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原著

運動時肝門脈血流量におよぼす門脈本幹断面積と血流速度の影響

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Effect of Cross-sectional Area and Venous Velocity on Portal Venous Flow during Exercise

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Abstract

In the present study, we examined the effect of cross-sectional area and venous velocity on portal venous flow during exercise. Portal venous flow was reduced at 60% and 80% VO_2 max intensities of exercise as compared with the resting level. A high simple correlation coefficient value between portal venous flow and the cross-sectional area was observed ($r=0.812$, $p<0.01$). A significant simple correlation coefficient value between portal venous flow and venous velocity was also observed ($r=0.375$, $p<0.05$). The partial correlation coefficient of portal venous flow and cross-sectional area was high during exercise (vs. cross-sectional area and vs. venous velocity, $r_{xy\cdot z}=0.809$ and $r_{xz\cdot y}=0.301$, respectively). The mechanisms of the effects of the cross-sectional area on portal venous flow were discussed.

要 約

本研究は，運動時の肝門脈血流量低下に対して，それを決定する因子である肝門脈本幹断面積

および血流速度がおよぼす影響について検討した. 肝門脈血流量は運動強度に依存して低下した. 運動時の門脈血流量と血管断面積間の単相関係数は高かった($r=0.812$, $p<0.01$). 門脈血流量に対して血流速度も単相関係数には有意性が認められた($r=0.375$, $p<0.05$). 門脈血流量に対する偏相関係数は, 門脈本幹断面積が高かった(vs. cross-sectional area and vs. venous velocity, $r_{xy\cdot z}=0.809$ and $r_{xz\cdot y}=0.301$). 門脈本幹断面積変化が門脈血流量により強く寄与したメカニズムについて考察した.