

Management of Cutaneous Malignancy— A Review

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Skin cancer is the most frequent type of cancer, accounting for about 20% of all cancers in the State of Virginia, and the most common type of skin cancer is the basal cell carcinoma. The basal cell carcinoma is a tumor which is not considered highly malignant because, in general, it does not metastasize, although there have been a few instances in which metastases have occurred. However, such lesions may be quite destructive at times. The typical basal cell carcinoma presents as a waxy, papular or nodular lesion which has a gelatinous or somewhat translucent appearance. Coursing across the surface from the normal skin toward the center of the lesion, one will often see fine telangiectatic vessels. At times the lesions may be somewhat deceptive because of their location, and this is particularly true in the inner canthus where they may be missed until they are fairly large. Some basal cell carcinomas will remain relatively quiescent for long periods of time; others will become much more aggressive and grow rapidly. The tumor may, at times, be much like an iceberg with only the tip appearing, and this is particularly a problem with lesions on the nose. In treating a lesion in this location one has to be very cautious and be prepared to perform grafting, if this is required. It may, at times, be difficult to differentiate a basal cell carcinoma from small lesions which we call sebaceous adenomas, which occur frequently on the faces of elderly individuals. These are small waxy, creamy elevations usually on the forehead and they are the result of hyperplasia of sebaceous follicles.

Basal cell carcinomas are occasionally quite

atypical. The so-called superficial basal cell carcinoma often looks very much like an eczematous process. One could easily mistake such a lesion for psoriasis or nummular eczema. However, at the edge of such a lesion one will see the small thread-like, pearly or waxy border. Bowen's disease also may look very much like superficial basal cell carcinoma, but it is, in fact, an in situ squamous cell carcinoma. Another atypical type of basal cell carcinoma is the morphea-like or sclerosing basal cell carcinoma. As the tumor extends at the periphery, scarring will take place in the center, and the center of the lesion will actually disappear and be replaced by scar tissue. It is often not recognized that basal cell carcinomas may have a considerable amount of pigment. The pigmented basal cell carcinoma may be very difficult to differentiate from a malignant melanoma because it has many of the characteristics that we associate with malignant melanoma, such as pseudopods of pigment.

At times we see individuals who have a very extensive process in which many hundreds of basal cell carcinomas may occur, starting oftentimes in childhood, and continuing with development of new lesions, into adult life. Most of these individuals do not survive to late adult life because of the severity of this process. In addition to the presence of these basal cell carcinomas, there are other features which allow us to make a diagnosis of the nevoid basal cell carcinoma syndrome. Individuals with this condition have frontal bossing, lantern jaw, and appear grotesque. They may have jaw cysts, abnormalities of the ribs such as bifid ribs, and small pits on the palms and soles.

Treatment of basal cell carcinoma is quite var-

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ied. Lesions can be excised surgically, are amenable to x-ray therapy, and may be adequately treated by electro-desiccation and curettage. The recommended way to use this latter modality is to desiccate the lesion, curette it and then repeat the same procedure with a final light desiccation to control bleeding. If this is done properly, the cure rate should approach 95% to 98%, and this is as good as one can get with any form of management. Many dermatologists now are turning to the use of cryosurgery, liquid nitrogen in particular, for treatment of basal cell carcinomas. One may use a large cryotherapy unit with either a probe or spray, and the recommended treatment is to insert thermocouples beneath the skin at approximately the base of the tumor. The lesion should then be frozen to the point where the temperature registered by the thermocouples is -20°C , and this temperature should be maintained for approximately one to two minutes with a very slow thaw. With this type of approach, the cure rate should be very high.

For the last four years I have been treating the majority of basal cell carcinomas with a method which combines cryo- and chemotherapy. It is known that topical 5-fluorouracil has significant destructive effects on various cutaneous tumors. Unfortunately, application of 5-fluorouracil alone to a basal cell carcinoma has been ineffective, probably because the surface epithelium overlying the tumor is intact. My rationale is to combine cryotherapy with subsequent application of 5-fluorouracil so that one destroys the overlying epidermis and a portion of the tumor, thereby allowing the 5-fluorouracil to penetrate into the depths of the lesion and destroy any pseudopods of tumor which might persist. With this approach one can apply the liquid nitrogen on a cotton-tipped applicator stick to the lesion for a period of perhaps one to two minutes. While the lesion is frozen, we take a small curette and simply scoop out a small portion of the tumor for histologic verification (no local anesthesia is needed). Bleeding afterwards can be controlled by application of aluminum chloride. The patient commences that evening, and twice a day thereafter, application of topical 5-fluorouracil in the form of 5% Efudex[®] ointment to the lesion. I usually have the patient cover the site with an occlusive Blenderm[®] tape dressing. Treatment is continued for a period of two to three weeks, depending upon the depth and size of the lesion. With this treatment I have treated perhaps 400 to 500 such lesions in the last four years. The cosmetic result is superb and the

amount of recurrence is no more than one would expect to see with the other more conventional modalities.

Epidermoid or squamous cell carcinoma is the second most common type of skin cancer. Most such lesions arise from sun-damaged skin. The association of squamous cell carcinoma and actinic exposure is very well appreciated, and we think that the actinic keratosis or cutaneous horn is oftentimes a precursor. Squamous cell carcinoma arising from actinic keratoses is a much less aggressive tumor than other types of squamous cell carcinoma, often remaining well confined to a localized area for a long period of time, being slow to metastasize and quite amenable to treatment by cryosurgery, electro-desiccation, surgery, or radiation therapy. Surgery is probably the best-accepted treatment for such lesions. When squamous cell carcinoma arises in pre-existing dermatoses, long-standing ulcers, burn scars or sites of old radiation dermatitis, which is not a rare sequence of events, the lesion is much more aggressive, more apt to be anaplastic, metastasize early, and has to be treated, therefore, in a much more aggressive fashion. If one encounters an area of chronic ulceration (stasis, decubitus, burn) which does not show signs of healing, it is very important to consider a biopsy to be sure that one is not dealing with such a tumor.

