

MELANOMA & SKIN CANCER CENTER



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Surgical Management of Melanoma

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Although many skin lesions are easily managed in the office, there are a growing number of skin cancers which require multi-disciplinary treatment.

MELANOMA is a high risk neoplasm which requires thoughtful management at all times. Classically, the deeper the melanoma invades, the greater the risk for metastasis. However, our knowledge of this disease is dramatically and rapidly increasing. Fortunately there are new techniques which help physicians target those melanomas which pose a higher risk for patients.

SENTINEL LYMPH NODE BIOPSY: As per the American Joint Committee on Cancer (AJCC), any person with a melanoma of pathologic Stage IB or greater, benefits from physical assessment of the regional lymph nodes. This means that only a lesion of uncertain behavior (also known as dysplastic lesion); melanoma in situ; or melanoma less than 0.75-1.0mm depth without ulceration or elevated mitotic index can be managed by primary site excision alone. Presently, data strongly suggest that all other melanomas must be profiled to rule out a greater risk for metastasis, beyond just looking at the depth. Melanomas, even those less than 0.75mm depth, which have an elevated mitotic index warrant a regional sentinel lymph node biopsy in order to better predict potential for aggressive nature; and hence potentially provide adjuvant therapy. Additionally all melanomas greater than 0.75-1.0mm depth require sentinel lymph node biopsy to assess for potential microscopic metastatic disease. Of course, overall patient health will factor into therapeutic decisions as well.

REGRESSION: Some cancers, including melanoma, can undergo spontaneous regression due to the immune system literally attacking the neoplasm. The problem is that when there is evidence of significant regression (more than focal), the tumor may actually appear less deep on biopsy than it had actually been at its largest moment. That means that there may have been an opportunity for the tumor to metastasize before it decreased in size (regressed). Therefore, when there is more than focal regression, sentinel lymph node biopsy is an important tool to offer a patient to help determine prognosis.

MARGINS: Appropriate margins are critical in the treatment of melanoma. The AJCC recommends 1.0cm margins for superficial depth melanomas; 1-2cm margins for intermediate depth melanomas; and 2cm for deep melanomas. Achieving these margins may require skilled reconstruction; particularly in anatomically sensitive regions.

Importance of PET/CT in Melanoma Patients

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Malignant cells have increased metabolic activity, specifically increased glucose utilization. FDG (fluorodeoxyglucose) is taken up by cells with the same transport mechanism as glucose; additionally FDG undergoes similar phosphorylation in the cell forming FDG-6-phosphate. However, unlike glucose, FDG-6-phosphate does not undergo further metabolism and is therefore trapped in the cell. This trapping forms the basis of using FDG as an imaging agent.

FDG-PET is a powerful imaging tool; providing both quantitative and qualitative metabolic information in cancer patients. The combination of PET with CT, as performed at HackensackUMC Mountainside, enhances the interpretation of the PET metabolic data and provides additional anatomic information. PET has the ability to demonstrate abnormal metabolic activity at the molecular level in organs prior to gross morphologic changes detected on other routine cross-sectional imaging. PET is especially useful in the imaging of post-therapeutic patients following surgery or chemotherapy, as routine anatomic imaging can be complicated by post-operative changes and scarring.

In asymptomatic melanoma patients with clinical American Joint Committee on Cancer (AJCC) Stage I and II disease, there is general consensus that comprehensive whole body imaging is low yield. For these patients, surgical staging of the regional nodal basins at risk is performed using lymphatic mapping and sentinel lymph node biopsy.

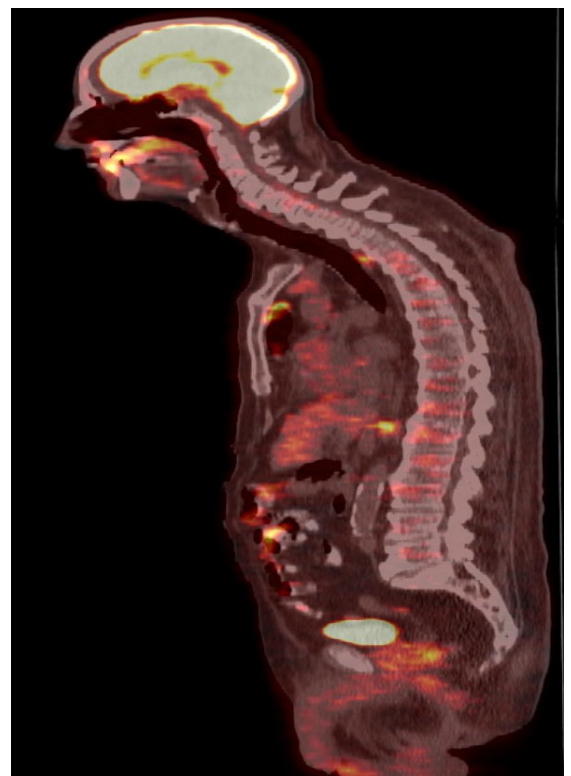
In melanoma patients with AJCC Stage III (metastatic to lymph nodes) and Stage IV (metastatic to distant organs), PET/CT is extremely useful. In a prospective study, Strobel et al. showed PET-CT with dedicated CT interpretation for depiction of metastatic disease demonstrated a sensitivity of 98% and specificity of 94%. In a large meta-analysis, Xing et al. combined 74 studies and 10,582 patients, comparing ultrasound, CT, PET alone, and PET-CT for distant metastases. PET-CT demonstrated the highest sensitivity and specificity for primary staging 80% and 87% respectively, and for surveillance 86% and 91%. An article by Krug et al. compiled 28 studies and 2905 patients demonstrating a sensitivity of 83% and specificity of 85% for initial staging of melanoma. A recent review article on imaging and staging of melanoma from authors at the MD Anderson Cancer Center, Patnana et al. state: "Whole-body surveillance of high-risk stage III and IV melanoma is most efficiently done by a combination of PET-CT and organ-specific MRI."

