

冠狀動脈瘻管病患之鉈-201 表現

Manifestations of ²⁰¹Tl Myocardial Single Photon Emission Computed Tomography in Patients with Coronary Fistula

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摘要

目的：冠狀動脈瘻管(coronary fistula)為一會導致冠狀動脈血流分流之先天異常，並可在冠狀動脈造影(coronary angiography; CAG)時偶可意外發現並造成如冠狀動脈心臟病之缺血症狀。症狀及症候包括狹心症，心肌缺氧，及心臟衰竭。先前之報告僅有病歷報告陳述有關冠狀動脈瘻管病患之鉈-201 灌注缺損可能意味著心肌缺血之可能性。本研究之目的是針對冠狀動脈造影已確認有冠狀動脈瘻管病患之鉈-201 影像做一回溯性之分析。方法：從 1992 年 9 月至 2006 年 12 月，26,758 位病人接受冠狀動脈造影，其中 58 位胸悶及/或胸痛之病人（男性 32 位，平均 62±14 歲，從 35 至 87 歲）接受冠狀動脈心臟病之壓力性誘發試驗，病人接受 dipyridamole 為誘發劑隨後立刻及四小時後分別接受兩次鉈-201 造影，所有之病人於其後接受冠狀動脈造影評估冠狀動脈心臟病之嚴重度。結果：58 位病人之冠狀動脈造影皆顯示冠狀動脈瘻管。瘻管之起源，流入處，及直徑（巨大瘻管≥10mm，微細瘻管<10mm）均逐一紀錄。57 位病患(98%)有明顯之鉈-201 灌注缺損(reverse[R], partial reverse[PR], or reverse redistribution[RR])。在所有異常之鉈-201 心肌灌注 SPECT 中發現，82 個灌注缺損區包括 52 個 R(63%)，21 個 PR(26%)，及 9 個 RR(11%)。於左前降支有冠狀動脈瘻管之病患，64%(28/44)可於左心室前側，中隔側，或尖端區見到灌注缺損。此外，於左迴旋支冠狀動脈瘻管病患，71%(5/7)於左心室外側或下側區可見灌注缺損。而於右冠狀動脈冠狀動脈瘻管病患，70%(14/20)於左心室下側區可見灌注缺損，冠狀動脈瘻管於其相對應區域無灌注缺損者，微細瘻管佔左前降支之 81%(13/16)，左迴旋支之 100%(3/3)，右冠狀動脈之 83%(5/6)。結論：心肌缺血合併鉈-201 灌注缺損可於大多數冠狀動脈瘻管病患發現，冠狀動脈瘻管合併鉈-201 之缺血證據之病人亦多存在胸悶、痛之症狀，於冠狀動脈瘻管病患未呈現鉈-201 之缺血證據多為微細冠狀動脈瘻管血流分流量較小而不足以造成心肌缺血。

Abstract

Background: Coronary fistula is a congenital anomaly resulting in steal phenomenon of coronary blood flow, which may result in clinical symptoms and/or signs of coronary artery disease (CAD), including angina pectoris, myocardial ischemia, and congestive heart failure. The purpose of this study is to do a retrospective analysis of myocardial ischemia in 201TI images in patients with coronary fistulae. Methods: From September, 1992 to December, 2006, 26,758 cases underwent coronary angiography in our hospital and 58 of them (0.22%, 32 male; mean age 62 ± 14 , range from 35 to 87 years old), with chest pain and/or chest tightness underwent stress test for CAD. All patients received dipyridamole as pharmacological stress. All patients were followed by image acquisitions done immediately after stress and 4 h later. Results: All patients revealed coronary fistula by coronary angiography. Origin, drainage site, and diameter (large fistula ≥ 10 mm, small fistula < 10 mm) of each fistula were recorded. Fifty seven patients (98%) had 201TI perfusion defects in either reverse [R], partial reverse [PR], or reverse redistribution [RR] patterns. In the 201TI SPECTs, 82 abnormal perfusion areas were found including 52R (63%), 21PR (26%), and 9RR (11%). In all coronary fistulae, 64% (28/44) in LAD could see 201TI perfusion defects in anterior, septal, and/or apical areas. In addition, 71% (5/7) in LCX could detect defects in lateral or inferior areas, and 70% (14/20) in RCA could detect defects in inferior and/or lateral areas. In fistulae without 201TI perfusion defect in corresponding territories, micro-fistulae were noted in 81% (13/16) of fistulae in LAD, 100% (3/3) of fistulae in LCX, and 83% (5/6) of fistulae in RCA. Conclusions: Myocardial ischemia with abnormal 201TI perfusion image can be detected in large portion of patients with coronary fistulae. Coronary fistulae with ischemia in 201TI perfusion images also can be associated with chest pain and/or chest tightness. The absence of 201TI perfusion defect in patients with coronary fistula may be due to micro-fistula without evident steal phenomenon of coronary blood flow..