Clinician Relates Thickness of Stage I Melanoma to Prognosis and Treatment

by Jesus E. Medina, MD, Department of Head and Neck Surgery


In the last four decades, the incidence of malignant melanoma has steadily increased, and it continues to do so. Approximately 20% of all malignant melanomas originate in the head and neck. The only proven curative treatment for a primary melanoma of the head and neck is surgical excision of the lesion before deep invasion into the dermis and lymph node metastasis have occurred. It is therefore imperative that the otolaryngologist and head and neck surgeon become acquainted with the biologic and clinical characteristics, as well as the specific treatment guidelines, of this rather capricious malignancy.

Melanomas of the head and neck usually occur between the fourth and sixth decades of life. Although rare during childhood and adolescence, melanomas of the head and neck in these age groups have the same biologic behavior as they do in adults and should be treated accordingly. Prolonged exposure to sunlight appears to play a role in the etiology of melanoma, especially in individuals with fair and freckled skin and light hair and eyes.

The clinical characteristics of early primary melanomas of the skin are far too diverse to be pathognomonic. A melanoma usually has irregular borders and an irregular surface, which may appear bumpy or scaly; the lesion may be one or more colors that vary from shades of pink to brown, dark blue, or black. Any pigmented lesion that has recently changed in size, color, or appearance or, more important, has begun bleeding or has developed satellites (small growths around the lesion) should be removed for diagnosis. An excisional rather than an incisional biopsy should be performed whenever possible so that the pathologist may scrutinize the entire lesion.

Once the diagnosis of melanoma is made, the extent of the disease must be estimated to plan appropriate treatment. The physician should determine the patient's general condition, the exact location of the lesion, the presence or absence of ulceration of the lesion, and any pigmentation that may indicate the presence of atypical melanocytes in the junction of the dermis and epidermis or satellite lesions in the surrounding skin. To determine the status of the cervical and regional lymphatics, the physician should carefully palpate the neck and the preauricular, retroauricular, suboccipital, or buccinator regions, depending upon the location of the primary tumor. Examination of patients with melanomas in the lateral and posterior aspects of the lower portion of the neck should include palpation of the axilla.

Besides an accurate histologic diagnosis, determination of the morphology, the anatomic level of invasion, and the actual thickness of the melanoma is important. The presence of inflammatory infiltrates at the base of the melanoma should also be noted.

The laboratory evaluation of each patient with malignant melanoma includes a complete blood count, determination of liver enzymes, and a chest radiograph. When the melanoma is thicker than 0.76 to 1.0 mm, liver, spleen, and brain scans are obtained. These tests not only allow proper staging of disease but also provide baseline values for future examinations. In the presence of palpable adenopathy, suggestive of metastatic melanoma, the initial evaluation may be extended to include computed tomographic (CT) scan of the lungs and brain and a bone scan.

The staging system for malignant melanoma currently in use at this institution is as follows: stage 0: melanoma confined to the epidermis; stage I: primary melanoma only (no metastasis); stage II: superficial regional lymph node metastasis; stage III: metastasis to regional lymph nodes; stage IV: distant metastasis.
Combination chemotherapy with nitrogen mustard, vincristine sulfate (Oncovin), procarbazine, and prednisone (MOPP) can effectively control the growth of brain tumors in infants and young children, according to a recent study at UT MDAH.

This finding is especially significant because no adequate treatment was previously available to large numbers of young children who had brain tumors. Brain tumors constitute one-third of all childhood cancers, the peak incidence occurring in children at 5 years of age.

According to Jan van Eys, MD, PhD, head of the Division of Pediatrics, who conducted the study, "Until recently, the prospects of treating children less than 5 years old with brain tumors were grim; if patients did survive, they were severely handicapped by the treatment." Conventional treatment has consisted of surgery and radiotherapy. After surgery for brain tumors, residual disease often exists. Wide margins cannot be taken around the tumor for fear of excising much normal brain tissue. To control residual disease, central nervous system radiotherapy is required. Central nervous system irradiation in very young children, however, often produces skeletal dwarfing and impairs intellectual functioning. In infants, brain irradiation frequently causes microcephaly, resulting in severe mental retardation. "If the skull does not grow the brain cannot grow, and intellectual development is stunted," Dr van Eys explained. "Consequently, we are especially reluctant to irradiate babies with the required doses."

