A large, stylized oak leaf graphic in a dark blue color, positioned on the left side of the slide and partially overlapping the text.

62 year old man with prostate cancer presents for restaging imaging

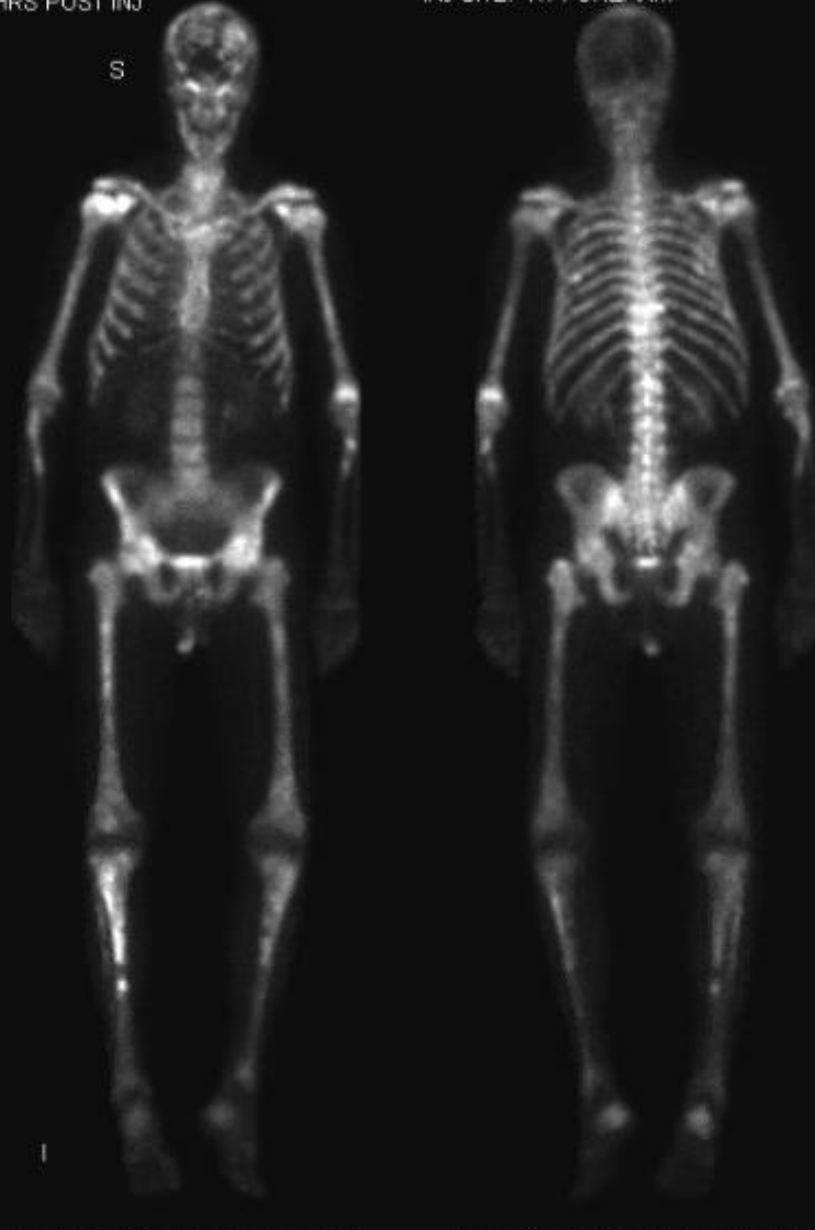
Kathryn Becker, MD

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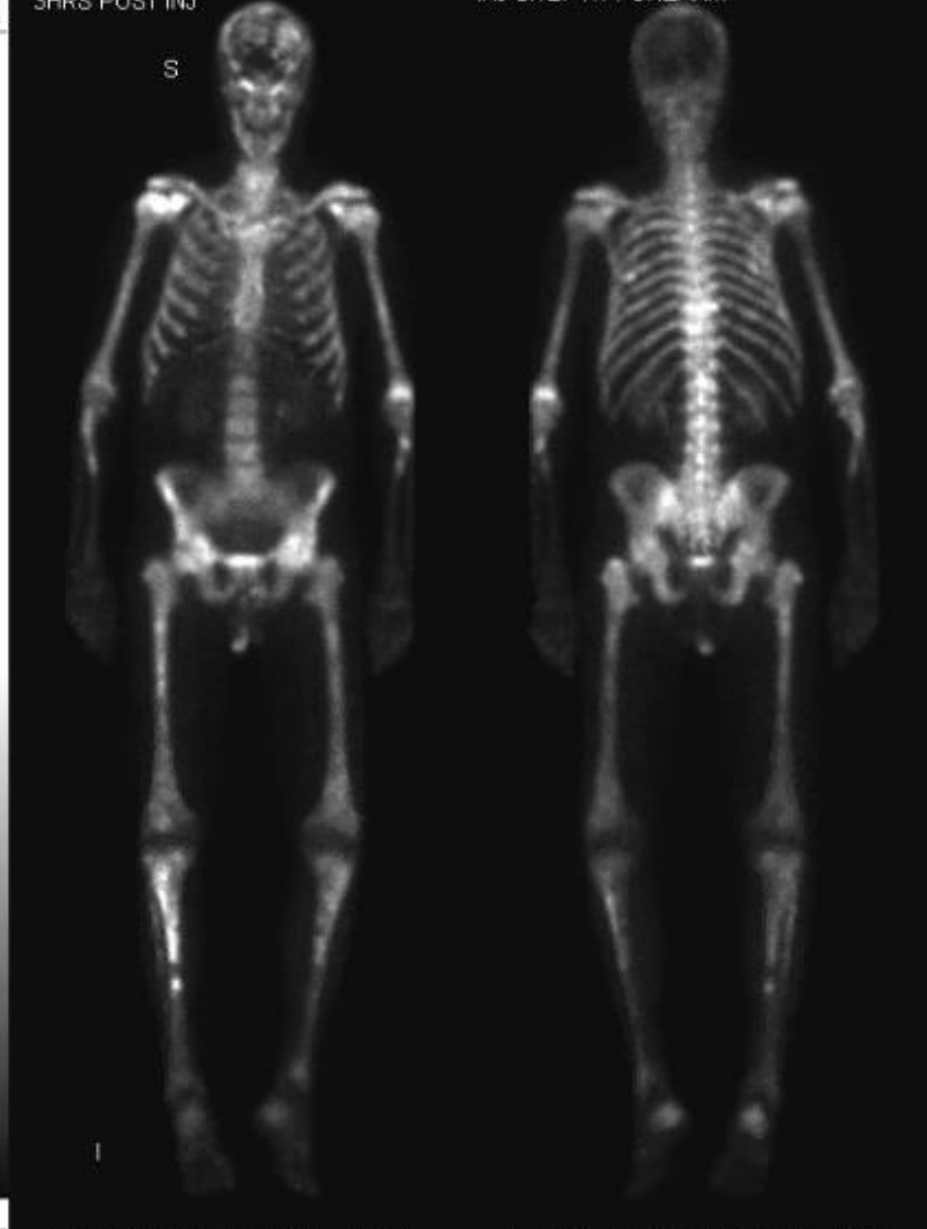
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Diffusely metastatic prostate cancer ("Superscan")

