

Influence of using POCUS (point of care ultrasound) in the management of limping OR pain in limb on duration care and additional workup studies in pediatric ED

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Abstract

Background: The use of Point of care Ultrasound (POCUS) is becoming increasingly widespread in emergency medicine. This is mainly due to its safety, minimal invasiveness, high accuracy, and its ability to provide a binary diagnostic result. Limping or Pain in limb accounts for approximately 1.8/1000 of pediatric ED admissions. This is a very challenging diagnostic entity that often results in extensive and futile diagnostic workup because of its wide differential diagnosis. Therefore, POCUS provides an excellent opportunity to help avoid unnecessary tests and thus significantly shorten ED care duration.

Methods: In this retrospective cohort, performed at pediatric ED in major regional center, 335 cases of limping or pain in limb were included between 2015-2019. The cases were divided to 2 major groups: patients who underwent HIP POCUS (POCUS group), and those that underwent standard accepted workup (CONTROL group). Statistical analysis of the population was conducted (t-test and chi-square comparisons) while primary outcome was care duration in the ED and additional diagnostic workup.

Results: 135 cases underwent HIP POCUS between 2017-2019 and 200 cases underwent standard diagnostic procedure between 2015-2017. The mean age of POCUS group was 6.6 years (SD 3.5), while of CONTROL group 7.5 years (SD 1.5) with no significance difference. The groups didn't differ significantly in their gender, ethnicity or clinical presentation (fever, prior minor trauma, prior upper respiratory tract infection, and hip joint tenderness on physical examination). Primary outcome significantly differed between the groups with shorter duration in POCUS group (166±90 min. vs 215±105 min. $p < 0.0001$, CI 27.14-71.59). Additional tests: blood sampling, orthopedic counseling and formal ultrasound were significantly more abundant in the CONTROL group ($p < 0.0001$ for each test, chi-square test).

Conclusions: Our results suggest that utilization of POCUS is of high clinical potential to reduce unnecessary tests and shorten duration care in the pediatric ED.



Biography:

Ofri Hayosh has completed her MD at the age of 30 years from TEL AVIV University, Sackler School of Medicine. She is currently in her 3rd year of residency in Pediatric medicine, in Meir medical center, Israel.

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