

Inflammation in the psoas muscle as cause for a false positive Meckel's scan

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Despite the high accuracy, sensitivity and specificity, radio nucleotide imaging, using (99mTc) pertechnetate to diagnose Meckel's diverticulum may result in false positive studies. Early or late appearance of the dye in relation to that of the stomach can aid in distinguishing the false-positive causes from those due to ectopic gastric mucosa on a Meckel's scan. The accumulations of pertechnetate due to hyperemia appear early or late in the study and tend to fade over time. Whereas in a Meckel's diverticulum, uptake of radio-tracer occurs simultaneously, usually between 10 and 20 minutes after tracer injection and persists throughout the study, increasing in intensity parallel to the intensity of the stomach. However, pitfalls to this rule may exist requiring additional imaging. A 13-year-old female patient presented with acute onset, colicky, right lower quadrant abdominal pain since the past one day, associated with recurrent bright red, painless rectal bleeding for the past one month. There was no history of hard bowel movements or painful defecation. Other than a history of a bilateral periacetabular osteotomy for hip dysplasia a month prior, past medical and family history were not significant. Laboratory evaluation included hemoglobin of 9.7 g/dL, Hematocrit of 31.2%, MCV of 80.5. Physical examination was normal. Meckel's scan demonstrated diffuse streaky uptake of the tracer in the right lower quadrant, more lateral in location than normal coinciding with that of the stomach. Due to the persistent concern of MD in the patient SPECT was performed. Accumulation of the 99mTc was noted in the right joint capsule ruling out a MD. Although, MD was ruled out, magnetic resonance enterography (MRE) was performed to further assess this area of increased uptake on the perfusion scan. Soft tissue enhancement was noted around the right hip, deep to the iliacus and psoas muscle. The MRE findings were thought to be most consistent with post-surgical inflammation of the right hip. Our case highlights the importance of not only concentrating on the timing of enhancement of the radio-racer in relation to that of the gastric mucosa but also on the shape and location of accumulation to avoid misdiagnosis and unnecessary surgical exploration. It is to be noted that localization of radiotracer, in the right lower quadrant, coincided with that of the stomach, in this patient mimicking activity noted with a Meckel's diverticulum. Since tracer accumulation was broader, more lateral and streaky in configuration as compared to the focal small rounded appearance seen with a Meckel's diverticulum, the diagnosis was doubtful and led to further investigation with SPECT imaging and MRE, thus preventing unnecessary surgical exploration.

Biography

Jenelle Fernandez is currently a Pediatric Resident at the Children's Hospital Navicent Health affiliated with Mercer University School of Medicine. She has received her BS in Biology at the University of Florida, USA. She went on to receive her Medical degree from Ross University School of Medicine

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