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Nuclear medicine bone scan shows increased uptake throughout the body, including the bilateral femurs, proximal tibia and fibula, proximal forearms, skull and spine.

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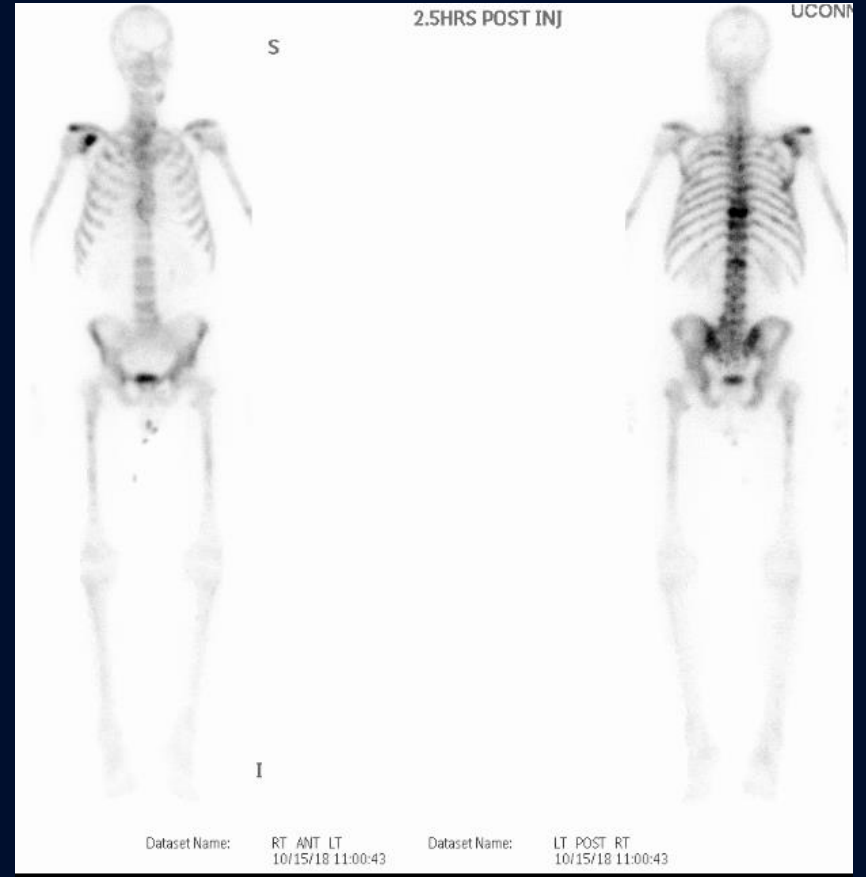
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Same patient's bone scan 4 months prior demonstrates several areas of metastatic disease, including the shoulders and proximal femurs. Note the absence of lesions in the lower legs and skull.

Metastatic prostate cancer

- Prostate cancer = most common malignancy in men
- Most common site of metastasis is bone, followed by lung, then liver
- Prostate cancer metastasizes to bone via hematogenous spread
- Most lesions are osteoblastic, but can be osteolytic or mixed

Superscan

Superscan: intense symmetric uptake of radiotracer by the skeletal system with relative decreased uptake by the bladder, kidneys, and soft tissues

Differential diagnosis for superscan:

- Metastatic disease (prostate, breast, transitional cell carcinoma)
- Metabolic bone disease (hyperparathyroidism, renal osteodystrophy, osteomalacia)
- Paget disease
- Myelofibrosis
- Acute renal failure
- Flare phenomenon: increased uptake by healing bones in response to treatment

Superscan

Different etiologies can result in different patterns of diffuse uptake

- Metastatic disease: irregular increased activity throughout both appendicular and axial skeleton
- Metabolic disease: smoother appearance of symmetric increased uptake, increased skull uptake. Uptake throughout the distal appendicular skeleton
- Flare phenomenon: increased uptake correlates with areas of sclerosis on radiograph, which are areas of healing

References

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