

Ten Best Readings Relating to Melanoma

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Esteller M. Epigenetics in cancer. *N Engl J Med.* 2008;358(11):1148-1159.

This review article describes recent developments concerning the hypermethylation of the promoter regions of suspected tumor suppressor genes in various tumor histologies. It also highlights the molecular and (epi)genetic mechanisms involved in silencing gene expression with potential clinical applications for the utility of demethylating agents and histone deacetylase inhibitors.

Dahl C, Guldberg P. The genome and epigenome of malignant melanoma. *APMIS.* 2007;115(10):1161-1176.

Melanoma provides one of the best examples of how genomic analysis can lead to a better understanding of tumor biology. The authors review current knowledge of the genes involved in the development of melanoma and the molecular pathways in which these genes operate.

Wajapeyee N, Serra RW, Zhu X, et al. Oncogenic BRAF induces senescence and apoptosis through pathways mediated by the secreted protein IGFBP7. *Cell.* 2008;132(3):363-374.

Recombinant IGFBP7 (rIGFBP7) induces apoptosis in BRAFV600E-positive human melanoma cell lines, and systemically administered rIGFBP7 markedly suppresses growth of BRAFV600E-positive tumors in xenografted mice. Immunohistochemical analysis of human skin, nevi, and melanoma samples implicates loss of IGFBP7 expression as a critical step in melanoma genesis.

Morton DL, Thompson JF, Cochran AJ, et al. Sentinel-node biopsy or nodal observation in melanoma. *N Engl J Med.* 2006;355(13):1307-1317. Erratum in: *N Engl J Med.* 2006;355(18):1944.

The staging of intermediate-thickness (1.2 mm to 3.5 mm) primary melanomas according to the results of sentinel node biopsy provides important prognostic information and identifies patients with nodal metastases whose survival can be prolonged by immediate lymphadenectomy.

Thompson JF, Kam PC. Current status of isolated limb infusion with mild hyperthermia for melanoma. *Int J Hyperthermia.* 2008;24(3):219-225.

Isolated limb infusion with mild hyperthermia is an established alternative to hyperthermic isolated limb perfusion for patients with recurrent limb melanoma. It can also be used for patients with soft-tissue sarcomas and a variety of serious chronic dermatological conditions.

Reynolds HM, Dunbar PR, Uren RF, et al. Three-dimensional visualisation of lymphatic drainage

patterns in patients with cutaneous melanoma. *Lancet Oncol.* 2007;8(9):755-757.

Heat maps confirmed that the commonly used Sappey's lines are not effective in predicting lymphatic drainage. The heat maps and the interactive software could be a new resource for clinicians to use in preoperative discussions with patients with melanoma and other skin cancers that can metastasize to the lymph nodes, and they also could be used in the identification of sentinel lymph node fields during follow-up of such patients.

Ballo MT, Ross MI, Cormier JN, et al. Combined-modality therapy for patients with regional nodal metastases from melanoma. *Int J Radiat Oncol Biol Phys.* 2006;64(1):106-113. Epub 2005 Sep 22.

Although regional nodal disease can be satisfactorily controlled with lymphadenectomy and radiation, the risk of distant metastases and melanoma death remains high. A management approach to these patients is needed that accounts for the competing risks of distant metastases, regional failure, and long-term toxicity.

Hu S, Soza-Vento RM, Parker DF, et al. Comparison of stage at diagnosis of melanoma among Hispanic, black, and white patients in Miami-Dade County, Florida. *Arch Dermatol.* 2006;142(6):704-708.

Advanced stage of melanoma diagnosis among Hispanic and black patients suggests suboptimal secondary prevention efforts in minority populations.

Hu S, Ma F, Collado-Mesa F, et al. UV radiation, latitude, and melanoma in US Hispanics and blacks. *Arch Dermatol.* 2004;140(7):819-824.

Exposure to solar radiation appears to play a role in the development of melanoma in both Hispanics and blacks. Sun protection and melanoma risk education should be performed in these populations.

Paek SC, Griffith KA, Johnson TM, et al. The impact of factors beyond Breslow depth on predicting sentinel lymph node positivity in melanoma. *Cancer.* 2007;109(1):100-108.

Younger age, increasing mitotic rate (especially in younger patients), increasing Breslow depth (especially in older patients), angiolymphatic invasion, and trunk or lower extremity location of the primary tumor were associated with a greater likelihood of positive sentinel lymph node (SLN) status. The current results support the use of factors beyond Breslow depth to determine the risk of positive SLN status in patients with cutaneous melanoma.