

Ultrasonographic characteristics and cystoscopic correlates of bladder wall invasion by endophytic cervical cancer

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Abstract

OBJECTIVES: To present the ultrasonographic findings and explore cystoscopic correlates of endophytic cervical cancer invading the bladder wall. **METHODS:** We retrospectively reviewed the imaging files in 19 cases of cervical cancer, comprising six cases of endophytic lesions invading the bladder wall (study group) and 13 cases of endo- or exophytic, clinical stage IB1 lesions without bladder wall invasion (controls). Bladder wall infiltration or invasion was confirmed by cystoscopic biopsy or surgical findings or both. All 19 patients had undergone transvaginal ultrasound examination to evaluate the cervix and lower urinary tract. The main measures included tumor volume of the primary cervical neoplasm, tumor protuberance, mobility of the cervix over the lower bladder wall, continuity of the endopelvic fascia and echogenicity and morphological texture of the bladder wall and its thickness. **RESULTS:** A tumor protuberance emerging from the cervicocorporeal junction and invading the bladder in the supratrigonal area was seen in the study group but not in the controls. Disruption of the endopelvic fascia, a thickened bladder wall, changes in the bladder mucosa and interruption of the entire bladder wall were ultrasonographic characteristics demonstrating the sequential stages of bladder wall invasion. The morphological changes in the bladder wall on ultrasound examination were categorized into four stages. Based on the morphological classification, two of the six patients in the study group belonged to stage I, one to stage II, one to stage III and two to stage IV of bladder wall invasion. **CONCLUSIONS:** In cervical cancer, transvaginal ultrasonography helps to explore sequential changes seen in bladder wall invasion, information that is not as readily available from cystoscopic examination.