The prevalence of the male pattern in electrocardiograms of healthy Chinese adult males in Hong Kong

Introduction: The main feature of the male pattern in electrocardiograms (ECG) is ST-elevation at the J-point of ≥0.1 mV in at least one of the leads V1-4 with concave upward ST-segments. The prevalence of the male pattern in ECG of healthy male foreigners who were 16-58 years old (mostly Caucasians or Blacks) was high (85%). These ST-segment elevations may meet the ECG criteria for fibrinolytic therapy according to the present guidelines for the treatment of ST-elevation myocardial infarction (STEMI), thus resulting in potentially inappropriate management. Clinicians should be aware of this common phenomenon. As yet, the prevalence of the male pattern in healthy Chinese adult males has not been studied specifically.

Materials and methods: Standard 12-lead ECG from 202 apparently healthy Chinese adult males (aged 20-54) were collected and analysed. Results: The prevalence of the male pattern was 95.5% in our 202 samples (p<0.05). Of these samples of male patterns, 97.4% might have met the ECG criteria for fibrinolytic therapy according to the guidelines of the American College of Cardiology and American Heart Association (2004); but if we followed the guidelines of the European Society of Cardiology (2003), only 21.8% met the criteria.

Conclusions: The prevalence of the male pattern in ECG of healthy Chinese adult males in Hong Kong is high. Clinicians should be more cautious while managing patients with possible acute coronary syndrome to avoid over-diagnosis of STEMI. It seems the European guidelines are safer to follow as regard to the prescription of fibrinolytics for STEMI, especially for junior doctors. (Hong Kong J Emerg Med. 2005;12:198-205)

引言：男性模式心電圖的主要特色是在 V1-4 導程中，至少其中一個導程在 J 點的 ST 段提升 ≥0.1 mV 及向上凹。16-58 歲健康外籍的男性（多為白種人或黑人）心電圖出現男性模式的普遍度很高（85%）。這種 ST 段提升可能與現時心電圖「ST 段提升心肌梗塞」處方纖維蛋白溶解治療指引中的準則吻合，因而導致可能是不適當的處理。臨床醫生應警覺這常見的現象。然而，香港的華裔成人男子心電圖出現男性模式的普遍度並未有被特別地研究過。資料及方法：收集及分析 202 名表面上健康華裔成年男子（20-54 歲）的標準十二導程心電圖。結果：在 202 個樣本中，男性模式的普遍性為 95.5%（p<0.05）；而男性模式樣本中，97.4% 個案可符合 2004 年美國心臟學院及美國心臟學會訂定纖維蛋白溶解治療指引的

Correspondence to:
Ho Kin Kei, Joseph, MBChB(CUHK), MRCSEd(A&E), FHKAM (Emergency Medicine)
Princess Margaret Hospital, Accident & Emergency Department, Lai Chi Kok, Kowloon, Hong Kong
Email: kkho2002@netvigator.com

Lee Ka Hing, MBChB(CUHK), MRCSEd(A&E)
Lit Chau Hung, MRCP(UK), FRCSEd(A&E), FHKAM (Emergency Medicine)
The University of Hong Kong, Faculty of Medicine, Pokfulam Road, Hong Kong
Tsui Sin Yui, Cindy, Medical Student
Ko Hiu Fai, Medical Student
Introduction

The main feature of the male pattern in electrocardiograms (ECG) is ST-elevation at the J-point of $\geq 0.1$ mV in at least one of the leads V1-4 with concave upward ST-segments (Figure 1). Other possible features include shorter period between the J-point and the onset of the T wave, steeper slope of the ST segment (ST angle $\geq 20$ degrees), steeper ascent of the T wave and higher T wave amplitude. ST-elevation of $<0.1$ mV is designated as a female pattern. These characteristics make it possible to distinguish the ECG of a woman from that of a man to a certain extent.

The prevalence of the male pattern in the ECG of healthy male foreigners between 16-58 years old (mostly Caucasians or Blacks) has been reported to be high (85%). According to a study in 1960 conducted among 6,014 healthy males in the US Air Force who were 16-58 years old, 91% had ST-elevation...