

Dissociation between sublingual and gut microcirculation in the response to a fluid challenge in postoperative patients with abdominal sepsis

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Correlation of sublingual microcirculation with other variables of tissue

perfusion: The PVD and ΔT° values were not significantly correlated either at the baseline ($r = 0.22$, $P = 0.34$) or on the second day ($r = 0.32$, $P = 0.28$), but the changes in response to fluid input of these two parameters were ($r = 0.54$, $P < 0.05$). A significant correlation was found, moreover, between the sublingual PVD and the lactate levels at baseline ($r = -0.62$, $P < 0.01$) as well as on the second day ($r = -0.52$, $P < 0.05$), but not between the changes in those variables in response to fluid challenge ($r = 0.03$, $P = 0.89$).

The intestinal PVD and ΔT° values were not significantly correlated, either at baseline ($r = -0.25$, $P = 0.29$), in the second day ($r = -0.38$, $P = 0.20$), or in response to fluid loading ($r = 0.12$, $P = 0.61$). A significant correlation was observed, however, between the intestinal PVD and the lactate values at baseline ($r = -0.57$, $P < 0.01$) and on the second day ($r = -0.71$, $P < 0.01$), but not between responses of those parameters to volume expansion ($r = 0.14$, $P = 0.53$).

Figure 1. Figure 1. Total vascular density (TVD). Panel A. Correlation between basal sublingual and intestinal TVD. Panel B. Correlation between the changes in sublingual and intestinal TVD in response to the fluid challenge. Panel C. Correlation between the changes in cardiac index and sublingual TVD in response to the fluid challenge. Panel D. Correlation between the changes in sublingual TVD in response to the fluid challenge and the basal sublingual TVD. Panel E. Correlation between the changes in cardiac index and intestinal TVD in response to the fluid challenge. Panel F. Correlation between the changes in intestinal TVD in response to the fluid challenge and the basal intestinal TVD.

