

A Report of Ultra-Early Thrombolytic Therapy on Typical Cases of Acute Myocardial Infarction

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Abstract

The death rate of acute myocardial infarction is high and it is one of the critical and serious diseases which seriously endanger human health. A typical AMI patient in our hospital is in critical condition and her age is less than 70 years old. Taking into account the patient's situation, our hospital emergency department implements ultra-early intravenous thrombolysis. According to CK and CK-MB peak forward, the patient Chest pain improved, ST-segment ECG thrombolysis recanalization and other specific indicators indicated that the case of vascular reperfusion success. Our hospital emergency department timely and effective implementation of thrombolytic therapy for the salvage of patient life is of great significance.

Keywords

Acute Myocardial Infarction, Ultra-Early Thrombolysis, CK-MB, CK

典型急性心肌梗死病例实施超早期溶栓治疗报道

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摘要

急性心肌梗死致死致残率高，是严重危害人类健康的急危重症之一。我院收治的该病例属于典型的AMI患者，患者情况危急且年龄小于70岁，综合考虑患者情况，我院急诊科实施超早期静脉内溶栓治疗。根据CK及CK-MB峰值前移、患者胸痛好转，心电图ST段回落等溶栓再通特异性指标，表明该病例血管再灌注成功。我院急诊科及时有效的实施溶栓治疗，对于挽救患者生命意义重大。

关键词

急性心肌梗死，超早期溶栓，CK-MB，CK

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1. 前言

急性心肌梗死致死致残率高，是严重危害人类健康的急危重症之一[1]。其主要的机理：动脉粥样斑块破裂，出现血小板的激活和聚集，并形成了血栓，导致其动脉堵塞。高血压、糖尿病、高血脂、肥胖等因素都是引起急性心肌梗塞的高危因素[2] [3]。现我院收治一名典型急性心肌梗死病例，经心电图确诊30 min 内进行超早期的溶栓治疗，经心肌酶监测，患者血管再通，溶栓效果显著。现报道如下。

2. 临床资料

2.1. 既往病史

患者为女，63岁。陈旧性心肌梗塞病史1年，高血压病史20年，血压最高可达200/100 mmHg。患者入院时间2016-05-08 09:15。入院原因：胸痛。

2.2. 患者自述病症

突发胸1小时，为压榨性疼痛，伴大汗，无呼吸困难、意识不清。入院后查体检查：血压128/78 mmHg，神清语明，双肺呼吸音粗，未闻及干湿性罗音。心率73次/分，律整，各瓣膜听诊区未闻及病理性杂音。腹部软，无压痛及反跳痛。双侧Babinski征及Chaddock征阴性。辅助检查结果：急诊心电图：II、III、aVF ST段抬高0.1~0.3 mV；(图1)溶栓后心电图：II、III、aVF ST段抬高0.05 mV~0.1 mV，心肌损伤标志物检查：超敏肌钙蛋白T(TNT) 1.830 ng/mL；肌红蛋白(MYO) 251.6 ng/mL。监测72小时的心肌损伤标志物值。

2.3. 临床诊断

- 1) 冠状动脉粥样硬化性心脏病；
- 2) 急性下壁心肌梗死；
- 3) Killip 分级 I 级

2.4. 给予治疗

患者复发心梗且发病1小时，考虑紧急溶栓要比转运PCI更加适合该患者，患者无溶栓禁忌症，我院在30 min内实施紧急急诊溶栓治疗(静脉注射200万U尿激酶)，12小时后，皮下注射7500U普通肝素

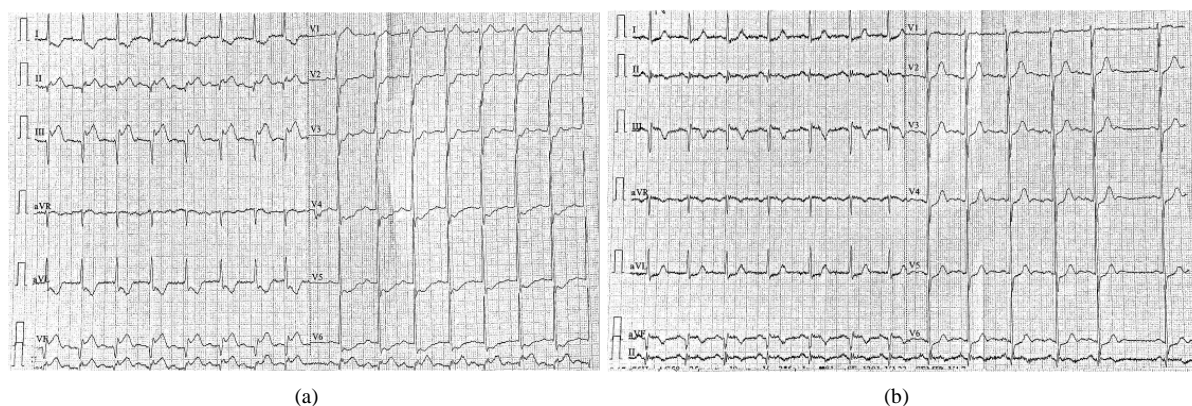


Figure 1. (a) Patient electrocardiogram before thrombolysis therapy; (b) Patient electrocardiogram after two hours of thrombolysis therapy

