

# Pain and discoloration of fingers

**Lisa Armstrong, MD FACEP, Yevgeniy Furman, DO - RWJBH Health at Community Medical Center, Toms River, NJ**

## CHIEF COMPLAINT "My fingers are purple and hurt"

### HISTORY OF PRESENT ILLNESS

Patient is a 46-year-old female who presents with 1-day history of pain and discoloration of her left 2-4<sup>th</sup> fingers. Patient states that this morning she also noticed that her right 4-5<sup>th</sup> fingers were also pale and dusky, and it appears to now be spreading to her right 3<sup>rd</sup> finger as well. Pain has gotten progressively worse over this time. She has tried warming her hands and taking long, hot showers without any improvement of symptoms. She also developed chest heaviness today, prompting ED evaluation. Patient denies focal weakness, numbness, trauma, injury, fever, and shortness of breath. She does not take any blood thinners and denies any personal or family history of thrombosis.

### PHYSICAL EXAM

- ◆ **Vitals:** BP 154/93, Pulse 123, Resp 18, Temp 97.2 (oral), SpO2 97% on Room Air
- ◆ **General:** A&Ox3, In severe distress
- ◆ **EXTREM:** : dusky, cyanotic discoloration of left 3-5 fingers to the PIP and right 4-5<sup>th</sup> fingers to the PIP, 3<sup>rd</sup> finger to the DIP. Capillary refill is delayed in involved fingers to 3-5 seconds. (+) ROM intact (+) sensation intact, though patient reports severe pain (-) deformity noted

**LAB FINDINGS:** WBC 15.8, 88% PNC, D-dimer 187, Lactic Acid 6.3, ESR 48, pH 7.55

**RADIOLOGIC EXAMS** CTA of bilateral upper extremities: bilateral subclavian artery thrombosis



## QUESTIONS

- ◆ What is the diagnosis and initial management of this disorder?
- ◆ What underlying condition could be confused with this condition, and what differentiates it from the presentation above?

## ANSWERS

- ◆ Patient has vascular occlusion to both hands from bilateral subclavian artery thrombosis. Her initial management included anticoagulation with a heparin drip.
- ◆ Raynaud's. While the patient has a history of Raynaud's, her presentation is unlikely to be due to this due to both the length of symptoms, and that it did not remove with rewarming the digits or taking a hot shower.

## DISCUSSION

- ◆ The ED PA and Attending evaluated patient at the bedside. She was noted to have cyanotic, dusky fingers with delayed capillary refill and pain out of proportion requiring multiple doses of narcotics. Patient was noted to have an elevated WBC count, lactic acid, ESR, and platelet count. These along with her physical exam findings raised concern for a vascular occlusion, which the CTA confirmed.
- ◆ Vascular Surgery was consulted, and the case was discussed. She was started on a Heparin drip and taken to the OR for bilateral subclavian artery thrombectomy and thrombolysis, along with peripheral artery thrombectomy, thrombolysis, and angioplasty /stenting. Patient was admitted to the ICU, afterwards were she was followed by both Hematology and Vascular surgery. While she was found to have thrombocytosis in the ED, her hypercoagulable workup was negative in the ICU. Due to the ischemia, she later developed necrosis to her digits and required fasciotomies.
- ◆ While she had a history of Raynaud's to attribute her symptoms to this solely is unlikely given the length of time and the lack of improvement of her symptoms with re-warming. However, Hematology did question if her combined history of RA and Raynaud's may have led to endothelial damage and platelet aggregation, contributing to her thrombosis and later ischemia.

## CLINICAL PEARLS

- ◆ Recognizing signs of vascular compromise is imperative for emergency medicine physicians. Performing a thorough examination including noting the color, warmth, sensation, and capillary refill of digits are key components to ensure there is adequate perfusion to the digits
- ◆ Pain out of proportion is an early sign of vascular compromise. This is often a sign of marked compromise, and should raise your concern appropriately. Pallor, pulseless, and paralysis occur much later than marked pain.
- ◆ While Raynaud's can cause discoloration and pain, it is acute in onset, and rapidly improves with rewarming. To attribute her symptoms only to Raynaud's and not look for an underlying vascular issue could risk ischemia and risk losing the involved digits.

# Community Medical Center

**RWJBarnabas**  
HEALTH