

**Unusual case of acute coronary syndrome: inferior wall myocardial infarction 19 years young male presented with fever and right ankle cellulites treated with tissue plasminogen activator and its out come****Dipesh S. Patel<sup>1\*</sup>, V. K. Das<sup>2</sup>, Keyur Desai<sup>1</sup>**

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**ABSTRACT**

Unusual case of acute coronary syndrome: inferior wall myocardial infarction in 19yrs young male patient presented with fever and right ankle cellulites with fungal infection, thrombolysis was done with injection tenectaplastase a newer tissue plasminogen activator with Troponin-T positive. Tenectaplastase drug showed ECG changes within 30 minutes of thrombolysis with normal coronary during the angiography and preserved the left ventricular ejection function making it a successful thrombolysis by the tissue plasminogen activator (TPA) in young patient with myocardial infarction.

**Keywords:** Tissue plasminogen activator, 19 years young myocardial infarction

**INTRODUCTION**

As myocardial infarction we know is fatal to life which ever age group we observe, normally we have observed myocardial infarction in age group more than 40years but myocardial infarction in young age less than or equal to 19 years<sup>1</sup> is not commonly seen in routine practice. The most common reason of young myocardial infarction is the hypercoagulable states like antiphospholipid syndrome, systemic lupus erythematosus, nephrotic syndrome, anti-thrombin III etc. Here in this case study we have discussed the young patient of 19 years of age

having inferior wall myocardial infarction with cellulites and after the thrombolysis with tissue plasminogen activator the patient had normal coronary angiography and preserved left ventricular function.

**CASE REPORT**

A 19 years Young male patient was brought in the emergency room to Shri Vinoba Bhave Civil Hospital, U.T of Dadra and Nagar Haveli with complain of right ankle cellulites and fever with chills from 4 days.<sup>1,2</sup> Patient was asymptomatic before 4 days than he

developed itching over the right ankle after itching there was redness over the area after 1 day of itching and redness patient observed swelling over the right leg for which patient visited some general clinic and took some medicine to subside the redness and swelling. But after 3 days patient had discharge from the site and fever, patient had taken some anti-pyretic for fever, but fever did not become normal after taking the drugs and there was discharge from the local site. So patient visited Shri Vinoba Bhawe Civil Hospital at the emergency room at night 8:35pm and was examined and has advice to get admitted for the complaint. Patient was admitted and primary treatment was given and was shifted to ward, patient was conscious, oriented and vitally stable when he was admitted. In morning after having morning breakfast he felt chest pain and heaviness on the left side of the chest the pain was non-radiating in nature and was localised to the left chest wall. Immediately the ECG was taken and it was suggestive of ST elevation inferior wall myocardial ischemia, patient was shifted to ICU and patient's relatives were counselled about the myocardial ischemia and about the thrombolysis. Vitally patient was normal but there was temperature of about 101.3°F which is mention in Table 1. Laboratory investigations were performed and they are listed in Table 2.

**Table 1: General examination/ systemic examination/ vitals of the patient at the time of presentation in the hospital.**

Pallor/Cyanosis/Icterus/Clubbing/Edema/Lymph node	Normal
Inspection	Normal
Palpation	Normal
Percussion	Normal
auscultation	Normal
temperature	101.3°F
Pulse	96/min in right radial artery in supine position
BP	130/90mmhg in right radial artery in supine position
Respiratory rate	18/min abdominal thoracic type of normal respiration
Respiratory sound	NVBS
Cardiovascular sound	S <sub>1</sub> S <sub>2</sub> present with no murmur
Spo <sub>2</sub>	96% with room air
P/A examination	NAD
Respiratory/Cardiovascular/GI system/Genitourinary/Central nervous system/ Sensory system	Normal

**Other laboratory test rather than in Table 1:**

- 2D colour Doppler: Normal study with preserved LV function.

- Coronary angiography (CAG): normal coronaries.<sup>3</sup>
- Homocystine level: 40.8µmol/L<sup>4,5</sup>
- Colour Doppler study venous system right lower limb: Impression-no evidence of deep vein thrombosis. Subcutaneous edema is seen in lower leg. No obvious collection seen. A 4.3×3.0×0.9cm sized anechoic collection is seen deep to the musculotendinous plan on dorsal aspect of foot. It appears to be communicating with ankle joint. This is likely to be synovial collection.
- Antiphospholipid antibody: Negative.<sup>6-8</sup>

