Kadar Endotelin dan Radikal Bebas Oksigen setelah Tindakan Percutaneous Transluminal Coronary Angoplasty

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Abstrak

Percutaneous transluminal coronary angioplasty (PTCA) is known as the mechanical alternative intervention for revascularization of coronary artcry stenosis.
Unfortunately reocclusion and coronary spasm is seen on quite a number of patients. This process is said due to an imbalance of vasoactive substances at the cellular endothelial level which cause vasoconstriction of the smooth muscle cells. It's believed that endothelin and lipid peroxidc (oxigen frec radicals) has a significant role in this process. This study is designed to prove the hypothesis that there is an increase of endothclin and lipid peroxide concomitantly immediately after PTCA proseduce. On 37 patients with stenosis at left coronary artery, local plasma endothelin and lipid peroxide were measured before and after PTCA. Blood was obtained at side of coronary sinus. Endothelin was measured by specific competitive protein binding radioimmunoassay (RIA Technique), while lipid peroxide was measured by using Malonaldehyde (MDA) concentration. Local plasma MDA was measured by fuorosense spectrofotometri.
The results showed a significant increase of local plasma endothelin after PTCA (5,28+1-3,33 to 8,53 +1-4,5 . Pglml, p = 0,0001) and a significant increase of local plasma MDA concentration after PTCA (0,540+1-0,279 to 0,868+1-0,438. Umol/L, p = 0,0001). There was no correlation found between the increase of local plasma endothelin with the duration of balloon inflation, peak pressure of balloon inflation, diameter of the balloon, length of the balloon, the number of balloon inflation. This finding suggest that beside endothelial injury during PTe" other unknown factor contribute to the increasing level of endothelin. However correlation was found between the increase of local plasma MDA and the number of the balloon inflation.
Conclusions: Local plasma endothelin and lipid peroxide were significantely increased immediately after PTCA, and there was correlation between the increase of local plasma lipid peroxide with the number of the balloon inflation.