



TRAINING INSTITUTE on STRANGULATION PREVENTION

Is a program of Alliance for HOPE International

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To: Editors of the Journal of Emergency Radiology

Re: "CT angiograms of the neck in strangulation victims: incident of positive findings at a level one trauma center over a 7-year period" authored by O. Zuberi, T. Dixon, A. Richardson A. Gandhe, M. Hadi, J. Joshi: "Zuberi Study"

Dear Editors:

On behalf of the Training Institute on Strangulation Prevention (Institute), a program of Alliance for HOPE International, we submit our concerns. The Institute is the leading training and research center on the handling of near and non-fatal strangulation cases in the United States.

The findings of the Zuberi Study are an important step forward in advancing the medical and legal fields in responding to non-fatal strangulation assaults. We believe a retrospective review of patients who had CTAs of the neck performed between January 2009 and 2016 and a finding of 3 vascular injuries out of 142 patients (1/47) is statistically significant in light of the existing research and expertise in our field.

However we disagree with the authors on the following **THREE** points:

1. The conclusion that 3/142 or 1/47 is "extremely rare".

The study's finding of 3 out of 142 patients (1/47) who underwent a CTA after strangulation had carotid dissections (CD) is NOT "extremely rare".

2. Their recommendation for increasing the threshold for imaging.

Given the incidence of dissections, 1/47, it is unclear why the authors recommend increasing the threshold for imaging. Just months ago, a new article on strangulation from Indiana University, "*Evaluation of Non-fatal Strangulation in Alert Adults*" (Matusz et. al.) was published in the Annals of Emergency Medicine (2020;75:329-338). Despite a lower finding of CDs (1/75) than the Zuberi Study, Matusz et. al., concluded "Our institution recommends imaging of strangled patients according to the criteria endorsed by the National Medical Advisory Committee [of our Training Institute on Strangulation Prevention] with imaging recommended if any of the following are present: loss of consciousness; visual changes; facial, intraoral, or conjunctival petechiae; neck contusions or ligature marks; soft tissue swelling;



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carotid tenderness; incontinence; neurologic symptoms; dysphonia; dyspnea; or subcutaneous emphysema.”

3. Their implied intolerable risk of radiation.

The most recent research suggests that the risk of thyroid cancer from radiation is 1 in 13,666. (Alkhorayef, et al, 2017). The benefit of performing a CTA dramatically outweighs any risks with the incidence of dissections being 1 in every 47 strangulation victims. The failure to detect an arterial dissection puts a victim/patient at risk of an embolic stroke and death.

The risk of missing even one important finding may have a catastrophic outcome and the neurologic exam of a patient with a missed dissection will be “completely normal” until the moment they stroke and suffer brain damage or death.

Respectfully submitted:

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