

Head and Neck Cancer Case Study #9

Clinical History

HISTORY OF PRESENT ILLNESS:

A 58 year old gentleman had previously undergone chemoradiation for a base of tongue squamous cell carcinoma. He had good response initially. However, at a follow-up eighteen months later, he was noted to have a recurrence. This was proven by biopsy, and he was referred for further evaluation. On examination, he was noted to have a 2 cm mass in his right base of tongue, as well as 40-pound weight loss.

HOSPITAL COURSE:

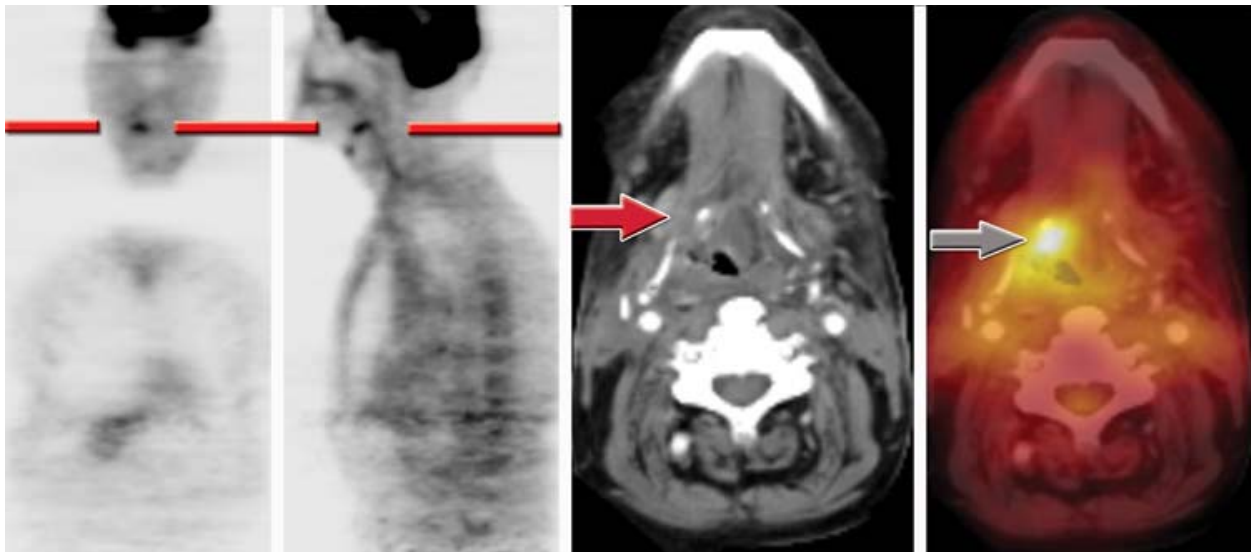
He was admitted to the hospital, where he underwent bilateral neck dissections, selective neck dissections, levels two and three bilaterally, as well as a transhyoid pharyngotomy for a resection of a right base of tongue squamous cell carcinoma. The procedure went without difficulty.

Post-operatively, the patient was admitted to the Head and Neck Unit, where he did extremely well in the postoperative period. He did not develop any medical complications over the first week. We observed him and started him on tube feeds. We did have some difficulty getting him to his goal of tube feeds as he had both severe reflux of his tube feeds as well as severe diarrhea; therefore, his NG tube was changed to a duo tube. This was placed into his proximal duodenum, and his feeds were resumed through there, which he tolerated well. By postoperative day number eight, he was swallowing some of his secretions; therefore, his cuff on his tracheostomy tube was deflated. He tolerated this well.

The following day, he was downsized to a #4 cuffless tracheostomy tube, and over the next two days, he was capped and his tracheostomy tube was removed at which point Speech Pathology was consulted. They worked with him to develop an adequate swallowing regimen. He did extremely well with full liquids and with a solid, mechanical diet. He was noted to have a small amount of wound separation approximately 2.5 cm in the midline just above his tracheostomy site. However, he did not have any evidence of a fistula at that point. He was, therefore, deemed stable for discharge.

Four months later he was referred for a PET•CT scan for further evaluation.

Imaging Findings*



INITIAL NUCLEAR MEDICINE PET•CT SCAN

RADIOPHARMACEUTICAL ADMINISTERED:
10.43mCi F18 FDG injected.

TECHNIQUE:

PET•CT imaging from the mid brain through the diaphragm. Measured blood glucose was 79.