Because recent studies have shown that chemotherapy alone does not retard physical or intellectual development in young children, Dr van Eys searched for a chemotherapy combination that would control brain tumor growth in this patient group until such children were old enough to receive salvage radiotherapy if required. Encouraged by results with MOPP chemotherapy as adjuvant treatment and salvage therapy for older children with brain tumors, Dr van Eys decided to use this combination as primary treatment or as adjuvant treatment after surgery in a group of children with brain tumors who were all less than 4 years old.

Of all drugs used to treat children with brain tumors, MOPP is the least toxic and yet has proven to be highly effective for various types of brain tumors, especially average-grade gliomas and medulloblastomas, which comprise 80% of all brain tumors in children. MOPP causes mild myelosuppression (the dose-limiting side effect) in comparison to that caused by cisplatin, another drug used for children with brain tumors. In addition, MOPP, unlike other drug combinations, does not induce vomiting in infants.

Fifteen patients were entered in the study, 6 boys and 9 girls. All patients had partial surgical excision of their tumors, either for tissue diagnosis or treatment; no patient had prior treatment other than surgery, neither radiotherapy nor chemotherapy. Patient ages were: 7 patients, less than 1 year old; 4 patients, between 1 and 2 years; 2 patients, between 2 and 3 years; and 2 patients, between 3 and 4 years. The types of tumors treated and the number of patients with each were: medulloblastoma, 6 patients; ependymoma, 3 patients; spinal cord astrocytoma, 3 patients; supratentorial astrocytoma, 1 patient; undifferentiated tumor, 1.

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Gene Probes Used in Leukemia Diagnosis

Researchers at UT MDAH have isolated gene probes shown to have diagnostic potential for chronic lymphocytic leukemia (CLL), acute lymphoblastic leukemia (ALL), chronic myelogenous leukemia (CML), acute myelogenous leukemia (AML), and possibly others.

Grady Saunders, PhD, Department of Biochemistry and Molecular Biology, and co-workers have produced these diagnostic probes using recombinant DNA technology; their goal is to find probes useful in the diagnosis and classification of all leukemias.

The ability to accurately diagnose the various types of leukemia is essential for the proper treatment of each. Most diagnostic tests are based on phenotypic differences among the cells of different leukemias. Subtle phenotypic changes, however, are many times impossible to detect, and diagnostic accuracy is thus precluded.

The more accurate gene probe method relies on fundamental genetic differences among the cells of various leukemias and normal cells. These genetic differences are apparent in the cells' messenger RNA populations. The messenger RNA carries instructions for making proteins from DNA to the protein-synthesizing machinery in the cytoplasm. Deviations in RNA instructions may cause abnormalities in cellular functioning and the production of neoplastic disease. These RNA instructions should be characteristic for each type of cancer, including each leukemia.

To produce a diagnostic probe to detect the RNA instructions of certain leukemias, a DNA copy of each messenger RNA molecule in a white blood cell from a leukemia patient is made. The first series of probes isolated at UT MDAH were made from the white blood cells of a CLL patient, and other probes have been made from CML cells. Recombinant DNA technology is then used to splice pieces of the DNA into the genes of bacteria. Each bacterium, grown separately, forms a clone of identical cells, each cell containing an exact copy of the original DNA. The clones are then amplified to provide the large quantities of DNA necessary for testing against normal cells and cells of various leukemias.

Identification of a diagnostic probe involves using single strands of the cloned DNA to find corresponding RNA in normal and leukemic cells. The cloned DNA is tagged with a radioactive label and then placed on a filter that contains immobilized RNA. Each bacterium, grown separately, forms a clone of identical cells, each cell containing an exact copy of the original DNA. The clones are then amplified to provide the large quantities of DNA necessary for testing against normal cells and cells of various leukemias.

RNA levels; however, no hybridization was detected in any of the other samples.

