance the production of oxidized LDL. Low dietary folate, vitamin B₁₂ and B₆ can lead to hyper homocysteinaemia which is very much dangerous.⁵ Screening is important from early childhood.⁶ Other than Diabetes mellitus, hypercholesterolemia, alcohol, type-A personality (over ambition, anger, extroversion, etc.) are more prone to develop acute cardiac emergency. Cigarette smoking history (though it was not present in this case) should be explored because the children may smoke outside the parent’s house in early childhood.⁷ So research work should be focused on paediatric age group and primordial prevention is very important in this respect.

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