Background: In developing countries like India CAD is one of the major causes of death. The pattern of coronary artery dominance has a significant clinical role. Left dominance is said to be associated with increase in acute coronary syndrome. The aim of this study was to determine the pattern of coronary artery dominance in Kashmiri population. Materials and Methods: The study was carried out on 150 patients above 18 years of age who after routine clinical evaluation were to undergo coronary angiography for various indications and their angiogram was labelled as normal by cardiologist. Results: A total of 150 patients were included in the study, among them 102 were male and 48 were female patients. The mean age for females was 56.4±10.22 years with range from 40-89 years. The mean age of males was 56.1±10.83 years with range from 30-89 years. Right coronary artery was found dominant in 130 (86.67%) subjects, left coronary artery was dominant in 15 (10%) subjects and co-dominant circulation was found in 5 (3.33%) subjects. Conclusion: The right coronary artery dominance is more prevalent in Kashmiri population. Knowledge about coronary artery dominance provides helpful information to anatomist and is essential for interventional cardiologist.

INTRODUCTION
Coronary artery disease (CAD) is one of the major type of disease in the world. In developing countries like India CAD is one of the major causes of death. Coronary artery dominance is defined as left coronary artery dominance (LD), right coronary artery dominance (RD), and co-dominant (CD). Coronary artery dominance is determined by the coronary artery that emits the posterior descending artery (posterior interventricular artery). The posterior descending artery originating from the right coronary artery is right dominance (RD), the posterior descending artery originating from the left circumflex artery (LCx) is defined as left dominance (LD). Co-dominant circulation is defined as the posterior descending artery that originates from the right coronary artery and a large posterior lateral branch originating from left circumflex artery (LCx). Right dominance is the most common pattern of coronary circulation found in 72-90% of individuals, left dominance in about 8-33% and co-dominance has about 3-7% prevalence. The pattern of coronary artery dominance has a significant clinical role. Left dominant mode of circulation shows a less well balanced circulation with more myocardium at risk in acute coronary syndromes (ACS). Left dominance and co-dominance are said to be associated with an increased in hospital mortality than Right dominance undergoing percutaneous coronary intervention (PCI) for acute coronary syndrome. Knowledge about the coronary arteries, their variation and the pattern of coronary artery dominance has a valuable role in the diagnosis and treatment of cardiovascular diseases. Information about the coronary artery dominance is scanty in Kashmir. This study was done to determine the pattern of coronary artery dominance in Kashmiri population.

Materials and Methods
This study was carried out in the cardiology department of Government Medical College Srinagar, India after obtaining clearance from Institutional ethical committee. The subjects of either gender above 18 years of age who after routine clinical evaluation were to undergo coronary angiography for various indications were included in the study. Informed consent was taken. Patients with congenital heart disease, valvular heart diseases were excluded from the study. A total of 150 subjects were analysed. All the subjects were of Kashmiri ethnicity. Standard views with the necessary cranial or caudal angulations were taken to document the pattern of dominant coronary circulation.

Results
A total of 150 subjects were included in the study, among them 102 were male and 48 were female subjects. The mean age for females was 56.4±10.22 years with range from 40-89 years. The mean age of males was 56.1±10.83 years with range from 30-89 years. Right coronary artery was found dominant in 130 (86.67%) subjects, left coronary artery was dominant in 15 (10%) subjects and co-dominant circulation was found in 5 (3.33%) subjects.

DISCUSSION:
A total of 150 subjects were included in the study, among them 102 were male and 48 were female subjects. The mean age for females was 56.4±10.22 years with range from 40-89 years. The mean age of males was 56.1±10.83 years with range from 30-89 years. In our study
86.67% subjects had right coronary artery dominance, 10% subjects had left coronary artery dominance and 3.33% subjects had the co-dominant pattern of coronary artery dominance and are similar to the values mentioned in the literature. A study done by Vishakanta Singh et al the right coronary artery dominance was found in 80.58%, 11.63% had LCx dominance and 2.79% had co-dominant coronary circulation. Studies have shown that extent of coronary atherosclerosis does not depend on the type of coronary artery dominance. In ACS patients left dominance will be a significant and independent predictor of high long term mortality. Coronary artery dominance has an influence on the relative contribution of coronary arteries to total left ventricular blood flow. Most of the individuals with left dominance the right coronary artery is small and fails to reach the acute margin of the heart, so a proximal stenosis of left coronary artery may result in extensive ischemia and worse consequences in a left dominant system than in right dominant system and the potential to rapidly form collaterals may be reduced in patients with left dominant system as right coronary artery is not sufficient to profuse the myocardium. In a study done by Catherine Gebhard et al the left coronary artery dominance and perfusion studies with 64-slice CT coronary angiography. Eur Radiol [Internet]. 2008 Apr [cited 2019 Mar 10];18(4):781–91.

Conclusion: In the current study the right coronary artery dominance is more in Kashmiri population. The knowledge about the coronary circulation and its dominance is very useful to anatomist, radiologist and interventional cardiologist for various diagnostic and therapeutic purposes. Conflict of interest: None

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