Whole Body Imaging of Multiple Myeloma comparing modalities our experience.
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Biopsy proven extramedullary myeloma of the uterus which appeared relatively inconspicuous on CT.

Axial slices through PET and bone windows on a low dose CT taken just below the carina and at the level of the sacrum. These slices demonstrate obvious lytic proven myelomatous lesions on the low dose CT that are not FDG avid on the corresponding PET CT completed the same day.

Pelvic XR from a skeletal survey reported as normal with a corresponding T1 coronal section from an MRI completed the same month which demonstrates diffuse myelomatous infiltration.

From right to left there is a skeletal survey, CT and MRI (T1) all completed in the same month. There is a large lytic lesion of L5 evident on the CT and MRI not seen on the XR.

Coronal views of a PET and low dose CT completed the same day, the CT demonstrated no abnormal lytic foci whereas the PET demonstrates avid vertebral body disease as shown.

Biopsy proven extramedullary myeloma of the pleura which appeared as ill-defined no specific pleural thickening on CT.

Axial slices through PET and bone windows on a low dose CT taken just below the carina and at the level of the sacrum. These slices demonstrate obvious lytic proven myelomatous lesions on the low dose CT that are not FDG avid on the corresponding PET CT completed the same day.

This brief pictorial review of the same lesions imaged with varying modalities hopes to highlight the disease specific strengths and weaknesses of each modality and common pitfalls in diagnosing Multiple myeloma (MM). Namely that there is a cohort of MM that is PET Negative. That extensive disease involvement is required before change from MM is seen on traditional plain films especially with the diffuse infiltrating forms of MM. Low dose CT and FDG PET-CT both have their strengths and are necessary in those centers where MRI is not readily available. However in this abstract we hope to highlight the need to be very aware of the distinct disease specific instances in which they can be misleadingly reassuring and lack the sensitivity of MRI. We also briefly give examples of atypical extra-medullary MM of the uterus and pleura.

In summary we must be hypervigilant in the diagnosis and monitoring of MM, a key part of that process is to be aware of the disease specific strengths and weaknesses of our chosen or available modalities, and to be aware of the possibility of extra-medullary disease.