

When a Lipoma is Not a Lipoma: Use of Sonography to Identify Unknown Masses by the Regional Anesthesiologist

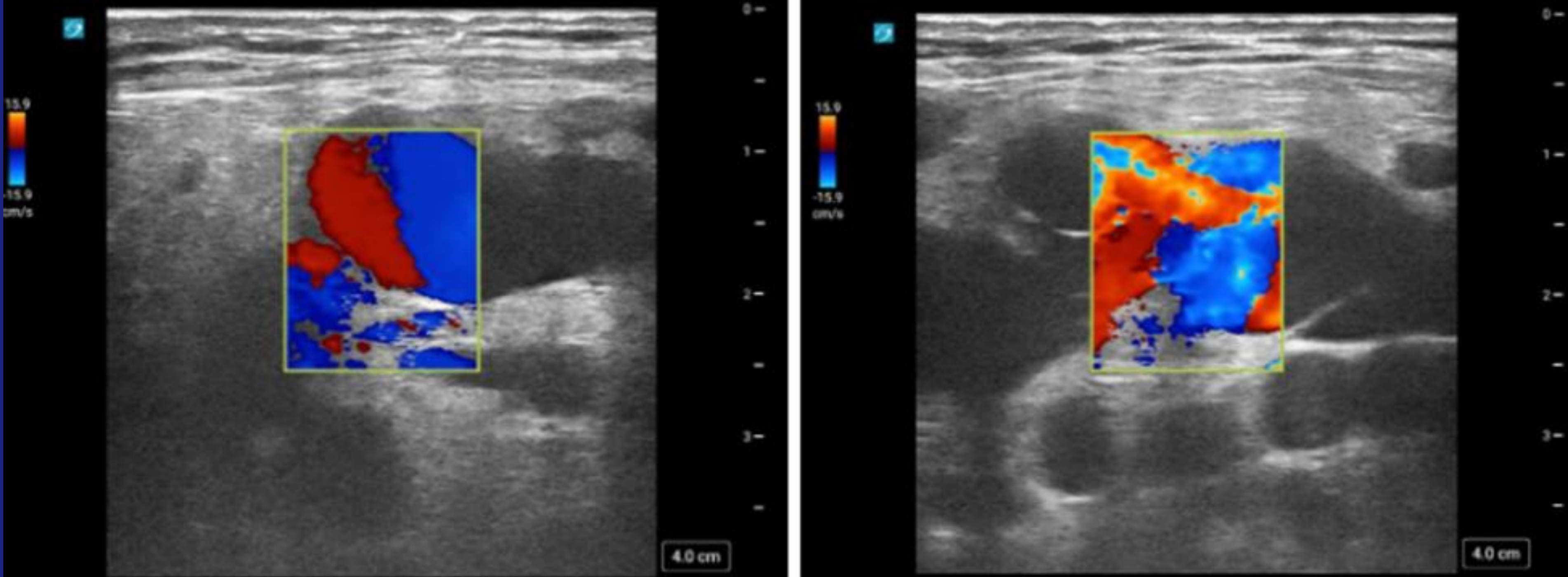
Gabriel Sheena MD, Eric Kamenetsky MD
McGaw Medical Center at Northwestern University

INTRO

- Variant anatomy and overlying vasculature often present challenges for the regional anesthesiologist when it comes to performing a nerve block.
- However, regional anesthesiologists have overcome many of these challenges through the use of ultrasonography (US).
- With increasing use and experience of US, there are unexpected findings frequently encountered.
- A skilled regional anesthesiologist is often able to maneuver around these incidental findings to find a path towards the intended target for the nerve block.
- When a patient presents with an undocumented mass, it is up to the surgical and anesthesiology teams to determine the feasibility of performing surgery on the patient and the type of anesthetic utilized.

CASE REPORT

- **63yo male patient presents for reverse-total shoulder**
- **Patient describes mass in his neck during pre-operative examination**
- **Patient states this was previously seen at an outside urgent care and diagnosed as a lipoma; however, he could not provide further information or documentation.**
- **We were also unable to retrieve any records from the patient’s chart that could comment on the mass, and there was no imaging of the mass available.**
- **Mass was not painful and itself resulted in no restrictions towards this patient’s activities of daily living.**
- **No neurologic symptoms, such as paresthesias or neuromuscular weakness.**
- **Physical examination revealed a large, soft, well circumscribed mass between his neck and shoulder superior to the clavicle ipsilateral to the intended surgery (Image 1). It was non-tender and displayed no signs of infection such as warmth or erythema. Sensation of the upper extremity was preserved and there was no apparent weakness on examination.**
- **After multiple discussions between the patient, surgical team, and colleagues that had experience with similar presentations in the past, it was determined acceptable to proceed with surgery with the additional risks.**
- **The regional anesthesiology team was asked to evaluate the possibility of performing an interscalene nerve block for postoperative analgesia.**
- **Under US, the mass was noted to have many anechoic irregularly round and tubular structures within the mass, somewhat resembling cysts or seromas.**
- **Color doppler revealed the cystic-appearing structures were filled with flowing fluid, akin to multiple interconnected vessels rather than multiple cysts.**
- **After discussion once again with the surgical team, the decision was made to cancel the case given the likelihood that this was a mass with multiple arteriovenous malformations (AVMs), requiring further investigations such as an MRI.**



DISCUSSION

- This case demonstrates the role of the regional anesthesiologist regarding the perioperative workup of a patient.
- The patient described in this case had been previously diagnosed as having a lipoma, the lack of available charting and imaging complicated this initial assessment. Routine use of US on every patient in the perioperative period is unwarranted and excessive.
- When a patient presents with an incidental mass as seen in this case, a quick perioperative point of care ultrasound (POCUS) examination of the mass can be performed by an anesthesiologist regardless of the need for a peripheral nerve block.
- Macfarlane et al. has described “[Seromas as] homogenous, anechoic, and has no septae.” Ganglia and cysts appear as “round or oval hypoechoic structures with regular borders.” A way to distinguish these from vasculature is through the use of “color doppler imaging [to compliment] 2-dimensional findings” as ganglia, cysts, and seromas lack flow on color doppler.
- While clinical sonopathology has been described well by Sites et al. with rgard to “blood vessels and nerves” as well as “surrounding structures including the viscera and subcutaneous tissues,” use of sonography for unidentified masses is not well documented.
- It is the aim of this case report to further expound on the use of ultrasonography to guide perioperative decision-making.