PET/CT has become an invaluable tool for patients with melanoma, aiding in the accurate staging of the disease which influences prognosis and management.

Illustrated at right:
PET/CT imaging as performed at HackensackUMC Mountainside.

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New Revolutionary Therapies Improve Outlook For Patients with Advanced Melanoma

John A. Conti, MD
Medical Director, Cancer Program

Advanced melanoma (melanoma which cannot be cured with surgery alone and has usually undergone metastasis) was previously one of the most difficult malignancies to manage with treatments that were often excessively toxic and minimally efficacious. Fortunately, the treatment landscape has vastly improved over the past four years with the introduction of seven new FDA approved drugs constituting either targeted therapies or novel forms of immunotherapies. These new treatments are resulting in: higher percentage of patients achieving tumor shrinkage; longer survival; and; in a small percentage of patients, complete tumor disappearance which may ultimately translate into cure.

Targeted therapy is the use of anticancer medications that seek the parts of cancer cells which make them unlike normal cells. Targeted medicines for melanoma work on gene products and other proteins in melanoma cells. Targeted therapies (as well as immunotherapy) differ from chemotherapy: They have dissimilar mechanisms of action; can be effective in malignancies where chemotherapy has traditionally been inactive (including melanoma) and; lack the typical chemotherapy side effects (although they have a side effect spectrum of their own). The newly approved targeted therapies focus on either the BRAF gene product or the related MEK protein, which interacts with the BRAF gene pathway.

Immunotherapy augments the body's own immune system in recognizing and attacking cancer cells, including melanoma. In melanoma and other malignancies, the way these medicines work is to shut off the body's normal "brakes" (technically called immune checkpoints). The new drugs are therefore classified as immune checkpoint inhibitors and currently there are two types available for clinical use: antibodies to the cytotoxic T-lymphocyte antigen-4 (CTLA-4) or antibodies to the programmed death receptor-1 (PD-1).

One of the many advantages of treating patients at the Melanoma and Skin Cancer Center at HackensackUMC Mountainside is that all of these cutting edge treatments are available.

WHY SEEK ANOTHER OPINION?

Physicians who participate in the Melanoma and Skin Cancer Center pledge to:

- treat patients with the most modern protocols available.
- maintain active continuing medical education in neoplasms of skin origin.
- maintain close communication with referring physicians at all times.

Call [973\) 429-SKIN \(7546\)](tel:973429SKIN) to schedule an appointment for your patient.

Role of Radiotherapy

Jose Barba, MD DABR

Medical Director, Virginia Harkness Sawtelle Department of Radiation Oncology
Chair, Radiation Energy Committee

Situated in an 11,000 square foot facility in the North Tower - with its own dedicated parking spaces on Bay Avenue and its own walk-in double height green glass pyramidal entrance - the HackensackUMC Mountainside Virginia Harkness Sawtelle Department of Radiation Oncology celebrated its 100th year in 2014.

The department is equipped with a CLINAC 21EX linear accelerator that has dual energy 6 and 18 MV photons, and multi-energy electrons for both deep-seated and cutaneous tumors.

New to our program, one of a few in the state, is SIRT (selective internal radiation therapy). This technology delivers radiation directly to the tumor or tumors in the liver by fluoroscopic embolization. This occurs via a catheter which is inserted into the hepatic artery and uses Yttrium 90 microspheres, which emit low energy beta particles that travel in a small area. This technique delivers up to 40 times more energy to the tumor than conventional radiotherapy while sparing normal healthy hepatic tissue. The patient goes home the same day of the procedure. Radioembolization is a safe therapy and has the potential for being an effective treatment for unresectable hepatic melanoma metastases refractory to other forms of systemic management.

Planned for the very near future is TrueBeam, a fully integrated system for IGRT (image-guided radiotherapy), SRS (stereotactic radiosurgery) and SBRT (stereotactic body radiotherapy).

Illustrated below:

Locally-advanced cutaneous anaplastic large cell lymphoma of the right thigh; successfully treated at HackensackUMC Mountainside by mixed photons and electrons.



QUESTION:

“Why should I refer patients to the HackensackUMC Mountainside Melanoma and Skin Cancer Center?”

- Upon calling the Center, patients will be appropriately triaged for rapid management.
- Nurse managers will make sure all required data are collected prior to any consultations.
- Patients will seamlessly see all needed specialists in one central location.
- Patients are paired with in-network providers at all times.
- Needed radiologic and serologic studies are obtained quickly at our facility.
- Patients are presented at Tumor Board to guarantee the most modern multi-disciplinary treatment is offered.

Call (973) 429-SKIN
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