Clinical summary

- Male 56 year-old diagnosed with multiple myeloma 1 year prior

- At presentation multiple small bone lesions at X-rays and MRI involving the ribs and spine

- Treated with autologous bone marrow transplant

- PET for evaluation at baseline and after treatment
PET scan findings

Baseline

Post-treatment

Multiple foci of increased uptake at baseline with a complete metabolic response after treatment.

http://humanhealth.iaea.org
Clinical summary

• Male 71 year-old diagnosed with multiple myeloma 2 years prior with a large lesion in the left scapula and multiple small bone lesions on X-ray and MRI

• Treated with autologous bone marrow transplant

• PET for evaluation at baseline and after treatment
PET scan findings

Multiple foci of increased uptake at baseline with a complete metabolic response after treatment, including the left scapula lesion.

http://humanhealth.iaea.org
Teaching points

- FDG PET/CT can be very useful to evaluate myeloma patients after therapy.
- The most relevant feature of PET/CT is the capability of demonstrating complete metabolic response in sites of altered structure, where conventional imaging has difficulty to detect residual disease.
- Complete FDG suppression before first transplantation conferred significantly better outcomes.

F18-fluorodeoxyglucose positron emission tomography in the context of other imaging techniques and prognostic factors in multiple myeloma

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“Complete FDG suppression before first transplantation conferred significantly better outcomes and was only opposed by gene expression profiling-defined high-risk status. Our results provide a rationale for testing the hypothesis that myeloma survival can be improved by altering treatment in patients in whom FDG suppression cannot be achieved after induction therapy.”