**Table 2: Laboratory data of the patient during the hospital stay.**

Test	Values	Normal range
Hb (gm%)	13.2gm%	13-17gm%
Total leucocytes count	18,000/cumm	4-10×10 <sup>3</sup> /µl
Differential count		
Polymorphs	90%	
Lymphocytes	07%	25-55%
Eosinophil	02%	1-6%
Monocytes	01%	2-10%
Basophils	00%	0-2%
RBC	4.5million/mm <sup>3</sup>	4.5-5.5million/mm <sup>3</sup>
PCV	38.5%	40-50%
MCV	89.6fl	75-100fl
MCH	39.0pq	27-32pq
MCHC	34.3g/dl	31.5-34.5g/dl
Platelet count	2.05lakh/mm <sup>3</sup>	1.5-4lakh/mm <sup>3</sup>
HIV	Negative	
HbsAg	Negative	
Blood group	A positive	
RBS (random blood sugar)	102mg/dl	
Serum electrolyte		
Sr. sodium	128.5m.mol/L	136-146m.mol/L
Sr. potassium	3.76m.mol/L	3.5-5.5m.mol/L
Sr. chloride	100.5m.mol/L	98-106m.mol/L
Blood urea nitrogen	14mg/dl	7.9-20mg/dl
Serum creatinine	1.35mg/dl	0.6-1.1mg/dl
Liver function test	Normal	
Lipid profile	Normal	
PT with INR	Normal	
CPK-MB	104 U/L	
Troponin-T (by card)	Positive	

**Table 3: Treatment data given during the hospital stay.**

Drug given	Route of administration
1 Inj augmentin (1.2gm)	IV TDS
2 Inj Amikacin (500)	IV BD
3 Inj tenectaplaste	IV Bolus over 5sec stat.
4 Inj LMWH (0.6)	S/C BD
5 Inj Pantoprazole (40mg)	IV BD
6 Inj Emset (2ml)	IV TDS
7 Tab. Disprin (350) 1 stat Tab. Clopitab (75mg) 4 stat Tab Atorvastatin (40mg) 2 stat	
8 Tab. Clopitab AP (75/150)	1 OD
9 Tab. Atorvastatin (40mg)	1 HS
10 Tab. Homocheck	1 OD
11 Tab. Betaloc (25mg)	1 OD
12 Tab Alprazolam (0.5mg)	1HS
13 Tab phlogam	1 TDS
14 Liq Cremaffin 15 ml HS with water	
15 MgSO <sub>4</sub> dressing	Daily

**DISCUSSION**

Myocardial infarction is commonly seen in daily medical practise, but young myocardial infarction at age group <19 years is not much seen and if noted than it is to be studied well and what is the outcome for the patient and to their fellow-being.<sup>9</sup> As in our case it was a fresh ST elevation inferior wall myocardial infarction which is seen Figure-1 and the episode took place in front of our eyes, so the non-invasive procedure likely thrombolysis with a tissue plasminogen agent was done which was injection tenectaplaste with which other drugs were given

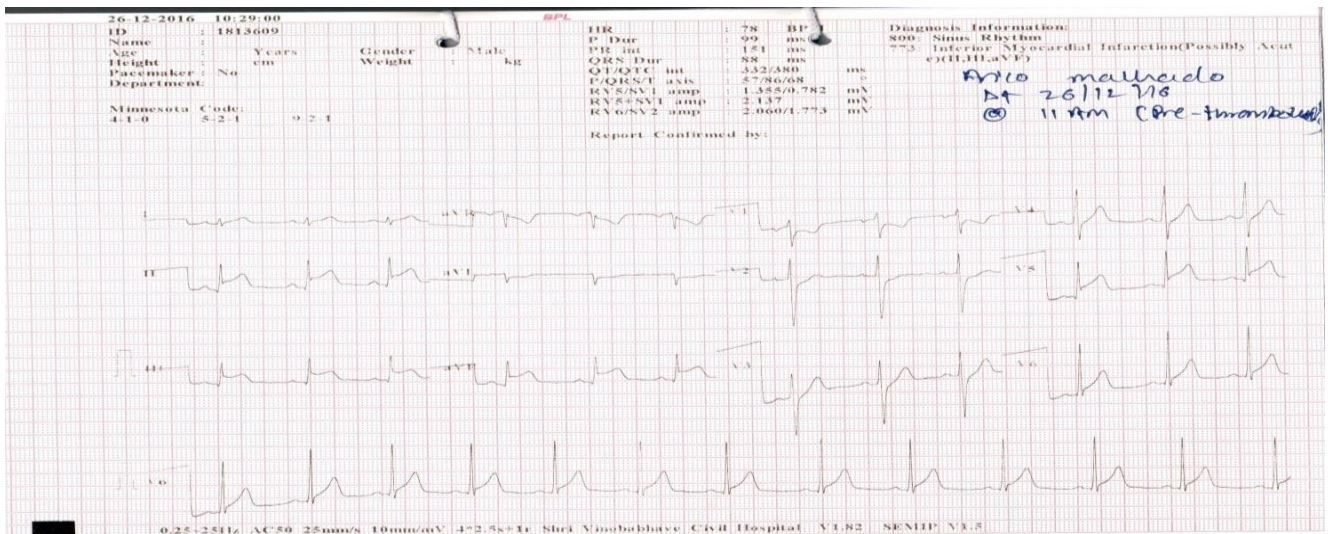
which we can see in Table 3 and after the thrombolysis the ECG was again repeated which can be seen in Figure-2 respectively. In Figure 2 which is the post thrombolysis ECG there is marked changes noted from Figure 1.

