A case of psoas major muscle abscess diagnosed using ultrasound-guided percutaneous puncture

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BACKGROUND

- ✓ Early diagnosis followed by immediate drainage is essential in the treatment of iliopsoas abscesses^{1,2}).
- ✓ Ultrasound-guided percutaneous drainage of abscesses within the psoas major muscle has never been reported.
- ✓ Recent technical innovations in ultrasound techniques has facilitated ultrasound-guided approaches for lumbar plexus blocks³⁻⁵).
- ✓ We report a case of isolated psoas major muscle abscess successfully diagnosed by ultrasound-guided percutaneous puncture, using a technique similar to lumbar plexus block.

CASE REPORT

Case: 13-year-old boy

Chief complaint: Low back pain sustaining for a month

Past history: None

Present illness: One month before the initial visit, the patient started experiencing low back pain after soccer practice.

At the initial visit, the patient had low back pain, which was exacerbated by both flexion and extension of the lumbar spine, without any neurological deficits in the lower extremities.

Fig 1. CT at the initial visit

Fluid accumulation within the right psoas major muscle near the intervertebral disc between the 4th and 5th lumbar vertebrae was observed.

Fig 2. Puncture of abscess under ultrasound guidance

The patient was placed in the left lateral decubitus position. Ultrasound-guided in-plane needle insertion applying a technique similar to that of lumbar plexus block reported by Doi et al.⁴) was used. Several milliliters of yellow pus were aspirated through an 18-G Tuohy needle.

Approach	Karmakar ³)	Doi ⁴)	Sauter ⁵) (Shamrock)
Transducer position	Paralumbar	Paralumbar	Flank
Scanning plane	Sagittal	Transverse	Transverse
Insertion manner	In-plane (inf-sup)	In-plane (lat-med)	In-plane (post-ant)
Needle visibility ⁶)	Not good	Good	Very good

Table. Technical differences in ultrasound-guided lumbar plexus block approaches

Fig 3. Time course of treatment

DISCUSSION

- ✓ Ultrasound-guided percutaneous puncture of abscesses is less invasive and lower in cost than surgical drainage and CT-guided puncture¹); however, abscesses within the psoas major muscle are located in deep regions that are hard to see under ultrasound.
- ✓ The performance of ultrasound and knowledge of sonoanatomy have been developed remarkably, and various ultrasound-guided approaches for deep nerve blocks, including lumbar plexus blocks, have been reported³⁻⁵).
- ✓ These technical innovations have allowed ultrasound-guided percutaneous puncture of abscesses situated in the psoas major muscle.

LEARNING POINTS

- Percutaneous puncture of psoas major muscle abscesses can be performed under ultrasound-guidance by applying a technique similar to ultrasound-guided lumbar plexus blocks.

REFERENCES

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