The C-A3 probe and others found to have diagnostic value are stored on filter paper in a "library" of diagnostic probes. Each will be made readily available for use in patients to identify their specific leukemias when the experimental phase of the project is complete. The original tagging method for developing a specific probe will also be used in making diagnoses.

In screening with gene probes, several have been found to be specific for two or three types of leukemia; in this case, in diagnostic testing, the tagging procedure can be repeated in cells of a particular leukemia using different probes. Through a process of elimination, the RNA expression pattern specific to one leukemia can be determined.

To date, at least 10 probes have been developed for use in diagnosing CLL, ALL, CML, and AML. According to Dr. Saunders, "The primary advantages of using these gene probes are their specificity and ability to identify leukemic cells in small numbers." Although still experimental, this method when used routinely in the diagnosis of leukemia patients should allow for accurate and early detection of disease at its onset and at recurrence.

(Physicians desiring additional information should write or call Grady Saunders, PhD, Department of Biochemistry and Molecular Biology, MDAH Box 117, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030 (713) 792-2690.—ED)
High potassium intake can significantly decrease one's cancer risk, according to a 10-year study conducted at UT MDAH. Birger Jansson, PhD, Department of Biomathematics, who conducted the study, has correlated low cancer rates with high environmental K concentrations and with a high intracellular K/Na ratio in individuals, as affected by diet, age, altitude, and hyperkalemic diseases.

The study was initially undertaken to find an explanation for the extremely low colorectal cancer rate in Seneca County, New York, which is located in the U.S. area with the highest colorectal cancer rate. In a preliminary study, conducted at UT MDAH for the National Large Bowel Cancer Project, that ranked the 3056 U.S. counties according to colorectal cancer rate, Seneca was found to have a rate 1000 ranks less than its neighbor counties. Seneca's total rate for all malignant neoplasms was also significantly lower than the rates of all New York counties.

The unique geochemical makeup of Seneca County was found to be the most probable explanation for its low rate. Seneca obtains its drinking water from two deep glacial lakes that penetrate the underlying salt strata, causing the sum of the concentrations of K and Na salts to be between 10 and 20 times higher than in other lakes in the state. Also, the K/Na ratio was found to be higher in Seneca's lakes than in other New York lakes. High K salt concentrations were thought to lower the cancer rate because of findings indicating the vital role of intracellular K salt in cellular functioning and in protection against cell damage caused by carcinogens. "Researchers believe that an intracellular imbalance of K and Na salts resulting in a surplus of Na and a K deficiency may lead to distortion of genetic information and ultimately to the formation of neoplasms," Dr Jansson explained.

Results obtained in Seneca County were confirmed in a nationwide study correlating environmental K salt concentrations with cancer rates of various U.S. areas. Cancer rates in areas with salt lakes or salt playas with high K concentrations were, without exception, lower than those of nonsalty areas. Utah, which contains the Great Salt Lake, has the lowest cancer rates in the U.S. The K salt concentration in this lake was found to be even higher than in Seneca's lakes, and the K/Na ratio three times higher than that of the lakes of Seneca.

Dr Jansson substantiated these findings by correlating the cancer rates of 20 countries with estimated total dietary intake of K and Na in each country. Data was obtained from the Organization for Economic Cooperation and Development, an international organization that records annual intake per capita of more than 100 food commodities for each of its member countries. Intake of Na positively and K negatively correlated with high cancer rates for all malignancies and sites of disease, and a high K/Na ratio was always associated with low cancer rates. The greatest correlations were inverse correlations between the K/Na ratio and breast cancer ($r = -0.80, p < 0.0001$) and the K/Na ratio and colorectal cancer ($r = -0.68, p < 0.0001$). Other dietary studies support these findings.

Increased incidence of breast cancer associated with high intake of polyunsaturated fat may also be explained by a low K/Na ratio in the body, Dr Jansson added. High intake of polyunsaturated fats has been found to increase intracellular Na and decrease K. Licorice, an additive widely used in tobacco products, is also a known potassium depleter and causes a decline in the intracellular K/Na ratio; licorice thus may contribute to the high cancer rate among smokers.

