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Intraoperative Sonographic Characterization of a Cystic Intramedullary Spinal Cord Lesion Appearing as Solid

Intraoperative spinal sonography (IOSS) is becoming widely accepted as a valuable aid in the evaluation of mass lesions of the spine [1-3]. One known benefit of IOSS is the ability to distinguish solid from cystic masses; sonography is often more accurate than preoperative CT or MR [4]. We report a case of a cystic spinal cord lesion that appeared entirely solid on IOSS.

Case Report

A 41-year-old woman was evaluated because of a progressive myelopathy with bowel and bladder dysfunction. She had had a subtotal resection of a conus medullaris teratoma when she was 20 years old. Emergency myelography showed a large intradural mass at L1-L2 causing an almost complete block. Delayed CT scanning confirmed an intradural mass of soft-tissue density causing abrupt attenuation of the subarachnoid space at this level (Fig. 1A). No fat or calcium was noted within the lesion.

At surgery, IOSS showed a solitary homogeneously echogenic solid mass (Fig. 1B). Surgical exploration, however, showed that the lesion had two predominantly cystic areas, each of which was filled

with 5-10 ml of thick, creamy material and considerable squamous debris. Pathologic appearance of the lesions was suggestive of recurrent teratoma.

Discussion

IOSS commonly is used as an adjunct in surgical cases of suspected intraspinal neoplasms [1-4]. It is reportedly quite accurate in the characterization of such lesions [1-4], particularly in the identification of tumorous and nontumorous cystic areas related to solid tumors.

In our case, a lesion that was thought to be solid because of its echogenic character on IOSS was found to be primarily cystic at surgery. The thick, creamy fluid and desquamated tissue produced multiple reflective interfaces, resulting in an echogenic appearance normally associated with solid lesions. This phenomenon of echogenic fluid-filled masses simulating a solid lesion has been previously described in abdominal and pelvic sonography [5]. This potential pitfall also should be considered when IOSS shows a uniformly echogenic mass.

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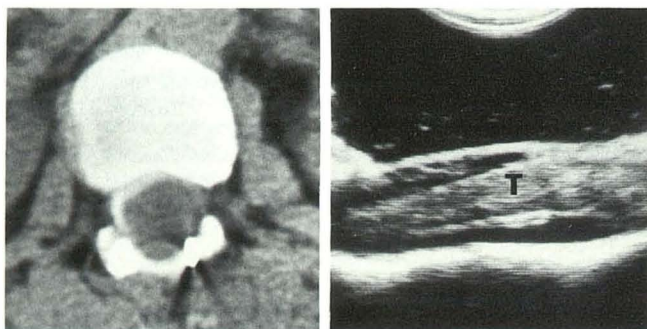
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A

B

Fig. 1.—Cystic intramedullary spinal cord lesion.

A, Contrast-enhanced CT scan of spine in region of conus shows large solid intradural mass.

B, Sagittal intraoperative spinal sonogram (patient's head is toward viewer's left) shows an apparently solid homogeneously echogenic intramedullary mass (T).

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