

Discussion: This is the first demonstration that CPP₁ are present in umbilical cord blood and likely represent physiological protection from calcium phosphate precipitation.

EVALUATION OF THE NEW SIEMENS ADVIA CENTAUR TESTOSTERONE II ASSAY

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Aim: Serum testosterone is commonly analysed using immunoassays in clinical laboratories. Some immunoassays lack specificity at lower concentrations and are imprecise. Liquid chromatography tandem mass spectrometry (LCMSMS) is considered the reference method for measuring testosterone. The new Siemens ADVIA Centaur testosterone II (TSTII) assay is reported to have improved assay performance. We evaluated the TSTII assay in comparison with LCMSMS (Shimadzu LC-AB SCIEX Triple Quad 5500) and current Centaur (TSTO).

Methods: Within-run and between-run precision studies for TSTII were performed using Bio-Rad Immunoassay Plus quality controls (levels 1, 2 and 3) and two serum pools with concentration <0.6 nmol/L. 169 samples with the testosterone concentration range from 0.1 to 56 nmol/L were analysed. These comparisons were assessed using Passing-Bablok and Bland-Altman statistics.

Results: The TSTII demonstrated maximum within-run and between-run CVs of 6.9% and 7.4% at 0.3 nmol/L respectively. There was no significant difference between TSTII and LCMSMS (TSTII = 0.973 × LCMSMS – 0.02). The TSTO showed significant difference compared with LCMSMS (TSTO = 0.753 × LCMSMS + 0.692). TSTO results were higher at low concentrations (<3 nmol/L) and lower at high concentrations.

Discussion: The new TSTII assay demonstrated acceptable accuracy and precision and is comparable with LCMSMS measurements, even at low testosterone concentrations in the female and paediatric ranges.

CLOSTRIDIUM SEPTICUM SEPSIS FROM COLORECTAL CANCER – A RARE CAUSE OF SUDDEN DEATH

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Clostridium septicum is an opportunistic anaerobic Gram positive rod that is present in the normal bowel flora. Local infection can be a cause of myonecrosis and gas gangrene. Rarely, *C. septicum* causes sepsis which carries a mortality rate of 60% and is known to be associated with colorectal cancer. The post-mortem findings and microscopic features of colorectal cancer associated with *C. septicum* sepsis are not well described in the literature. We report a case of a 71-year-old female who died of *C. septicum* sepsis, where autopsy

showed a non-obstructive and non-perforated cancer in the hepatic flexure. The most striking finding on microscopy was widespread myonecrosis of the muscularis mucosae adjacent to the well differentiated adenocarcinoma. We suggest that myonecrosis on microscopy of a colorectal cancer should alert the pathologist of potential *C. septicum* sepsis. Furthermore, in cases where sepsis is suspected, thorough examination of the bowel together with appropriate microscopy should be performed.

INCREASED EPICARDIAL FAT THICKNESS IN SUDDEN DEATH FROM STABLE CORONARY ARTERY ATHEROSCLEROSIS

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Background: Sudden death from stable coronary artery atherosclerosis is well recognised. Individuals, however, can have well-established ischaemic heart disease/significant coronary artery atherosclerosis, but die from non-cardiac causes. It is unknown why an individual presents one way or the other. Recently, it has been recognised that increased epicardial fat is detrimental to normal heart function. We hypothesise that individuals who died from stable coronary artery atherosclerosis have increased epicardial fat.

Aim: To investigate whether there is an increase in epicardial fat in individuals who died suddenly from stable coronary artery atherosclerosis.

Methods: 1-year retrospective study comparing the average epicardial fat thickness (avEFT), using post mortem CT scan, between individuals who died suddenly from stable coronary artery atherosclerosis (SCAA) with individuals who died primarily from natural non-cardiac causes, but had established ischaemic heart disease/significant coronary artery atherosclerosis (NCC).

Results: avEFT was significantly higher in the SCAA group (8 ± 2 mm) than in the NCC group (6 ± 2 mm; *p* = 0.008).

Conclusion: Individuals who die from stable coronary artery atherosclerosis appear to have higher epicardial fat. The increase in epicardial fat may have an additional detrimental effect to the heart predisposing sudden death in individuals with coronary artery atherosclerosis.

SUDDEN AND UNEXPECTED DEATH DUE TO A RARE CASE OF ENDOCARDITIS

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We report the sudden and unexpected death at home of a 57-year-old man discovered at Coroner's autopsy to have died from