图 1. (a) 患者溶栓前心电图; (b) 患者溶栓后 2 小时心电图

素, 连续注射 3 天。患者自述有碘剂过敏史, 因此无法实施进行冠脉造影检查。

2.5. 预后

该患者经过紧急溶栓治疗后, 患者胸痛好转, 出现再灌注心律失常。心电图提示 ST 段回落 $> 50\%$; 心肌酶检测结果显示 CK 及 CK-MB 峰值前移; 心脏彩超显示血流速度左心室舒张功能减弱(图 2)。

3. 结论

患者为典型心肌梗死, 我院在入诊 30 min 内点滴尿激酶, 经指标验证, 溶栓有效。这一个病例提示基层医疗单位在 AMI 治疗时不应忽视门诊静脉内溶栓治疗以保证患者的最大利益。

4. 病例讨论

我院收治的是一名典型的急性心肌梗死症状的老年病人, 具有心肌梗死史, 我院急诊门诊快速判断病情, 在患者入急诊 30 分钟时实施超早期的静脉内溶栓治疗, 点滴尿激酶, 溶栓过程中心电图 II、III、aVF ST 段抬高 0.05 mV~0.1 mV, ST 段回落 $> 50\%$, 提示溶栓治疗见效。溶栓过程中间隔 2 小时监测心肌三酶, 其中天门冬氨酸氨基转移酶(AST) 33 U/L; 磷酸肌酸激酶(CK) 176.44 U/L; 磷酸肌酸激酶同工酶(CK-MB) 36.00 U/L, 2 小时升高为 AST: 51 U/L; CK: 493.35 U/L; CK-MB: 72 U/L, 4 小时后 AST: 67 U/L; CK: 719.96 U/L; CK-MB: 96 U/L, 6 小时后 AST: 79 U/L; CK: 908.06 U/L; CK-MB: 104.00 U/L; 经过溶栓治疗后, CK 111 U/L; CK-MB 12.0 U/L。AST 不仅存在于心肌, 还大量存在于其他器官, 如肝脏、肌肉内等, 且当 AST 升高时, CK 或者 LDH 均升高[4]。因此, 对于判断急性心肌梗死, AST 相对于 CK 特异性差。CK-MB 可用于急性心肌梗死的早期判断, 而 CK 在心肌梗死发生的 6~36 小时内敏感度较高, 本院收治的患者 4 小时监测心肌酶中, CK 和 CK-MB 达到峰值(图 3(a)), 在 72 小时监测过程中, CK 及 CK-MB 峰值前移, 经急诊溶栓治疗后, CK 及 CK-MB 指标明显下降, 而 CK 及 CK-MB 是判断溶栓再通的重要指标, 由此可见, 本院实施快速溶栓治疗有效。心肌损伤标志物包括肌红蛋白、肌钙蛋白和 CK-MB。其中心肌肌钙蛋白是目前临床上敏感性和特异性最好的心肌损伤标志物[5] [6] [7]。肌红蛋白在心肌损伤 1 小时后升高, 12~24 小时后恢复正常, 肌钙蛋白在心肌损伤 3~4 小时后升高, 可持续 4~7 天, 甚至 2 周。因此, 肌红蛋白可作为心肌损伤的早期诊断依据, 肌钙蛋白可作为心肌梗死的辅助诊断及溶栓效果的评价[8]。我院收治的该患者超敏肌钙蛋白 T(TNT) 0.020 ng/mL; 肌红蛋白(MYO) 64.64 ng/mL; 肌酸激酶同工酶(CK-MB) 2.05 ng/mL(图 3(b)), 入院 8 小时后 TNT 1.830 ng/mL; MYO 251.6

