MATERIALS AND METHODS
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An observational, retrospective study was conducted at NHL municipal medical college and V.S. General hospital for the period 2007-2008 considering the fact that anatomical variation in coronary arteries can be a possible cause of coronary artery disease.

To know the anatomical pattern of coronary arteries, the study was carried out on human hearts by using three different methods on 100 human hearts. In first method 25 human cadaveric hearts were studied about branches, lumen and ostia of coronary arteries by dissection. The specimens were collected without any age, sex, socio-economic status, religion, educational or pathological basis. In second method 10 cadaveric hearts were studied with radiological technique by injecting barium sulfate dye in coronary arteries looking for branching pattern. Another 65 cases were studied by looking at angiographic variations of coronary arteries in Cath lab, history taking in prepared proforma and by results of coronary angiography.

In first method 25 hearts from cadavers of adult individuals of both sexes and of any age were used in this study. All these specimens were belonged to Anatomy department, Smt. N. H. L. Municipal Medical College, Ahmedabad. These specimens were obtained from the subjects who had donated their body to the Institute. Dissections conducted on the hearts included the removal of the epicardium and subepicardial adipose tissue and the tracing of each artery and its branches. The dissection of the ascending aorta and coronary arteries origins was performed. The ascending aorta was transversally sectioned approximately 1 cm above the commissures of aortic
leaflets. After that, the aorta was longitudinally opened at the level of the posterior aortic sinus to enable the visualization and analysis of the right and left aortic leaflets and their respective coronary ostia. Then dissections of branches of both coronary arteries were done. The accompanying veins were removed for proper observation. We looked for variation in branches and also for posterior interventricular branch for predominance. The coronary arterial pattern and their variations were studied.

In second method 10 fresh hearts brought from forensic department. The hearts were obtained within 24hrs of death from the Department of forensic medicine. In that hearts we injected barium sulfate dye in coronary ostia. After dissecting coronary ostia in aortic sinuses, we introduced small lumen catheter then secured in place by tight ligatures and then wash the lumen with water and injected radio-opaque medium (diluted barium sulfate suspension 25%) with syringe at a constant pressure for possible entry into all the branches and take radiograph. Then catheter (cannula) was removed and ligatures were tightened. The skiagrams of each specimen were taken with the anteroposterior view. (55k.v. with 160 M.A. exposures were used for 2 seconds.) Same procedure is repeated on other side. Previously this procedure was tried on cadaveric heart. But dye spilled out in heart and x ray is not good. Another problem was that because of formalin arterial wall were fragile and tough. So, it is difficult to carry any procedure on that artery. Fresh hearts are comparatively soft and arterial wall is not fragile. So, we can introduce dye easily and it cannot spilled out.
In third method 65 cases were studied in the Cath-lab. In that we have taken history in pre formed proforma including etiological factors and angiographic results. Standard methods of descriptive and analytic statistics were used to obtain the average values, the standard deviations and the results of t-tests for small and random samples.