South Asian Patients Require Three Times As Much Repeat Angioplasty

South Asian patients with coronary artery disease were almost three times as likely to be re-admitted to the hospital for further interventional treatment to arterial plaque than their White European counterparts, according to research in the December issue of IJCP, the *International Journal of Clinical Practice*. They were also more likely to present as an emergency and require urgent treatment.

Researchers carried out a five-year follow-up study of 1,158 patients who had received percutaneous coronary intervention (PCI) at a UK hospital, comparing 293 South Asians and 865 White Europeans. PCI, which is often known as angioplasty, is carried out to remove the cholesterol-laden plaque that has built up in the arteries leading to the heart, making them narrower and reducing blood flow.

"When we compared the number of further procedures the patients underwent, we found that the South Asian patients were three times as likely to need further procedures than their White European counterparts" says lead author Dr Chetan Varma, from the Department of Cardiology at City Hospital, Birmingham, UK. "Despite this, there were no long-term differences in the all-cause death rates between the two ethnic groups."

Key findings of the study included:

- South Asian patients tended to be younger than White European patients (62 versus 66 years), more then twice as likely to have diabetes (40 percent vs. 16 percent), but less likely to be smokers (16 percent vs. 39 percent).
- The extent of the coronary artery disease and the location of the index coronary vessel lesion when the first PCI procedure was carried out was similar in both ethnic groups.
- A total of 111 patients required repeat revascularisation. Of these, 94 had a repeat PCI and 17 underwent coronary artery bypass grafting. South Asian patients were almost three times as likely to be re-admitted for PCI or coronary artery bypass grafting.
- Following the initial procedure, South Asian patients also required more PCI for treatment of non-index lesions. After controlling for baseline clinical and procedural characteristics, South Asian ethnicity was a significant independent predictor of target lesion revascularisation, with levels approximately three times higher.
- Social deprivation was three times higher among South Asian patients, as measured by the Carstairs index, which is based on key census indicators.
- Further analysis (Cox regression) showed that age, history of heart attacks, social deprivation score and creatinine levels before treatment were

independent predictors of long-term, all-cause death in the whole study group.

"South Asians develop symptomatic coronary artery disease at an earlier age and also have a higher prevalence than White Europeans," concludes Dr Varma. "PCI can be used for symptomatic relief in stable angina and to improve prognosis in acute coronary syndrome. Despite needing more urgent hospital treatment and experiencing worse social deprivation, South Asian patients have a long-term death rate similar to White Europeans. However, they are three times as likely to require repeat treatment following PCI, due to further narrowing of the arteries leading to the heart."

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