

LOCOREGIONAL RECURRENCE OF GYNECOLOGIC CANCER: WHAT IS THE ROLE OF MRI?

OBJECTIVES: Traditionally, patients who have had treatment for cancer are kept on regular review for a period between 5 and 10 years, mainly to detect recurrence and monitor late effects of treatment. However, routine follow-up is a time-consuming and expensive process and there is no evidence to suggest that follow-up improves survival for gynecologic cancers. Despite this, routine follow-up with imaging methods is commonly performed on clinical practice. Magnetic resonance imaging (MRI) has an established role in characterizing and staging gynecologic tumors. Although, there are only few studies assessing its role in follow-up. The aim of this study was to evaluate and discuss the role of pelvic magnetic resonance imaging (MRI) in the detection of recurrence after gynecologic cancer treatment.

METHODS: Retrospective single center study, conducted by reviewing medical records and imaging reports, at a cancer center. After approval of the institutional ethics review board, we included 136 patients who performed MRI of the female pelvis after treatment of gynecologic cancer, from January 2013 to June 2014.

RESULTS: Patient's mean age were 55.8 years old (17-85 years). Mean time after pelvic MRI acquisitions was 49.4 months after treatment (0-506 months). Most common primary tumors were cervical and ovarian cancer (34.6% each), followed by endometrial cancer (24.3%) and vulvar/vaginal cancer (6.6%). Previous treatment included: curative surgery in 33.1%, surgery associated with chemoradiation in 49.3%, chemoradiation alone in 15.4% and palliative surgery in 2.2%. The main indications for pelvic MRI were routine follow-up after treatment (72.1%), evaluation of suspicious or inconclusive findings at conventional imaging / ultrasound (17.6%) or at clinical evaluation (10.3%). Pelvic MRI detected suspicious lesions on 33 exams (24.3%), being 30 confirmed as recurrence, 1 second primary tumor and 2 false-positive (fibrous tissue). MRI had 4 false-negative results (identified on PET-CT). All false-positive and false-negative results were found on patients submitted to MRI for routine follow-up after treatment. Recurrences were more common on patients that performed MRI for evaluation of suspicious or inconclusive findings at conventional imaging / ultrasound or clinical evaluation ($p < 0,01$). There was no relation between recurrences and primary cancer type or time after treatment. The most common site of recurrence was the surgical bed (13.2%) followed by lymph nodes (8.1%), peritoneum (5.9%) and bone (1.5%). Recurrences on the surgical bed were more common in cases of cervical cancer, while recurrences on lymph nodes and peritoneum were more frequent in cases of ovarian and endometrial cancer.

CONCLUSIONS: Pelvic MRI showed good sensibility (88,6%) and specificity (98%) for detection of gynecologic cancer recurrence, especially in patients who had suspicious or inconclusive findings at conventional imaging / ultrasound or clinical evaluation. However, most pelvic MRI exams were performed as routine follow-up after treatment.