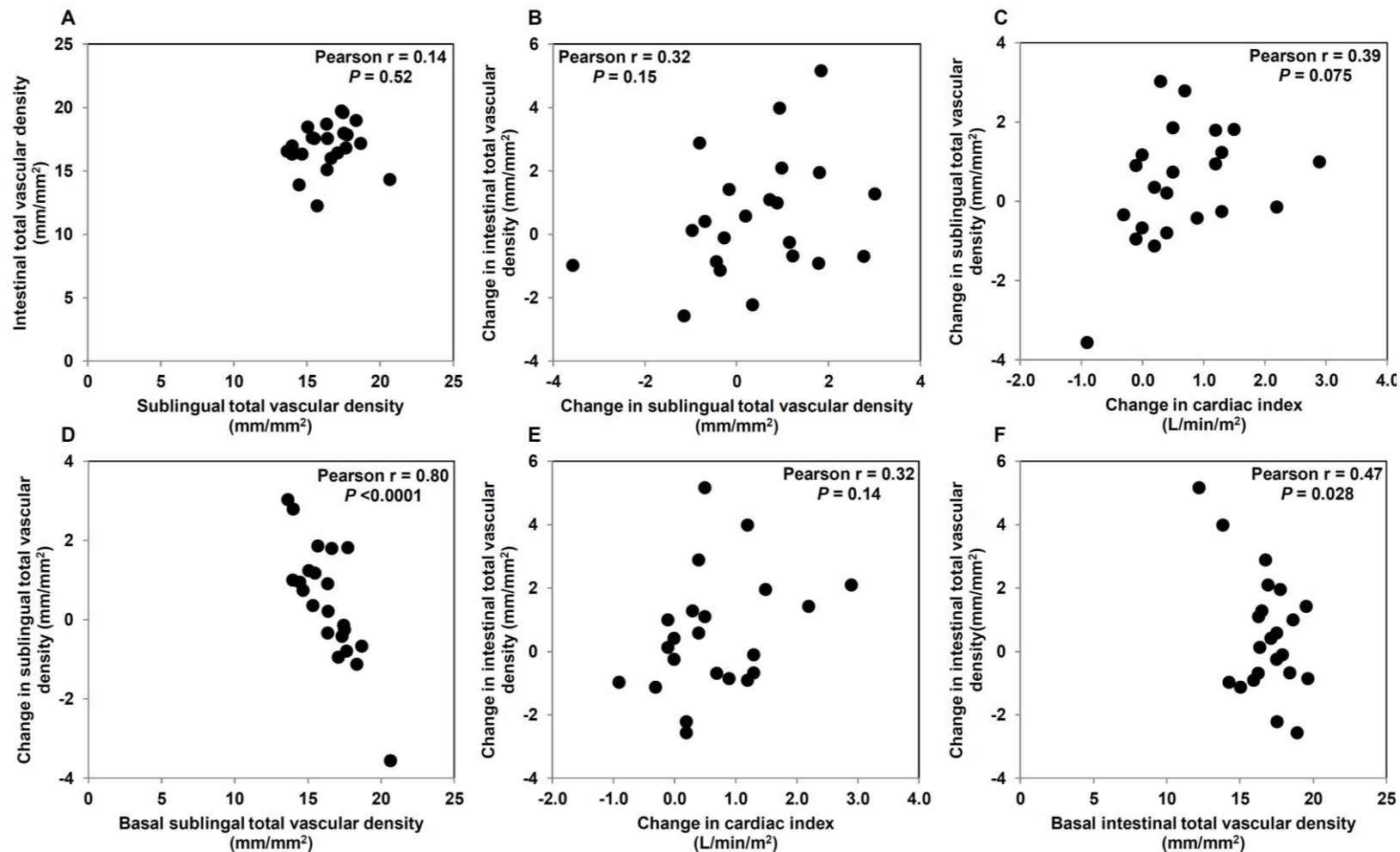


Figure 2. Proportion of perfused vessels (PPV). Panel A. Correlation between basal sublingual and intestinal PPV. Panel B. Correlation between the changes in sublingual and intestinal PPV in response to the fluid challenge. Panel C. Correlation between the changes in cardiac index and sublingual PPV in response to the fluid challenge. Panel D. Correlation between the changes in sublingual PPV in response to the fluid challenge and the basal sublingual PPV. Panel E. Correlation between the changes in cardiac index and intestinal PPV in response to the fluid challenge. Panel F. Correlation between the changes in intestinal PPV in response to the fluid challenge and the basal intestinal PPV.

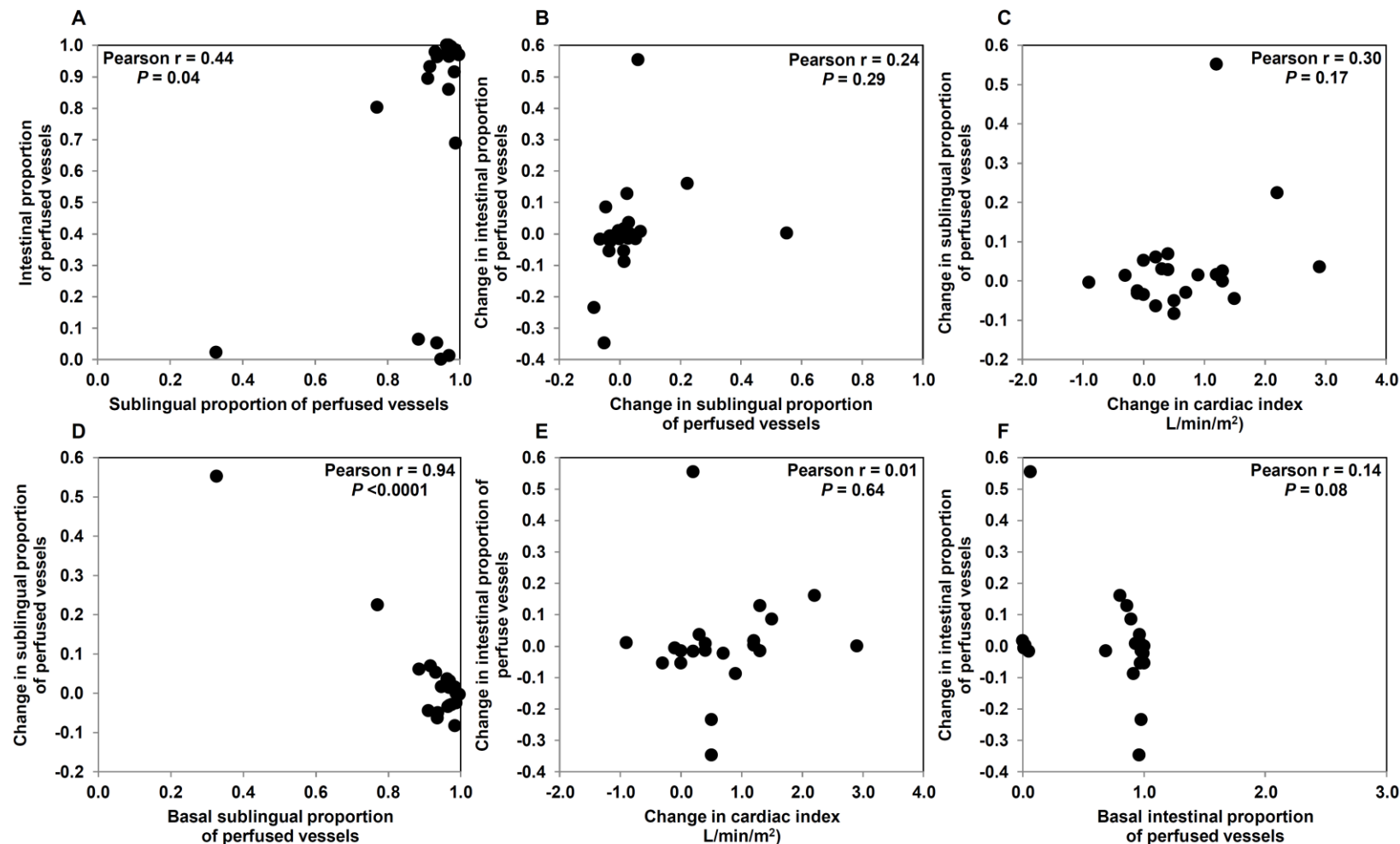


Figure 3. Microvascular flow index (MFI). Panel A. Correlation between basal sublingual and intestinal MFI. Panel B. Correlation between the changes in sublingual and intestinal PPV in response to the fluid challenge. Panel C. Correlation between the changes in cardiac index and sublingual MFI in response to the fluid challenge. Panel D. Correlation between the changes in sublingual MFI in response to the fluid challenge and the basal sublingual MFI. Panel E. Correlation between the changes in cardiac index and intestinal MFI in response to the fluid challenge. Panel F. Correlation between the changes in intestinal MFI in response to the fluid challenge and the basal intestinal MFI.

