

Value of magnetic resonance imaging in preoperative staging of uterine cervical carcinoma: correlate with FIGO 2009

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Abstract

PURPOSE:

Evaluate cervical carcinoma using magnetic resonance imaging(MRI), correlate with clinical approach of International Federation of Gynecology and Obstetrics (FIGO) staging system.

METHODS

Institutional review board approval and informed consent were obtained. From 3 January 2011 to 9 October 2011, 80 females (age range, 32-77years, mean age, 51.91±9.57years)with pathologically confirmed cervical carcinoma were prospectively studied. All cases underwent preoperative MRI examination on a GE commercial 3T MRI. The sequence protocol included T1WI, TSE T2WI, SPIR TSE T2WI, and DWI with b=0,1000sec/mm². MRI stage was assessed by radiologists blinded to clinical and pathological details. Clinical FIGO stage[1] was assigned to each patient by gynecologists (51 cases) or gynecologic radiotherapy doctors (29 cases) blinded to MRI findings. For patients who were operated, postoperative pathological stage was taken as gold standard. For patients who were not rated, a gold standard stage was decided based on all available clinical and imaging data.

RESULTS:

80 cases included stage of 0(n=1), Ib(n=21),IIa(n=19), IIb(n=26), IIIa(n=2), IIIb(n=5),IVa(n=4), IVb(n=2). MRI identified cervical carcinoma in all cases excepting 1 case of stage 0. MRI staging had an accuracy of 75.0% (60/80) significantly higher ($p=0.002$) than that of clinical FIGO staging 60.0% (48/80). MRI staging and clinical FIGO staging concurred only in 38.75% (31/80) of the patients.

DISCUSSION:

Clinical assessment is inadequate in the evaluation of parametrial invasion, pelvic sidewall invasion and tumor size[2]. The significant MRI findings were detection of clinically unsuspected bladder invasion (4/80), while gynecologic examinations were easier in detecting vaginal invasion (58/80vs53/80). It should be noted that the gynecologic radiotherapy doctors tended to over assess the stage (9/29) compared with gynecologists (1/51).

CONCLUSION:

MRI is highly accurate in detecting cervical carcinoma. MRI is more accurate for staging than the standard pelvic examination suggesting that MRI should be considered prior to treatment planning in every patient.

REFERENCE

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