A congenital abnormality known as a single coronary artery (SCA) is usually discovered by coincidence. SCA is thought to affect as little as 0.024% to 0.066% of people who have routine coronary artery catheterization. Although coronary angiography (CCA) has been widely used to diagnose CAD, its accuracy and capacity to identify the number, location, and severity of coronary obstructive lesions in the heart make it the gold standard [1]. If you're born with a congenital abnormality called a single coronary artery (SCA), you're not alone. SCA occurs in as little as 0.024% to 0.066% of normal coronary artery catheterizations. Singapore has one of the world's highest rates of coronary heart disease (CAD). Heart disease can only be accurately diagnosed by CCA (CAD). As a result, it can precisely identify coronary obstructive lesions in the heart's arteries [2]. One or more congenital anomalies, such as a bicuspid aortic valve or an isolated anomaly, can cause SCA. It can also occur alone. Anatomical or morphological changes that occur in a population at a frequency greater than one percent of the general population are considered deviations from the norm. The USDA estimates that less than one percent of the world's population has these particular cultivars, making them among the rarest. It is considered an oddity when just a small percentage of the population is affected. These arteries lead to the right atrioventricular groove. Atrioventricular groove, left coronary artery. The left coronary artery is the origin of 38% of the sinoatrial node branches, which are found in half of the coronary arteries.
There are two basic forms of SCA, according to Lipton and colleagues: right and left. Anatomical pathways further differentiated subtypes I, II and III [5]. A single aortic orifice can supply full coronary blood flow to the whole myocardium. [6] SCAs from both Valsalva sinuses are similarly distributed. Remember that kinking or pinching of the aberrant SCA branches between the two major artery systems might produce myocardial ischemia during physical activity. The CAG should be used as soon as an SCA is detected. Anomalous coronary arteries can be detected non-invasively utilizing multi-slice CT and cardiac magnetic resonance imaging (CMR) [7]. The primary goal of this research is to investigate the prevalence of coronary artery disease and the outcomes associated with a single coronary artery found during CCTA.

**METHODS**

and November 2021. Pre-cardiac surgery assessment, evaluation of a coronary stent or graft, evaluation of cardiomyopathy or congenital heart disease, and evaluation of syncope were the most prevalent reasons for CCTA. These were followed by chest discomfort to rule out coronary artery disease. A total of 100 patients were surveyed for this study. Electrocardiograms (ECGs), heart rates, and blood pressures of all patients were collected before the scan. Patients having a baseline heart rate of more than 70 beats per minute were given this treatment as part of the operation preparation to reduce their heart rate. The procedure began with a non-enhanced CT scan performed at 75% of the resting respiratory rate interval, which was then followed by an ECG-gated CT scan. At 6 millilitres per second, a CCTA scan was performed using an initial contrast solution that ranged from 60 to 75 millilitre, followed by 30 millilitres of water. With a slice thickness of 0.6 mm and a gated ECG scan, a contrast-enhanced scan was conducted while holding one’s breath inhaling during inhalation. Auto or manual adjustments were made to the scan settings to ensure the best possible image quality while minimizing radiation exposure. SPSS version 19 was used to gather and analyze the data. To display the data, the average and standard deviation were employed. The comparison between groups was initially analyzed using the normality and homogeneity tests for variance. Passing the test would be judged using the t-test. P-values under 0.05 were deemed significant for statistical differences.

**RESULTS**

SBP, DBP, PP, and BMI were all greater in the SCA group than in the control group, a finding that was statistically significant (P<0.05). There were no significant differences in age, FBG, TG, TC, HDL-C, or LDL-C between the two groups (P>0.05) (Table 1).

<table>
<thead>
<tr>
<th>Group</th>
<th>IMT (μm)</th>
<th>CC (mm²/Kpa)</th>
<th>α</th>
<th>β</th>
<th>PWV (m/s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SCA Group</td>
<td>694.88±77.63</td>
<td>0.89±0.13</td>
<td>5.68±1.23</td>
<td>11.25±1.01</td>
<td>9.49±1.09</td>
</tr>
<tr>
<td>Control Group</td>
<td>586.87±62.12</td>
<td>0.96±0.08</td>
<td>4.77±0.62</td>
<td>9.24±1.24</td>
<td>7.22±1.11</td>
</tr>
</tbody>
</table>

**DISCUSSION**

Vessel walls lose smooth muscle cells, fibrous-transparent materials are deposited on them, wall thickness increases, and the lumen of the vessel is narrowed as a result. Ischemic strokes are often caused by SCA, which is a well-known risk factor. The ethology of the SCA is still unknown. SCA is thought to be caused by a mix of genetic and cerebrovascular disease risk factors [9]. Angiography, CT angiography, and cardiac magnetic resonance imaging can all be used to detect SCA in the patient (MRI). When it comes to examining the coronary arteries, there is no replacement for traditional coronary angiography. However, because of the invasive nature of the procedure, it can be dangerous. [14-16] It is possible that even with several projections and angiographic pictures, it will be impossible to distinguish the anatomy of intricate materials are deposited on them, wall thickness increases, and the lumen of the vessel is narrowed as a result. Ischemic strokes are often caused by SCA, which is a well-known risk factor. The ethology of the SCA is still unknown. SCA is thought to be caused by a mix of genetic and cerebrovascular disease risk factors [9]. Angiography, CT angiography, and cardiac magnetic resonance imaging can all be used to detect SCA in the patient (MRI). When it comes to examining the coronary arteries, there is no replacement for traditional coronary angiography. However, because of the invasive nature of the procedure, it can be dangerous. [14-16] It is possible that even with several projections and angiographic pictures, it will be impossible to distinguish the anatomy of intricate
examples, coronary computed tomography has emerged as the gold standard for non-invasive cardiac diagnostics when it comes to the diagnosis and characterization of cardiac anomalies [17-19]. In the treatment of patients with an atypical beginning of coronary corridor from inverse sinus with interarterial course, it is fundamental to painstakingly delineate the gamble, thinking about the gamble of unexpected heart passing from one viewpoint and the gamble of arranged intercessions then again. In patients with a high gamble of abrupt heart demise, careful treatment ought to be thought of: coronary unroothing, coronary reimplantation, or CABG [20-21].

**CONCLUSION**

According to the course an abnormal artery takes, SCA can be divided into several unique subgroups for better understanding. Because of the consequences for patient care, it is crucial to understand these categories. CTA angiography plays an important part in determining the kind of SCA that a patient has (CCTA).

**REFERENCES**