On the other hand, vitamins A and C, both anticarcinogens, have been found to increase the intracellular K/Na ratio. Low cancer rates have also been associated with high-fiber vegetarian diets comprised of vegetables and fruits often low in Na and high in K. According to Dr Jansson, vegetarians have a dietary K/Na ratio four times higher than that of meat eaters. With this evidence, Dr Jansson then speculated that the changes in the intracellular K/Na balance with age may contribute to increasing cancer rates in older populations. In aging, an inflow of Na into the cells and a corresponding cellular K reduction, and eventual excretion of K from the body, occurs. In fact, some researchers believe that cellular leakage of K may contribute to cell aging. Dr Jansson correlated cancer rates with total body K and with the total body K/Na ratio calculated for six age groups, 18 to 25, 25 to 35, 35 to 45, 45 to 55, 55 to 65, and 65 to 85 years. Data indicating total body K, including intracellular K (96% of total body K) and extracellular K (4% of total body K), and K/Na ratios for each age group were obtained from a related study. As expected, Dr Jansson found negative correlations; as cancer incidence increased with each older group, total body K and the K/Na ratio decreased. The correlation coefficient of cancer incidence and total body K in men was $-0.92$ and in women was $-0.89$; the correlation coefficient of the K/Na ratio and cancer rate was $-0.80$ for women; the information was not available for men.
Sodium Intake with Decreased Cancer Rates

To further substantiate his theory, Dr Jansson was able to correlate cancer rates with altitude, which affects the intracellular K/Na balance. The lower oxygen pressure at higher altitudes changes the acid base balance in cells of individuals causing a flow of extracellular K into the cells and an outflow of intracellular Na. This results in a more alkaline cellular acid base and a higher intracellular K/Na ratio than at sea level.

Dr Jansson compared cancer rates for various cancer sites in low and high elevation areas in the U.S. included in the Third National Cancer Survey (TNCS). The average of the rates for each cancer site in the eight low regions was divided by the rate in Colorado, the only high elevation area included in the TNCS. Most values were over 1, representing cancers for which the low areas had higher rates than the high area. Particularly high values were found for cancers of the mouth (men 1.47, women 1.31), esophagus (men 2.04, women 1.43), rectum (men 1.39, women 1.49), and lung (men 1.38, women 1.34). The high/low area values for all sites were 1.14 and 1.10 for men and women, respectively. Further calculations showed that cancer rates for the mouth, esophagus, lung, and larynx, organs most exposed to air pressure, are most dependent on elevation. "The difference in oxygen pressure between sea level and high altitudes is greatest in those organs most exposed; the difference gradually decreases as the air moves toward the venous blood," Dr Jansson explained.

Dr Jansson cited data from another researcher’s work, conducted in Papua, New Guinea, that clearly support his findings. Papua, New Guinea, is comprised of a highland area, in which no one lives below an altitude of 1,600 m, and a lowland area, reaching from sea level to about 1,300 m. Although diet is the same in both the highlands and lowlands and the percentage of persons older than 45 is greater in the highlands, the overall cancer incidence rate in the lowlands for men is 2.5 and for women is 2.0 times higher than in the highlands. For oral and respiratory cancers, the incidence rates in the lowlands are 10 times higher for males and 7 times higher for females than in the highlands. Results from other geographic locations support these findings.

Certain diseases affecting the intracellular K/Na ratio are also associated with cancer risk. In a study of patients with Parkinson’s disease, a hyperkalemic disease, Dr Jansson discovered that among 406 patients only 9 men and 9 women developed cancer (p <0.0001, nonmelanoma skin cancers excepted); 10 developed nonmelanoma skin cancer (p <0.0001), and 65 developed benign tumors. In a study of Addison’s disease, a hyperkalemic-hyponatraemic disease, no incidence of cancer occurred out of a total population of 108 patients (p <0.01). Schizophrenia, another hyperkalemic disease, has also been related to a low incidence of cancer.