FINDINGS:

There is focal, moderately increased FDG uptake in the upper portion of the right paraglottic fat in the right larynx, consistent with recurrent tumor. There is a slight increase of soft tissue around the right carotid sheath that shows only minimal uptake, most consistent with post-radiation changes.

IMPRESSION:

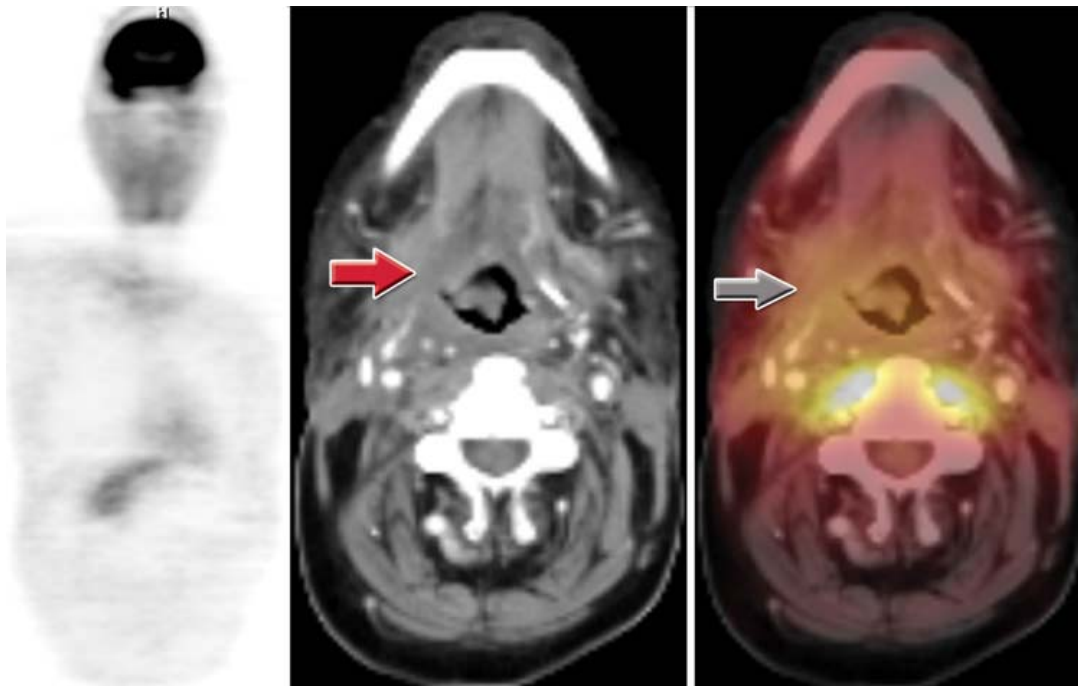
Moderately increased FDG uptake in the right paraglottic fat, consistent with recurrent tumor.

Differential Diagnosis

Post-treatment change.
Residual tumor.

Treatment

Radiation therapy.



FOLLOW-UP NUCLEAR MEDICINE PET PORTION OF PET•CT STUDY (7 weeks after completion of radiation therapy)

RADIOPHARMACEUTICAL ADMINISTERED:
15.8mCi F-18 FDG IV.

TECHNIQUE:

Emission scanning was performed extending from the top of the skull through the abdomen approximately one-hour post radiotracer injection. Images are reconstructed with and without attenuation correction using the CT attenuation coefficients. The blood glucose measurement was 94 mg/dl.

COMPARISON:

Prior PET CT scan four months prior.

FINDINGS:

The increased FDG uptake corresponding to the right paraspinal fat described and seen on the previous PET CT scan is no longer evident. There is no abnormal FDG uptake to suggest the presence of FDG avid malignancy on the current study.

IMPRESSION:

Negative for evidence for FDG avid malignancy.

Discussion

This case shows a nice example of a patient who appears to have responded well to radiation therapy. The follow up scan was performed 7 weeks after radiation. In general, we like to wait 6-8 weeks following radiation therapy to avoid a false positive study due to radiation induced inflammatory FDG uptake. If the radiation involves the lung, we typically wait 3-4 months because of the lung's increased sensitivity to the effects of radiation.

Although it appears that this patient had a good response to therapy because there is no residual uptake on the follow up exam, it is unclear what this means in terms of long term disease free survival and overall mortality.

Data courtesy of Dr. Todd Blodgett, University of Pittsburgh Medical Center

* Any of the protocols presented herein are for informational purposes and are not meant to substitute for clinician judgment in how best to use any medical devices. It is the clinician that makes all diagnostic determinations based upon education, learning and experience.