

Exercise Induced Hematuria

Jimmy: Doc, I am a healthy 23-year-old and I just ran my first marathon a day ago. Why am I peeing blood now?

Doc: Well Jimmy, there are many causes but, in your case, exercise-induced hematuria is a likely cause:

Jimmy: What is it?

Exercise-induced hematuria is a transient phenomenon which occurs after contact and non-contact sports and can be divided into traumatic and non-traumatic etiologies.

Traumatic hematuria can be external or internal. External causes include trauma to the flanks/kidneys (ex. Direct hit externally in football) or lower abdomen/bladder (eg. Bladder moving up and down and contacting peritoneum or its opposing wall due to motion from long distance running). Traumatic changes have been seen on cystoscopy in athletes with exercise-induced hematuria in ultra long-distance runners due to this sort of bladder motion and trauma. In cycling, the trauma is often associated with the bike seat constantly colliding with the perineum.

Non-traumatic hematuria is a category that encompasses everything else (eg., rowing, swimming). There are many hypotheses as to the cause, these include; renal ischemia due to blood shunting to muscles, lactic acidosis causing increased glomerular permeability and nutcracker syndrome (left renal vein pinched between the aorta and proximal SMA).

Jimmy: Wow, thanks, doc. So, what do we have to do about it?

Doc: Glad you asked, Jimmy. Exercise-induced hematuria is a benign condition and there is no evidence of any long-term morbidity. Given you are under 50 we can do some simple urine tests and then watch and wait, and I'd expect that this would entirely go away within 72 hours. We need to make sure your kidneys aren't suffering from rhabdomyolysis. If things don't resolve, then we'll need further blood and urine tests to assess the health of your kidneys and urinary tract. Sometimes this involves a cystoscopy.

Jimmy: That's awesome, thanks doc. Anything I should change in my routine going forward?

Doc: I probably wouldn't exercise for the next week to make sure this resolves but this may return when you do more intense exercise such as marathons in the future. Make sure you adequately hydrate during all sporting events and try not to run with a completely empty bladder. If you take up a contact sport, wear all appropriate padding.

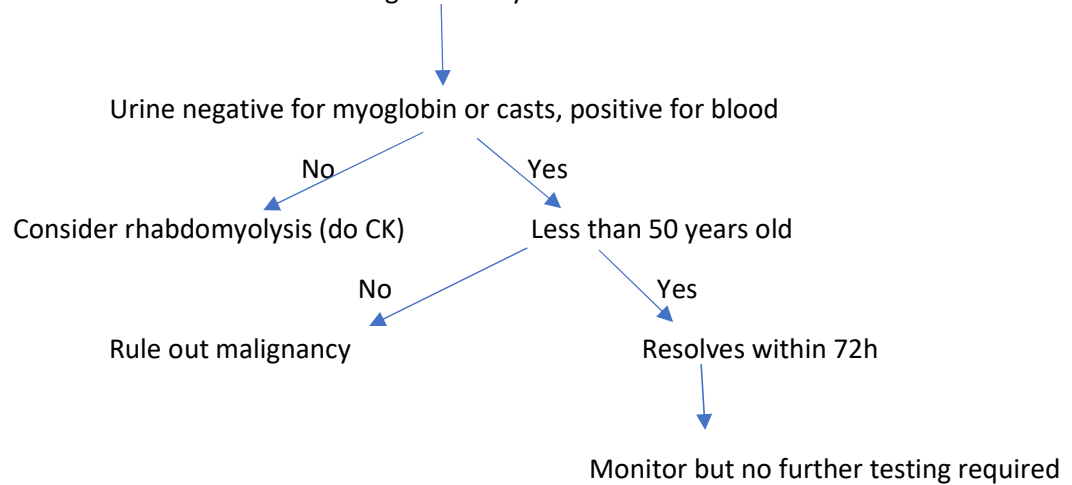
Jimmy: Wow, thanks!

Doc: Have fun!

Meant as satire. Exercise-induced hematuria is a diagnosis of exclusion which requires a preceding high intensity exercise and a rapid resolution following relative rest. No Jimmies or Docs were harmed in the making of this.

Proposed Approach to Diagnosis of Exercise-Induced Hematuria

Hematuria in context of recent high intensity exercise without comorbidities



Dr. Anthony Caragianis

PGY3 SEM, BCh, MB, BaO, CCFP

PGY3 Chief Resident

The University of Ottawa

Advisor: Dr. Taryn Taylor BKin, MSc, MD, CCFP (SEM), Dip Sport & Exercise Medicine

Carleton Sport Medicine Clinic

<http://carletonsportmed.com/>