Evaluation of MR Cisternography in the Diagnosis of CSF Rhinorrhea

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CSF rhinorrhea is leakage of cerebrospinal fluid into one or multiple paranasal sinuses through break in the floor of the anterior cranial fossa. The causes of CSF rhinorrhea include basal skull fractures and postsurgical complications. They are a constant source of infection and need to be diagnosed and treated early. CT cisternography is used widely in the diagnosis of CSF rhinorrhea. With the advent of MR imaging with its versatile sequences, noninvasive evaluation of CSF rhinorrhea has been reported. We studied the role of different MR sequences in the evaluation of patients with clinically suspected CSF rhinorrhea. Eleven patients were studied retrospectively using high resolution routine SE T1 and TSE T2 and CISS-3D sequences. Routine sequences were done in axial, sagittal, and coronal planes using 3 mm slice thickness. CISS-3D sequence was performed in sagittal and coronal planes using 1 mm slice thickness. The examination was done in supine position without using contrast media or flow enhancement. There were 6 females and 5 males and their ages ranged from 7 to 40 years. Six patients presented with spontaneous CSF rhinorrhea and five patients posttraumatic. MR cisternography correctly identified the site and extent of leak in seven patients which were surgically proved. Four patients are awaiting surgery. MR cisternography is an alternative technique of investigating patients with CSF rhinorrhea and this may be considered a viable noninvasive alternative to CT cisternography.

References