Pain in the Treated Pelvis

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Imaging findings after common gynecologic procedures/surgeries:

It is important to be familiar with MR imaging appearances after common gynecologic procedures such as conization, hysterectomy, and radical trachelectomy. This knowledge will help radiologists to distinguish between benign postsurgical changes and recurrent disease.

Imaging findings after radiation:

MRI is useful for assessment of treatment response after radiotherapy or chemoradiation. After radiation therapy, primary tumor contracts and becomes fibrotic (i.e. low signal intensity). The decrease in tumor size can occur as early as 2 months and is a predictor of good response. On T2-weighted imaged, soft-tissue mass that is higher in signal intensity than adjacent muscles is suspicious for recurrent disease. Addition of DCE and DWI to the conventional sequences may help to distinguish between recurrent tumor vs. post-surgical and post-radiotherapy changes. Use of these sequences may improve the specificity and accuracy of tumor detection. However, serial imaging, PET-CT, and imaging guided biopsy may be required to further clarify MRI findings.

MRI is also useful for evaluation of radiation-induced complications which include cervical os stenosis, fistula formation, proctitis, enteritis, radiation cystitis, insufficiency fractures, and radiation-induced sarcomas. Fistulas are late complications and most frequently involve bladder, vagina, and rectum. It is important to consider that a fistula may be caused by recurrent tumor invading adjacent organs.

Salvage surgery for persistent or recurrent gynecologic malignancies:

Pelvic exenteration is a radical surgical procedure that consists of en-bloc resection of all pelvic viscera involved by cancer. Originally intended for palliative symptom control, it is now used as a salvage treatment of patients with persistent or recurrent malignancies including gynecologic cancers. The standard approach (total pelvic exenteration) involves resection of the genital tract, rectosigmoid colon, bladder, urethra, and anus but the procedure can be tailored depending on the extent of pelvic organ involvement. Less extensive variations may be performed, including anterior exenteration if the rectum is spared by tumor or posterior exenteration if the bladder is uninvolved.

MR imaging is a required part of preoperative evaluation because it can help to determine patient eligibility and help to tailor the extent of surgical resection by accurately identifying the presence of bladder, rectum, and pelvic sidewall invasion.

References:

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