Background:
Coronary artery disease remains one of the leading causes of morbidity and mortality in developed countries and is projected to be the leading cause of death in the developing world by 2010. Affecting nearly 12 million people in the USA, it accounts for 50% of all cardiovascular deaths and is the leading cause of congestive heart failure as well as premature permanent disability in workers. About 1.1 million myocardial infarctions and >400,000 new cases of congestive heart failure each year, cardiovascular disease severely impacts men and women as well as various ethnic groups.

Objectives:
The aim of this study is to evaluate the results of transmyocardial laser revascularization (TMLR) in patients with coronary artery disease, in whom percutaneous transluminal coronary angiography (PTCA) or coronary artery bypass grafting (CABG) cannot be done.

Method:
Fifty patients were included in the study:
1) Canadian cardiovascular angina class (CCS) III or IV patients (only 5 patients with CCS class II were included and those patients were the early trial in year 1997 where the recommendations for TMLR was not yet established);
2) Ejection fraction of 30%;
3) Those with evidence of reversible ischemia (based on stress thallium perfusion scanning);
4) Candidates of neither CABG or PTCA (according to the results of coronary angiography).
The laser system used was a heart laser system (PLC medical systems).

Results:
There was a significant improvement in the severity of angina as assessed by Canadian Cardiovascular Society grading after the procedure. Improvement was noticed after 1 month and the improvement was most significant after 3 months and then slightly declined after 6 months but still significant in comparison to the pre-procedural values (P <0.05). Also, there was a significant improvement in the grade of dyspnoea as assessed by the New York Heart Association functional dyspnoea class and the most significant improvement was after 3 months and the degree of improvement decreased but still significantly better than the pre-procedural values (P <0.05).

Conclusion:
TMLR offers consistent amelioration of severe angina in patients having no conventional therapeutic alternative. Surgeons should recognize that the procedure is intended only for the purpose of reducing angina symptoms.