

## Troponin-T assay in detection of perioperative cardiac ischemia in vascular surgical patients; Interim results of a prospective study

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**Introduction:** Circulating cardiac Troponin (cTnT) is a marker of cardiomyocyte injury. The aim of this study was to determine the incidence of such injury in vascular surgical patients undergoing surgical and radiological interventions. Also, to compare that with cardiac events detected clinically and identifying underlying risk factors.

**Methods:** Prospective blinded study using cTnT on Patients undergoing surgery or invasive radiological procedures for conditions related to vascular insufficiency and/or diabetic foot disease or vascular access were recruited after taking informed consent. Samples collected preoperatively and at 4 set points ; within 12 hours and postoperative days 1 , 3 and 5.

**Results:** A total of 140 patients have been enrolled to date in this ongoing study providing 435 samples. One-hundred and ten (78.5%) patients underwent surgical procedures and 30 (21.4%) underwent radiological interventions. Troponin levels < 0.01 ug/L were recorded in all samples from 102 (72.8%) patients. Sixteen patients had detectable cTnT but below the clinical cut-off of 0.03ug/L. Twenty-two patients had a cTnT higher than 0.03ug/L in at least one sample. Five out of 30 (16%) radiological procedures and 17 out of 110 (15%) surgical procedures were associated with rise in cTnT greater than 0.03ug/L. Eleven out of 22 (50%) patients with cTnT greater than 0.03ug/L underwent emergency procedures. Only 2 out of 22 (10 %) patients had cardiac events detected clinically. Twenty (90%) patients had a silent rise in cTnT > 0.03. Renal failure, diabetes mellitus, a history of ischemic heart disease, and smoking were the common risk factors associated with rise in cTnT.

**Conclusion:** The interim results of this study found that 72.8 % patients undergoing vascular surgical or radiological interventions demonstrated no biochemical evidence of cardiomyocyte injury. Some 15.7% of patients showed evidence of cardiomyocyte injury and a further 11.4 % revealed detectable Troponin T, although below the clinical cut-off of 0.03 ug/L

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