So the timing of the thrombolysis and its potency of the drug can also be notice in the given figure. There were many question about that it can also be diagnosed as myopericarditis, but in myopericarditis the ECG changes mainly the ST-T will have been slow and not within the short duration as show in figures. In our study the changes were seen within 30 minutes of the thrombolysis. As by the symptoms wise the chest pain in myopericarditis will decrease slowly and steady as in our case the chest pain was relieved within 15 minutes so the diagnosis of acute coronary syndrome-ST elevation inferior wall myocardial infarction was kept and not myopericarditis. There was a successful thrombolysis done with the tissue plasminogen agent which was tenectaplaste which we used during the episode as it showed an accurate result in a young patient of myocardial infarction where the left ventricle ejection function was also preserved and the coronary angiography also normal during the study.<sup>11,12</sup> Hence, the complain to needle time is early there are result suggestive of better outcome.<sup>13</sup>

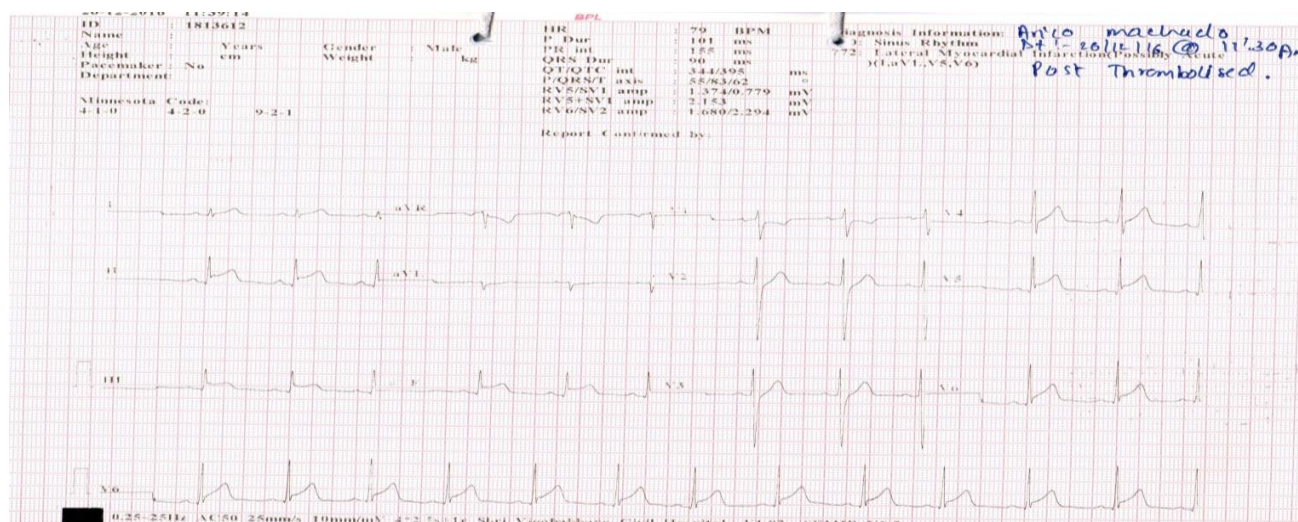
**CONCLUSION**

To conclude, the use of tissue plasminogen activator like tenectaplaste in a young myocardial infarction with ECG suggestive of myocardial infarction will give a good result and proper outcome in whom the symptoms to needle time is early.

But the etiological factor was very difficult to know, but in our case study we can assume that the cellulites with fungal infection were the etiological factor for the myocardial infarction to occur.



**Figure 1: 12 lead ECG taken of the patient during the episode of chest pain which was suggestive of inferior wall myocardial infarction and reciprocal changes were noted in anterior chest lead.**



**Figure 2: 12 lead ECG taken after 30minutes of the thrombolysis with tissue plasminogen activator showing decrease in ST elevation in inferior lead which was seen in figure 1 and disappearance of the reciprocal changes noted in anterior chest lead.**

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