**Title:**

Catheter-Related Arterial Thrombosis in a Single Paediatric Intensive Care Unit

**Aim:**

To determine the incidence, diagnostic and management practices, short-term outcomes, and complications of symptomatic catheter-related arterial thrombosis (CAT) in patients admitted to a single paediatric intensive care unit (PICU) to assess the standard of current care and inform the creation of an institutional guideline for the management of CAT.

**Method:**

A database search was performed for all patients admitted to a single PICU and diagnosed with CAT from November 2014 to December 2019. 56 CAT events were identified. A clinical audit was completed with manual review of relevant medical records. Descriptive data is presented.

**Results:**

47(83.9%) of CAT events occurred in infants (less than 12 months of age). 35(62.5%) events were indwelling arterial catheter related arterial thromboses (IC-CAT) while 21 (37.5%) were cardiac catheter related arterial thromboses (CC-CAT). 55 (98.2%) events were diagnosed by doppler ultrasonography. Unfractionated heparin was the most common therapy used (88%). Systemic thrombolysis was more frequently used for CC-CAT than for IC-CAT (71.4% vs 14.3%). Total resolution of thrombus by 14 days was demonstrated in 20 (35.7%). The most common complication of CAT was skin necrosis requiring wound debridement, occurring in 8 (14.3%). Limb amputation was required in 4 (7.1%). There were no deaths directly attributable to CAT, however one patient died during the 14-day follow-up period.

**Conclusion:**

This audit demonstrated a delay in referral to appropriate specialists with expertise in the management of CAT, with wide variability in the documentation of clinical findings at diagnosis and follow-up, use, and timing of imaging to assess for CAT progression. There was also a significant difference in choice of treatment modality between CC-CAT and IC-CAT.

Given the demonstrated variability in diagnostic and management practices, an institutional guideline has been developed to standardise the management of CAT.