

Preoperative Sentinel Lymph Node Diagnosis with Interstitial MR Lymphography in Cervical Cancer: A Pilot Study

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Purpose

To evaluate whether interstitial MR lymphography with gadodiamide is an appropriate tool for preoperative identification and characterization of sentinel lymph nodes (SLNs) in patients with early stage cervical cancer.

Methods

Thirty-eight cervical cancer patients with FIGO classification stages of IA2 to IIA underwent preoperatively interstitial MR lymphography with gadodiamide and intraoperative lymphatic mapping with isosulfan blue for detection of SLNs. All patients underwent hysterectomy and lymphadenectomy. The morphologic features of all the SLNs on MR lymphographic images were analyzed by two radiologists who were blinded to the pathological results and compared with the pathologic diagnosis.

Results

A total of 79 SLNs were preoperatively detected by MR lymphography, whereas 81 SLNs were intraoperatively identified by blue dye-guided surgical dissection, with the detection power of 97.5% (79/81). Unilateral SLNs were found in 22 patients (58%). The remaining 16 patients (42%) had bilateral SLNs. Eighteen SLNs in 14 patients were found to have metastases by routinely pathologic investigation. When the combination of characteristics of margin and long-to-short-axis diameter ratio of SLN were taken into consideration, the sensitivity, specificity, positive predictive value, negative predictive value and accuracy of MR lymphography for SLN characterization were 94.4%, 96.7%, 89.5%, 98.3%, and 96.2%, respectively.

Conclusions

Although at present, preoperative MR lymphography with gadodiamide cannot completely substitute SLN biopsy, this technique offers accurate diagnosis of SLN metastases in early cervical cancer, and holds promise in selecting patients who require complete pelvic lymphadenectomy without SLN biopsy.

Reference

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