Reviewer's report

**Title:** Primary Congenital Anomalies of the Coronary Arteries and Relation to Atherosclerosis: An angiographic study in Lebanon

**Version:** 1  **Date:** 31 August 2009

**Reviewer:** Neerod Jha

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I have read the article entitled “Primary congenital anomalies of the coronary arteries and relation to atherosclerosis…….” by Eid ‘etal’ with interest. Indeed, this is an appreciable effort by the authors, especially in a large and diverse patient population.

In my opinion, to make this manuscript more informative, interesting and accurate, it would be advisable to modify on the following grounds-

1. The numbers (n) and their corresponding percent values (%) do not match and vary throughout in the text and in the tables 1&3. For example in the result section 2.4% and 17.46% should be 2.04% and 17.64% respectively. Similarly, the table 1 describes (n-34)27 patients with family history of coronary artery disease and 05 without. What about other 2 patients? The percent figures have been summed-up to round figures and not depict exact values. This may change the significance of total value (for example 26.31% is taken as 26% and vice versa at many places).

2. Format of the manuscript needs modification according to the Journal’s guidelines. For example- Introduction for (Background), Subjects and methods to (Methods), name of the journals in the reference (example-Japanese heart journal to Japanese Heart Journal etc.), Table numbers should start with Arabic and not Italian style (1 for I), and Table 4 should have explanation of LCX abbreviation at the end.

3. The result section in the abstract needs to be re-written as the present version is not very clear and confusing especially regarding incidence of atherosclerosis in anomalous coronary arteries.

4. We presume that primary coronary anomaly is the one without any associated other cardiac /congenital anomaly. However, the definition of primary anomaly should be incorporated in the background.

5. In the present study, all the coronary artery stenoses found in the angiography (in normal coronary anatomy group and anomalous group, both) is presumably considered to be atherosclerotic. This fact may be true for majority of the patients with normal anatomy of coronary arteries. Unfortunately, coronary anomalies are diverse group of congenital disorder with variable manifestations and pathophysiological mechanisms. The mechanism causing stenosis includes
atresia, hypoplasia, membranous obstruction, compression and of course atherosclerosis etc. This fact suggests that the cause of coronary artery stenosis may not be always atherosclerosis in this group of patients. This is a major drawback of this study. Since, it is difficult to define the atherosclerosis clinically; at least these facts should be included in the discussion.

6. In the current era, non-invasive means of evaluation of coronary anatomy, pathology and myocardial perfusion, function etc makes it important to consider their role in the diagnosis of coronary artery atherosclerosis, nature of obstruction or severity especially in the patients with anomalous coronary arteries. For example, the role of cardiac CT may be useful in diagnosing calcification or course of vessel and may add interesting fact for the readers in the discussion section for future implications in such patients.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
'I declare that I have no competing interests'