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SIGNIFICANCE OF BASAL SEPTAL PERFUSION DEFECT ON CARDIOVASCULAR MAGNETIC RESONANCE (CMR) IMAGING IN PATIENTS WITH PREVIOUS PROXIMAL LEFT ANTERIOR DESCENDING ARTERY (LAD) STENTINGK Fung, S Mohiddin, R P Weerackody *London Chest Hospital, Barts Health NHS Trust*

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Background The superiority of stress CMR imaging for the detection of coronary artery disease has been demonstrated in recent studies. The identification of perfusion defects has been correlated with adverse outcomes. The percutaneous coronary intervention (PCI) treatment of proximal LAD lesions has been shown to be associated with improved outcome. Patients with previous proximal LAD stenting presenting with chest pain symptoms have often observed to have basal septal perfusion defects which do not propagate beyond the basal segments. This is likely related to compromised flow in the septal perforators in the presence of the stent

Table 1

	No evidence of basal septal defect (n=234)	Evidence of basal septal defect (n=92)	p Value
Male (%)	187 (79.9)	67 (72.8)	0.16
Age (mean±SD)	58.7±11.7	60.5±11.7	0.21
Ethnicity—Asian (%)	93 (39.7)	44 (47.8)	0.18
Diabetes (%)	72 (30.8)	33 (35.9)	0.38
DES used (%)	129 (55.1)	50 (54.3)	0.89
Number of stents used=1 stent (%)	119 (50.8)	48 (52.2)	0.83
PCI for acute coronary syndrome (%)	151 (64.5)	55 (59.8)	0.42
Mean duration of PCI procedure to CMR scan (days, mean±SD)	574.6±595.9	596.9±566.5	0.75
Mortality (%)	8 (3.4)	3 (3.3)	0.94

scaffold. However, the significance of basal septal perfusion defects identified in patients presenting with chest pain symptoms in the presence of angiographically unobstructed proximal LAD stents is unclear. We studied the outcome of patients with previous proximal LAD stenting presenting with chest pain symptoms with or without a basal septal perfusion defect.

Methods Retrospective analysis of 326 patients presenting with stable angina, who had undergone PCI to the proximal LAD at our institution between January 2005 and November 2011 was performed. All patients were investigated with a standard stress CMR protocol utilising vasodilator stress with adenosine. Patients were divided into two cohorts—234 patients with no basal septal perfusion defect and 92 patients with a basal septal perfusion defect. The primary outcome was all-cause mortality. The mean follow-up after stent implantation was 3.0±1.7 years for no basal septal perfusion defect group and 2.7±1.7 years for basal septal perfusion defect group.

Results The two groups of patients were well matched in terms of age and gender. Among patients with a basal septal perfusion defect, there was a higher rate of Asian ethnicity and diabetes but this was not statistically significant. There was no significant difference in the use of drug eluting stents (DES) or the number of stents used. There was no significant difference between the two cohorts with regards to indication of PCI and the time elapsed from stenting to CMR scan. On long term follow-up, there was no significant difference in all-cause mortality between the two groups.

Conclusions The presence of a basal septal perfusion defect in patients with proximal LAD stent is not associated with adverse outcome. The increasing observation of these defects may be related to superior spatial resolution of CMR imaging. However, if these perfusion defects are causing patients' symptoms, our data does point to the safety of conservative management of these cases. Although there was higher rate of female gender, Asian ethnicity and diabetes among patients with a basal septal perfusion defect, there was no significant patient or procedural factors associated with the identification of perfusion defects in the presence of proximal LAD stent.