In contrast, Cushing’s syndrome, a hypokalemic disease, is associated with cancer of the lung, pancreas, thymus, ovary, and thyroid, as well as tumors of the pituitary and adrenal glands. Crohn’s disease, another hypokalemic disease, increases the risk of intestinal cancer. Alcoholism may increase the risk of cancer because it causes hypertension, which results in a low intracellular K/Na ratio. Patients with diabetes have total body K levels 10 to 20% below normal levels; these patients have also been reported to be at increased risk for pancreatic cancer. Other hypokalemic diseases associated with increased cancer risk are renal disease, osteoporosis, obesity, and cirrhosis.

Dr Jansson cited several animal experiments that have validated the above findings. In one experiment, when KCSN (potassium thiocyanate) was added to the drinking water of mice, it reduced mammary neoplasms from 50% to less than 20%. In another study, KCl added to the drinking water of rats that were challenged by the carcinogen 1,2-dimethylhydrazine reduced colon tumor incidence by 29% and small intestine tumors by 87% (p = 0.0001).

It has also been found that in populations of individuals who practice two independent carcinogenic activities such as smoking and drinking the effect on the cancer rate is synergistic rather than additive. Even if the intracellular K/Na concentration in individuals is a linear function of the dose of each one of the carcinogenic agents, the effect, the cancer rate, grows faster than linearly.

This study should provide some indication why certain diets, geographical areas, and diseases are associated with high cancer rates. Such information may prove useful in understanding the etiology of cancer and in finding ways to prevent the disease, Dr. Jansson said.

(Physicians desiring additional information should write or call Birger Jansson, PhD, Department of Biomathematics, MDAH Box 6, The University of Texas M. D. Anderson Hospital and Tumor Institute at Houston, 6723 Bertner Avenue, Houston, Texas 77030 (713) 792-3392.—ED)
Melanoma . . .

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including an intact primary lesion or multiple primary lesions; stage II: local recurrence, defined as recurring melanotic lesions within 3 cm of the primary site (satellitosis); stage III: regional metastasis involving intradermal lesions 3 cm from the primary site, with or without regional nodal disease; stage IV: distant hematogenous metastasis, including cutaneous, visceral, or nodal disease or a combination of the above.

For many years, treatment of the patient with stage I malignant melanoma has been controversial. The controversy concerns the extent of the excision of the primary lesion and the indications for elective node dissection.

Information accumulated in the literature over the past 14 years has allowed us to recognize, within the broad category of stage I melanomas, several subgroups of melanomas that have similar behavioral characteristics and similar prognostic indicators. From these data, guidelines for the treatment of stage I disease have evolved that are currently in use at UT MDAH and other institutions. These guidelines relate actual thickness of stage I tumors to prognosis and to the need for elective cervical lymph node dissection. Other factors, such as tumor location, tumor ulceration, and anatomic level of invasion are also taken into account.

Patients with a melanoma less than 0.76-mm thick have a good prognosis, regardless of the location of the lesion. Treatment of these patients consists of adequate excision of the primary lesion alone. A regional lymph node dissection is not indicated.

Less than 20% of patients with melanomas 0.76- to 1.50-mm thick develop regional lymph node metastasis. Therefore, the recommended treatment for this group is adequate surgical excision of the primary lesion and observation of the regional lymphatics. However, the following characteristics of these relatively thin lesions have been associated with more aggressive tumor behavior and a worse prognosis: location of the lesion in the posterior aspect of the scalp or the neck, ulceration of the lesion, nodular configuration of the melanoma, and melanoma invasion of the reticular dermis or deeper areas. Whenever one or more of these factors is present, elective regional node dissection is performed, provided that the general condition of the patient is good and the lymph nodes at risk of involvement are predictable.

Patients with melanomas 1.51- to 4.0-mm thick have a higher incidence of regional lymph node metastasis, yet the incidence of systemic metastasis is fairly low. All studies suggest that this group of melanoma patients benefits the most from elective node dissection. Therefore, our treatment for these patients consists of adequate surgical excision of the primary lesion and regional node dissection.

