



Vascular Surgery Experience at a Safety-Net, Inner-City Medical Center during the Peak of the SARS-CoV-19 Pandemic

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Abstract:

Introduction: The SARS-CoV-19 pandemic swept through the east coast of the United States of America, with initial presentation in March, a peak in early April, and diminishment of the first wave through June of 2020. Much of the presentation was poorly understood when infected individuals initially appeared in the hospital emergency rooms. Presenting symptoms of fever and cough, while initially best recognized as a high likelihood for the coronavirus, were not the only presentations. What became clear, especially as the cases waxed in May and June, was that there is a significant vascular element involved as the chief complaint, often without the usual fever or cough.

Methods: Under an IRB approved protocol the medical records of our safety-net, inner-city institutions, (three hospitals under one main administration, 680 beds expanded to 820 beds, 48 ICU beds expanded to 80), were reviewed with individual patient data anonymized from Mar 19 – Aug 7, 2020. Patients with vascular pathology were studied in relationship to venous, arterial, and renal disease with correlation of presenting symptoms, pre-disposing medical conditions, interventions performed during hospitalization, and ultimate outcomes, including disposition, (death, rehabilitation, or discharge home). Additional data regarding limb salvage, renal function, and cardiac status were compared with a similar time period from the year prior.

Results: The time period from Mar 19, 2020 to there were 8,479 patients confirmed positive for SARS-CoV-19 and an additional 159 persons under investigation (PUI) treated at our institution. There were 830 expiration (mortality 9.6%). There were 243 deep venous thrombosis diagnosed and 48 pulmonary embolisms in this cohort, with 82 isolated to the right iliofemoral system, compared with 115 DVT's during the year prior, of which only 18 acute DVT's, 10 PE's, and no isolated right il-



iofemoral DVTs. Eight patients were admitted with isolated and unprovoked extremity occlusions, (one arm). There were 97 temporary lines place for rapid and profound renal failure, (average BUN over 180 mg/dl), with exchanges to larger bore hemodialysis catheters required in nearly all patients to avoid thrombosis during continuous renal ultrafiltration.

Conclusion: It has been well documented that inner-city areas with increased percentages of lower income, Black, Hispanic, and persons of color had higher mortality rates. There was a significant risk of DVT/PE in infected patients with nearly pathognomonic presentation when isolated to the right iliofemoral system. Perhaps related, the profound uremia requires larger bore catheters to avoid repeated line occlusions. Finally, later presentation of isolated arterial limb occlusion without underlying disease or other symptoms may be seen during the second wave of SARS-CoV-19 infection.

Biography:

Dr. Paul B Haser is a Surgeon - Vascular Surgery practicing in New Brunswick, NJ.

Publication of speakers:

1. Gargiulo, Nicholas & Chandramoulli, Maya & Veith, Frank & Lipsitz, Evan & Landis, Gregg & Flores, Lucio & Haser, Paul & Tortolani, Anthony & Cayne, Neal. (2018). LEA26. Use of Thrombolysis in Acute Lower Extremity Ischemia With Known Distal Target Vessel for Revascularization Stenting. *Journal of Vascular Surgery*. 68. e124. 10.1016/j.jvs.2018.08.037.

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