



A technical side note for dynamic ultrasound examination of the hip labrum

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Received: 17 November 2021 / Accepted: 17 November 2021
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Keywords Acetabular labral tear · Ultrasound · Dynamic ultrasound · Magnetic resonance imaging

To the Editor,

We read the intriguing case series by Bilham et al. [1] which were recently published in your journal. The authors described ultrasonographic dynamic examination findings (during hip traction technique) for the diagnosis of acetabular labral tears. Further, the authors reported that real-time, non-invasive ultrasound (US) examination with dynamic maneuvers may be of additional diagnostic value. We deem this effort of the authors important since invasive imaging methods (e.g. magnetic resonance or computed tomography arthrograms) are otherwise used as the gold standard before arthroscopy [1].

However, we would like to highlight a few important points that we think should be taken into account when performing musculoskeletal US in clinical practice. For example, the authors described that dynamic hip traction caused widening of the hypoechoic gap due to synovial fluid flow during the US examination [1]. This finding is not always very specific and the focal hypoechoic irregularity at the base of the anterior portion of the labrum may “simply” be a sublabral sulcus/recess (a normal anatomic variant) in up to 20% of cases (Supplementary Materials 1 and 2). This hypoechoic area needs to be examined and defined in details because the sublabral recess is generally linear/regular in shape, does not extend into the substance of the labrum or

through the entire thickness of the labral floor, and is not associated with other perilabral abnormalities [2] (Supplementary Material 3). On the other hand, since anterior hip pain is not only related with joint problems and may be accompanied by periarticular painful conditions (e.g. periarticular bursa), static/dynamic US examination should be carefully performed [3]—for sure as the extension of prompt physical/specific examination [4].

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s40477-021-00640-5>.

Author contributions All authors have contributed to the scientific discussion, manuscript writing and editing.

Funding None.

Data availability Data sharing does not apply to this article as no datasets were generated or analyzed during the current study.

Declarations

Conflict of interest None.

Ethics approval None.

Consent to participate None.

Consent for publication None.

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References

1. Billham J, Cornelson SM, Koch A, Nunez MJ, Estrada P, Kettner N (2021) Diagnosing acetabular labral tears with hip traction sonography: a case series. *J Ultrasound* 24:547–553. <https://doi.org/10.1007/s40477-020-00446-x>
2. Studler U, Kalberer F, Leunig M, Zanetti M, Hodler J, Dora C, Pfirrmann CWA (2008) MR arthrography of the hip: differentiation between an anterior sublabral recess as a normal variant and

- a labral tear. *Radiology* 249:947–954. <https://doi.org/10.1148/radiol.2492080137>
3. Ricci V, Özçakar L (2019) Ultrasound imaging for anterior hip pain: Hypertrophic bursitis between the direct tendon of the rectus femoris and the iliocapsularis muscle. *PM&R* 11:1031–1033. <https://doi.org/10.1002/pmrj.12165>
 4. Ricci V, Özçakar L (2020) From “ultrasound imaging” to “ultrasound examination”: a needful upgrade in musculoskeletal medicine. *Pain Med* 21:1304–1306. <https://doi.org/10.1093/pm/pnz231>

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