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ASER 2015 RESEARCH GRANT RECIPIENT

Pelvic Angiography Project ASER evaluation of Computed Tomographic predictors of pelvic hemorrhage in the setting of blunt pelvic fracture (PAPA CT study).

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As early whole body CT scanning in stable, semi-stable and unstable blunt trauma victims is increasingly used for rapid assessment of trauma patients, new practice patterns have emerged where patients are often triaged to angiographic intervention based on CT scan images. Using CT image guidance can potentially help identify patients who are actively bleeding from injured pelvic arteries and who are thought to benefit most from interventional hemostasis. On the other hand, there is evidence showing that patients with pelvic fractures who are hemodynamically stable and show no CT evidence of vascular "blush" usually do well without angiographic intervention.

We hypothesize that contrast enhanced CT imaging obtained prior to angiographic embo-therapy for hemostasis in the setting of blunt pelvic fractures is valuable to guide triage to conventional catheter angiography.

In the PAPA CT study we aim to determine specific and reliable imaging predictors of vascular injury on multiphasic dynamic contrast-enhanced CT which allow triage to subsequently performed catheter angiographic embo-therapy for hemostasis in the setting of blunt pelvic fracture.

The PAPA CT study is a continuation of a retrospective cohort study performed at Level I trauma centers in North America and Europe (PAPA Study). The same patients as in the PAPA cohort will represent our sample for the current PAPA CT study if a CT scan was obtained prior to angiography. Individual patient–specific CT protocols and CT images will be assessed and abstracted in the PAPA CT study.

We plan to use the results of the PAPA CT study (CT parameters and findings) as powerful predictors in future derivation and validation of a clinical decision rule (CDR) for the prediction of major hemorrhage in blunt pelvic fracture patients.