Patients whose melanomas are thicker than 4.0 mm have poor prognoses. Distant metastasis develops in a high percentage of the patients. The organs most commonly involved are the lung, bone, and brain. To improve prognosis, therapy for these patients should be aimed at controlling systemic disease with adjuvant chemotherapy, immunotherapy, or both after surgical excision of the primary tumor. Although elective regional node dissection is not likely to influence the patient's survival, it may be justified as a staging procedure.

An adequate surgical excision of a primary melanoma should remove the entire lesion and any areas of junctional activity or melanoma in situ. The extent of surgical resection depends on the location and size of the lesion, the condition of the skin around it, and the judgment of the surgeon. The extent of regional lymph node dissection also depends upon the location of the primary lesion.

Patients who develop stage II melanomas have local disease or dermal metastases within 3 cm of the primary tumor, which has usually been removed previously. After the presence of distant metastasis has been reasonably excluded, the area of recurrence is widely excised. Elective cervical node dissection is performed when the lesion is laterally located and the direction of nodal drainage is predictable.

The treatment of disseminated melanoma has generally been unsuccessful. Dimethyltriazenoimidazole carboxamide (DTIC) . . .
MOPP Chemotherapy...

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patient; and neuroectodermal neoplasm, 1 patient. The spinal fluid was found to contain tumor cells in 4 patients, but no patient had bone marrow invasion, skeletal lesions, or extra-axial metastasis.

All patients were given MOPP chemotherapy once every 4 weeks on the following dose schedule: nitrogen mustard, 6 mg/m² of body surface area intravenously on days 1 and 8; vincristine, 1.4 mg/m² intravenously on days 1 and 8; procarbazine, 50 mg/m² orally on day 1 and 100 mg/m² orally per day from days 2 to 10; and prednisone, 40 mg/m² orally per day from days 1 to 10 tapered off to zero dosage over the following 3 days. In infants under 6 months and in those suffering side effects, the first course was adjusted downward to 50%.

The categories and criteria for response to MOPP were: 1) unequivocal response—anatomical evidence of tumor regression of at least 50% as determined by computed tomographic (CT) scan (in those patients whose bulk tumors were not surgically excised); absence of dependence on dexamethasone, a steroid used for brain edema caused by brain tumors; and neurologic improvement as determined by physical examination. Sustained response for each criterion was required for at least 3 months; 2) probable response—improvement of two of the three criteria above and stabilization of the third, again with sustained response for 3 or more months; 3) no response—progression of signs and symptoms and continued steroid dependence, or response for less than 3 months.

Seventy-three percent (11 of 15 patients) of the patients responded to treatment. Five patients achieved unequivocal response, and 6 patients, who subsequently suffered relapse (occurring from 7 months to 3 years after treatment), achieved probable response. Four patients exhibited no response to treatment. All nonresponding patients and those suffering relapse after MOPP treatment received either radiotherapy or cisplatin, depending on the age of each child.

At the last follow-up (1-31-84), 5 patients had died of their disease within 2 years of treatment: 2 of the 6 patients suffering relapse after MOPP chemotherapy and 3 of the 4 nonresponding patients. Ten patients (entered in the study at various times) with survivals ranging from 8 months to 8 years were alive. Survival was determined in each patient from the time MOPP chemotherapy was administered to the time of last follow-up. Survival times for these 10 patients are: 0 to 1 year, 1 patient who has achieved unequivocal response; 1 to 2 years, 4 patients, 2 having unequivocal response; 2 to 3 years, 3 patients; 3 to 4 years, no patient; 4 to 5 years, 1 patient who has achieved unequivocal response; and 5 or more years, 1 patient having unequivocal response. These findings imply that MOPP chemotherapy is able to control the growth of brain tumors in a substantial number of infants and young children for prolonged periods.

The side effects of the MOPP chemotherapy regimen used in this study have been minimal. The majority of children suffered mild myelosuppression, alopecia, and nausea; those over 2 years of age experienced vomiting. The primary side effect of MOPP in the treatment of other malignancies has been the occurrence of second malignancies. In this study, 1 patient suffered acute myelogenous leukemia after therapy. However, Dr. van Eys said, the second malignancy occurred so soon after treatment that chemotherapy was probably not the cause. In addition, recent psychological testing has shown that intellectual functioning in these children was not impaired by the MOPP treatment.

