Diagnosis of Chronic Mesenteric Ischemia Using T-Stat®

**Background:**
This purpose of this ongoing study is to establish diagnostic thresholds for the use of T-Stat® during endoscopy to identify chronic mesenteric ischemia.

**Methods:**
In this clinical study, patients presenting for evaluation of chronic mesenteric ischemia at a major academic medical center were also evaluated during endoscopy by Visible Light Spectroscopy (VLS, T-Stat® Ischemia Detection System, Spectros). Separately, a clinical diagnosis was established based upon endoscopic appearance, clinical course over time, and response to stenting, if performed. Lastly, VLS saturation and clinical diagnoses were compared.

**Results:**
T-Stat® mucosal saturation values were significantly lower for the ischemia group (mean ± S.D. 59% ± 4%, n=20) than for the group without a clinical diagnosis of ischemia (63 ± 2%, n=7, p<0.01). Saturation values ranged from 32–72%, with the lowest values in patients diagnosed with mesenteric ischemia. A score of 2 or more (in a 4-point scoring, 5 which assigns points for T-Stat® saturation values), was 86% specific, 75% sensitive for chronic mesenteric ischemia.

**Discussion:**
T-Stat® has a high specificity for the diagnosis of mesenteric ischemia. This supports earlier studies in which T-Stat® was reported as diagnostic for acute mesenteric ischemia, and responsive to improved perfusion after stenting. Of note, patients considered normal in this study still exhibit saturation values lower than normals reported elsewhere (68 ± 3%, p<0.01), raising the possibility that some patients with mesenteric ischemia are clinically misdiagnosed.

2. T-Stat® is approved for endoscopic use and labeled as sensitive to ischemia in patients at risk for reduced-flow and no-flow ischemia.
5. One point is assigned for each criterion (mean saturation below 58%, and each of a minimum less than 55%, 56%, and 59%)