

中文題目：額腳溫差於嚴重敗血症及敗血性休克之血行動力學監測的重要性

英文題目：Clinical significance of central peripheral temperature gradient in

hemodynamic monitoring during severe sepsis and septic shock

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Background: Hemodynamic monitoring and hemodynamic support play an important role in the management of severe sepsis and septic shock patients admitted to the intensive care unit (ICU). The measurement of central peripheral temperature gradient by temporal artery thermometry (PTA) is a simple, sensitive, noninvasive and inexpensive method that can accurately reflect the state of peripheral circulation. We investigated the relationship of central peripheral temperature gradient and simultaneous mean arterial blood pressure (MAP), central venous oxygen saturation (ScvO₂), and lactate during severe sepsis or septic shock.

Materials and Methods: Sixty-two patients presenting severe sepsis or septic shock admitted to the ICU with simultaneously monitoring of central peripheral temperature gradient, MAP, ScvO₂, and lactate were retrospectively analyzed, four patients were excluded due to peripheral arterial occlusive disease. We determined the relationship of central peripheral temperature gradient and mean arterial blood pressure, ScvO₂, and lactate respectively. We investigated the value of ScvO₂ and lactate when the central peripheral temperature gradient ≥ 5 centigrades, or < 5 centigrades and coexistent MAP < 65 mmHg, or ≥ 65 mmHg.

Results: When the central peripheral temperature gradient ≥ 5 centigrades, the simultaneous MAP, ScvO₂, and lactate were 84.7 ± 16.6 mmHg, $60.1 \pm 13.6\%$, 6.0 ± 4.5 mEq/L respectively compared with MAP 89.0 ± 15.4 mmHg, ScvO₂ $66.5 \pm 12.7\%$ and lactate 3.2 ± 2.1 mEq/L ($p < 0.05$) when the central peripheral temperature gradient < 5 centigrades. The ScvO₂ and lactate were $59.5 \pm 14.6\%$, 9.7 ± 5.9 mEq/L when the central peripheral temperature gradient ≥ 5 centigrades and MAP < 65 mmHg compared with ScvO₂ $66.8 \pm 12.1\%$, lactate 3.0 ± 1.9 mEq/L ($p < 0.05$) when the central peripheral temperature gradient < 5 centigrades and MAP ≥ 65 mmHg.

Conclusions: The central peripheral temperature gradient measured by PTA during severe sepsis and septic shock was strongly correlated to simultaneous hemodynamic parameters including MAP, ScvO₂ and lactate.