The results of this study show that MOPP chemotherapy in young children with brain tumors can effectively delay, and in some cases may even preclude, the necessity for salvage radiotherapy. As Dr. van Eys explained, "We have taken a giant step forward; for the first time, we have a rational organized approach to the treatment of infants and young children with brain tumors."

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Melanoma...
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has been associated with a definite antitumor response in only 14
to 25% of these patients. Although the median survival for
responders is 4 to 5 months longer than for nonresponders, the
median survival for all treated patients is 3.5 to 4.5 months.
The addition of other antitumor agents has not substantially improved
the response rate or survival of patients with stage IV melanoma
over that achieved with DTIC. Certainly, the poor prognosis and
lack of effective treatment for patients with stage IV melanoma
encourage the investigation of new agents with possible activity
against this tumor. At UT MDAH, the effectiveness of such drugs
as bisantrene, homoharringtonin, and interferon is currently being
evaluated.

Melanomas that originate in the mucosal surfaces of the upper
aerodigestive tract represent approximately 7% of all melanomas
of the head and neck. The anterior nasal septum, the palate, and
the alveolar ridges are the most common sites of disease origin.
Although regional lymph node metastasis occurs in only 20 to
25% of patients, the prognoses in most cases are dismal. Less
than 30% of them survive longer than 5 years. The pattern of
failure is usually that of local recurrence followed by systemic
metastasis. Our treatment of these patients consists of surgical
excision of the primary lesion. Elective cervical lymph node
dissection is not recommended. Given their unfavorable prog­
noses, these patients should be considered for experimental
adjuvant treatment with radiation therapy, systemic chemotherapy,
or both.

Because of the high incidence of distant metastases in patients
with malignant melanoma, many studies of adjuvant therapy
immediately following primary treatment have been reported
recently. A number of investigators have used adjuvant immuno­
therapy with bacillus Calmette-Guerin vaccine and levamisole.
The results have been discouraging. However, the use of specific
immunotherapy with viral oncolysates as adjunctive therapy in
patients with malignant melanoma appears promising. Research­
ers have recently reported excellent results using a Newcastle
disease virus lysate of malignant melanoma cells, following
therapeutic lymphadenectomy, in a group of patients with clini­
cally palpable lymph node metastasis (stage III melanoma).
Although this was not a prospective randomized study, the
results have been striking; therefore, this technique merits further
evaluation. At UT MDAH, we are currently investigating as
adjuvant therapy vitamin A and its derivatives, the retinoids,
which have an inhibitory effect on melanoma cells in vitro, as well
as a possible antineoplastic effect in vivo.

Finally, the potential role of radiation as adjuvant therapy after
surgery in the local-regional control of malignant melanoma is
currently undergoing re-evaluation. Historically, malignant melano­
ma has been considered a radioresistant tumor. However,
several recent experimental and clinical studies have suggested
that radiation has a better effect on malignant melanoma cells
when given in a few large-dose fractions (> 500 rad) instead of
the conventional dose fractionation of daily doses of approxi­
mately 200 rad.

In spite of these recent advances, melanoma continues to be a
highly lethal disease. Because cure is certain only for those
patients with superficial tumors, early diagnosis and treatment of
melanoma is of primary concern to all physicians. Improvement in
the outlook for patients with melanoma also depends upon
increased public awareness of early signs of the disease.
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Cancer Rehabilitation
Covered in New Book

Cancer Rehabilitation, edited by Albert E. Gunn, MB, BCh,
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as the conceptual foundations of cancer rehabilitation are cov­
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The book stresses the importance of a rehabilitation program
gear ed to the patient's immediate and varied needs. Topics
covered in depth include sexual rehabilitation, psychiatric care,
nutritional support, enterostomal therapy, home hyperalimenta­
tion, speech pathology, and pain control. Chapters on the
rehabilitation of patients with head and neck cancer and with
laryngectomies are also included.