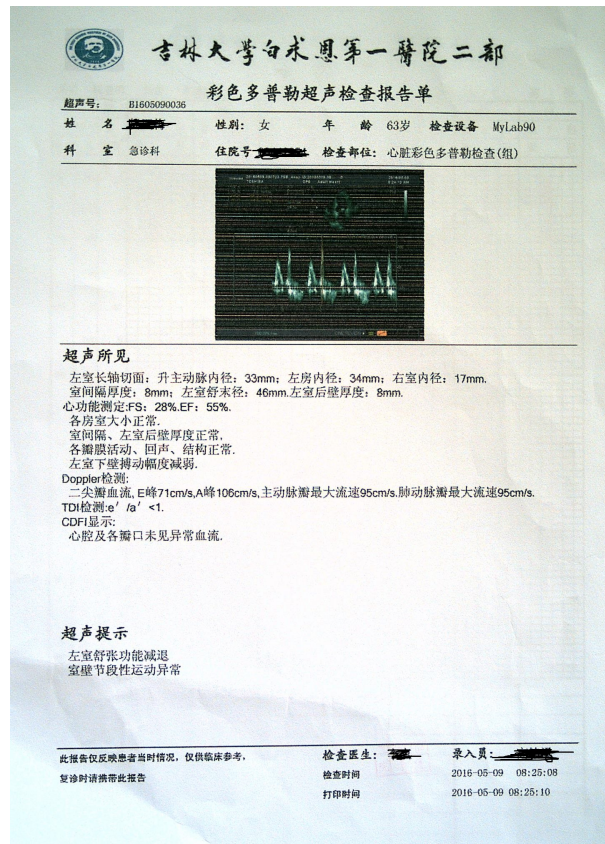


Figure 2. Echocardiography in diagnosis of acute myocardial infarction

图 2. 心脏彩超诊断急性心肌梗死

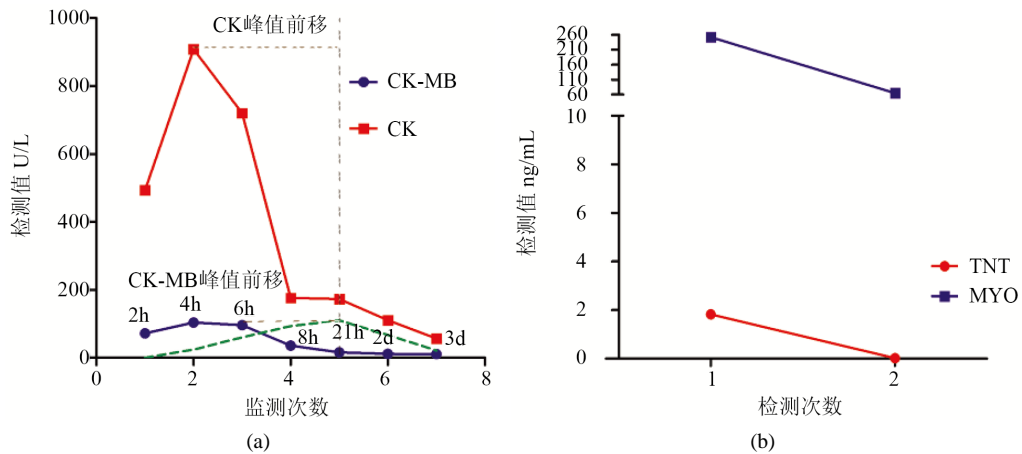


Figure 3. (a) The testing curve of CK and CK-MB, (b) The test result of TNT and MYO

图 3. (a) 患者 CK 及 CK-MB 的检测曲线, (b) 患者 TNT 及 MYO 的检测结果

ng/mL; CK-MB 101.7 ng/mL, 超敏肌钙蛋白 T 呈现明显升高趋势, 可判断该名患者处于心肌梗死急性期。

治疗急性心肌梗死的治疗方法通常为静脉内溶栓和冠脉支架术(percutaneous coronary intervention, PCI) [9] [10] [11]。目前关于两种治疗方法的临床报道较多, 其中 PCI 术血管再通率高, 且降低了血管的再闭塞率, 被大型医院广泛。然而 PCI 准备及治疗时间较长, 常常会错过最佳治疗时间[12], 导致心肌

大面积坏死。急性心肌梗死发生后,血管开通时间越早,能挽救的心肌就越多。因此,对于患者来说“时间就是心肌”,再灌注治疗越早,患者的死亡率越低,预后越好。静脉内溶栓治疗作为80年代兴起的传统治疗AMI方法,经济、简便易行,对操作人员要求不高,对于大面积梗死、急性下壁梗死及合并右心室梗死患者受益较大[13][14]。静脉内溶栓药物分为三代[15][16]:第一代链激酶和尿激酶,其中链激酶有抗原性,易引起过敏反应,尿激酶无抗原性溶栓率高;第二代为组织型纤溶酶原激活剂(t-PA),可选择性地激活血凝块中的纤溶酶原,具有较强的局部溶栓作用,但是半衰期短,需要持续静脉给药;三代溶栓药物(阿替普酶突变体)替奈普酶(TNK-tPA):对于血凝块有更强的穿透力,溶栓能力强,出血率低[17]。但是价格昂贵,不适合经济困难的患者。因此,临床选择溶栓药物时应综合病人病情、家庭条件,选择最佳治疗药物。

本院收治患者属于典型的AMI老年患者,患者情况危急,由于碘剂过敏史无法做冠脉造影检查,且家庭困难不愿支付大额医疗费用,综合考虑患者情况,我院急诊科门诊快速判断病情,果断实施超早期静脉内溶栓治疗,根据CK及CK-MB峰值前移、患者胸痛好转,心电图ST段回落等溶栓再通特异性指标,表明该病例血管再灌注成功。常规的治疗程序是患者急诊科就诊后移交心内科住院治疗,繁琐的治疗程序往往延误了AMI患者的最佳溶栓时间,栓塞时间过长,患者心肌损伤越明显,死亡机率增高。因此,这一个病例提示基层医疗单位在AMI治疗时不应忽视门诊静脉内溶栓治疗[18],应综合评价患者情况后,以缩短患者治疗时间,增加患者生存机率为原则,减少患者的心肌损伤程度以保证患者的最大利益。

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