Some Correlations between the Findings of Preoperative Coronary Arteriography and Benefit of Vineberg's Operation

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Since 1968, 37 patients including 25 cases of angina pectoris and 5 cases of myocardial infarction were performed selective cine-coronary arteriography in our clinic. As the technique of arteriography, some modifications were added to the Sone's original method and Sone's catheter was inserted into the each coronary ostium through the arteriotomy of right brachial artery. At the time of coronary artery injection, various types of arrhythmia may occur, however none of ventricular fibrillation was experienced in our series. Nine patients with angina pectoris and 4 patients with myocardial infarction whose symptom persisted in spite of adequate medical treatment were undertaken Vineberg’s operation. All of the patients with myocardial infarction were male ranging in age from 33 years to 44 years and 9 patients with angina pectoris, including a female, ranged in age from 38 years to 60 years.

Coronary arteriogram of the operated patients with myocardial infarction revealed an obstruction of right coronary artery, 2 obstructions of anterior descending artery and an obstruction of circumflex artery respectively. Arteriographic finding of angina pectoris group showed a stenosis of right coronary artery, 6 sites of obstruction or stenosis of anterior descending artery and 4 sites of obstruction or stenosis of circumflex artery. Definite correlation between arteriographic findings and changes in ECG was not always found.

As this slide showed, it was noteworthy that a total obstruction of anterior descending artery at its proximal half did not show any abnormality even in Master's ECG test.

On the contrary, abnormality of ST, T in ECG indicating myocardial ischemia definitely correlated with arteriographic findings of coronary artery disease. There was no operative mortality in our series and all patients were followed up as long as 27 months postoperatively.

Except for the latest case, all patients could return to their former occupation. Three patients with myocardial infarction and 2 patients with angina did not have anginal attack postoperatively.

Other 3 patients with angina became asymptomatic within a month. A patient with infarction and 2 patients with angina ceased to suffer from angina within 6 months. Two patients with angina still had anginal pain less frequently as compared with preoperative period, however they could return to their former occupation with considerable activity. Arteriogram of one of these two patients showed severe narrowing of anterior descending artery in addition to the proximal stenosis of circumflex artery.

Reflecting on our operative results, occlusive change of either anterior descending artery and circumflex artery was not sufficiently compensated with single implantation of left internal mammary artery.

In such circumstances, anginal attack might recur postoperatively and therefore double implantation of internal mammary artery may be indicated.

This 51-year-old male patient was referred to a hospital for gastrectomy and was occasionally found ST depression in his preoperative ECG evaluation. His right coronary artery was seemed normal in its diameter but irregularity of arterial wall being characteristic of coronary arteriosclerosis was apparent. His left coronary artery was

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tortuous as a whole and narrowing of anterior descending artery was evident.

This second patient was 56-year-old male who had suffered from anginal pain for recent 6 years and his symptom was aggravated since his first attack of myocardial infarction in 1969.

Narrowing of his right coronary artery was severe and filling of contrast medium could scarcely be observed. Anterior descending artery was stenotic like cupper wire with more than 80% narrowing and circumflex artery was not opacified.

Collateral blood flow to right coronary artery region from anterior descending artery was observed. This patients was classified as having triple coronary artery disease associated with cardiac enlargement. His left ventriculography showed thin left ventricular wall with feeble contraction and relative mitral insufficiency due to the enlargement of mitral annulus. His end-diastolic pressure of left ventricle was 14 mmHg.

As this patient had so called triple coronary artery disease complicated with refractory heart failure, revascularization procedure was contraindicated because of predicted high mortality.

From the arteriographic point of view, the patients with coronary artery disease of less severe degree than above mentioned second case should be selected as a candidate for revascularization procedure. First case was asymptomatic at that time, however surgery would be indicated when he became symptomatic.