

Functional imaging of the female pelvis

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Purpose:

1) To review the functional imaging modalities used in gynecological oncology 2) To demonstrate the added value of functional imaging assessment in comparison to conventional imaging

Outline of Content:

Functional imaging modalities used in the evaluation of gynecological malignancies include: contrast enhanced and dynamic enhanced MR imaging, diffusion weighted (DWI) MR imaging and PET/CT. Appearances of gynecological malignancies, using functional imaging techniques in the staging assessment and evaluation of possible recurrent disease, will be presented. The indications for functional imaging in addition to high resolution anatomic imaging will be emphasized in this patient population.

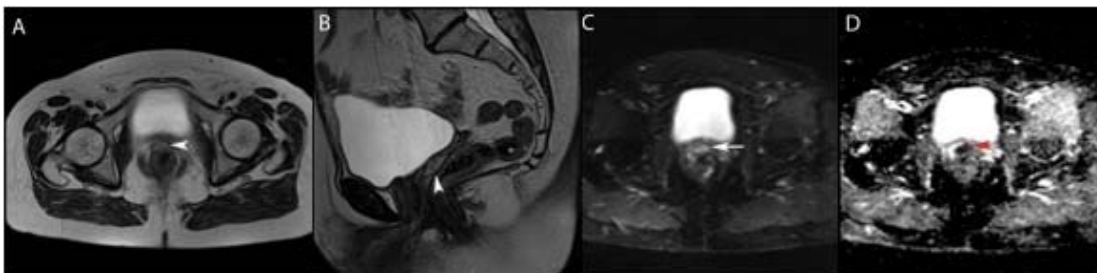


Figure 1: Routine follow-up MRI examination for a 70 year-old post hysterectomy for endometrial carcinoma. Axial MR T2-weighted image (A) demonstrated an intermediate signal intensity nodule between the bladder and the rectum (white arrowhead). Sagittal T2-weighted image (B) confirmed this nodule to be at the vaginal vault and well-defined. Axial DWI demonstrated the nodule to be of high signal intensity (white arrow) with corresponding low signal intensity on the ADC map (D red arrowhead) consistent with disease recurrence.

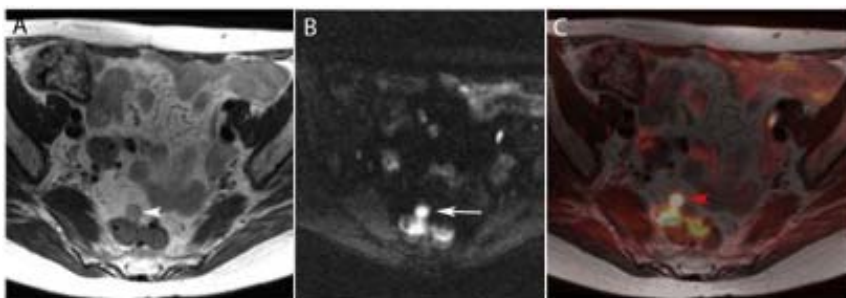


Figure 2: 58 year-old post hysterectomy and bilateral salpingoophorectomy for ovarian cystadenocarcinoma with a raised CA-125 level and no abnormality on computed tomography. Axial MR T2-weighted image (A) demonstrated an intermediate signal intensity nodule adjacent to the sigmoid colon (white arrowhead) which was initially overlooked on reviewing the T2 images alone. Corresponding DWI (B) demonstrated the nodule to be of high signal intensity, and fused PET/CT image (C) also demonstrated increased uptake (red arrowhead) in keeping with ovarian recurrent disease.

Summary:

Functional imaging in gynecological malignancy can provide additional information and the main teaching points of the exhibit are to illustrate its role by highlighting the pearls and pitfalls of functional imaging techniques.