Bowen's disease, a form of in situ squamous cell carcinoma, is a disorder which may be very slow to change and it may be present for many months or years without undergoing rapid enlargement or without becoming an invasive carcinoma. Most of these lesions will probably become invasive if they are allowed to remain in place indefinitely. Lesions of this sort are very amenable to treatment with cryotherapy and topical 5-fluorouracil, or in some instances, the use of topical 5-fluorouracil alone. They should be biopsied and followed carefully to be sure that all of the lesion is removed.

There is a condition we call keratoacanthoma which looks clinically very much like squamous cell carcinoma. Microscopically, as well, it may be somewhat difficult for the histopathologist to differentiate such lesions from squamous cell carcinoma unless he has the entire specimen or very adequate specimen. The one feature about keratoacanthoma which is so distinctive is its rapid growth. A lesion may attain a size of 1 to 2 cm in a period of three to four weeks. Characteristically, the lesion exhibits a heaped-up or rounded border with a central horny plug. Occasionally, one will see multiple lesions of keratoacan-

thoma. Keratoacanthoma is called a benign, self-healing epithelioma and it is true that most such lesions, if left alone, will heal spontaneously. Unfortunately, the scar that results when they heal spontaneously is often not a satisfactory one and a more suitable cosmetic result is obtained if these are excised or treated with one or another modality. In addition, there have been a few instances in which keratoacanthoma seems to have progressed to the development of squamous cell carcinoma, and even occasionally into a metastatic squamous cell carcinoma. Keratoacanthomas are usually treated by excision. They can also be treated by electro-desiccation and curettage, but unfortunately, with such treatment, one does not have an adequate specimen. I now freeze such lesions with liquid nitrogen and, while they are frozen, shave-excise a major portion of the lesion for a pathologic specimen. I then have the patient apply topical 5-fluorouracil and an occlusive dressing as with a basal cell carcinoma. The end cosmetic results are very good.

About 2% to 3% of internal malignancies may metastasize to the skin. Recognition of these lesions, of course, may allow one to make an early diagnosis of an internal malignant process. Characteristically, metastatic carcinoma is stony hard to palpation rather than doughy or rubbery like a sebaceous cyst or lipoma. The color may be normal skin color or various shades of brown, pink, or red. At times these lesions appear to be very vascular. When they occur on the scalp, which is not an infrequent site, the hair overlying such lesions is lost. In general, the incidence of metastasis from an underlying malignancy parallels the incidence of these tumors in the population. In other words, the two most common tumors to metastasize to the skin are the two most common tumors in the population—carcinoma of the breast in females and carcinoma of the lung in the male. Metastasis to the skin of an internal tumor generally takes place in relative proximity to the site of the tumor. A pelvic tumor might, therefore, be expected to metastasize to the perineum, a carcinoma of the lung may metastasize to the chest wall. They may metastasize either by the blood, along the lymphatic channels, by implantation at the time of surgery, or by actual growth of the tumor in underlying tissues out to the skin, presenting there as a nodule.

Malignant melanoma is the most malignant of skin tumors and it is important to realize that 50% of malignant melanomas arise de novo rather than in pre-existing nevi. The average individual has

between 20 and 40 pigmented lesions on the skin so it is a total impossibility to remove all such lesions. Some textbooks state that all pigmented lesions on the hands, the feet, and genitalia should be removed. This is due to the fact that lesions in this location are largely junctional in nature, and we know that malignant melanoma arises most often from junctional lesions. It is now known that one out of five individuals has a pigmented lesion on the hands, feet, and genitalia and, therefore, in order to prevent one malignant melanoma, one would have to remove 10,000 such lesions: obviously an impracticality. On areas of the hands and feet subjected to significant degrees of pressure or friction, pigmented lesions probably deserve removal. We have all heard the statement that moles that are on areas subject to friction from clothing should be removed. There is very little really good evidence to substantiate this concept. In order to establish any real association, one would have to do a comprehensive, prospective study to really determine whether rubbing from clothing is enough to cause lesions to become malignant. We do at times remove such lesions if the patient shows an obvious concern, but I am not inclined to remove them simply because I am worried about malignancy in general.

Lesions which are dome-shaped, uniform in color, lightly colored brown, tan or skin colored, with well defined edges, are usually benign. Variation in color is probably one of the most significant and important features which would cause us to be suspicious of malignant melanoma. Small blackish areas occurring in a nevus which has been uniformly colored previously, and particularly blue-black coloration, is highly suspicious. Not all black coloration of a nevus will be due to dark discoloration in the depths of the lesion, however, and many times dark keratinous material may accumulate on the surface in little crypts to form black plugs. Lesions which show pseudopods of pigment at the edge, or the edges of which are irregular and indistinct, may be active lesions and should definitely be removed. Lesions with alternating color, perhaps even hypopigmentation at times, probably should be removed.

Lesions arising in the proximal nail fold which disperse pigment into the nail plate itself, producing longitudinal pigmented bands, may indicate the presence of a pigmented nevus in the matrix of the nail. Such lesions occurring in Caucasians should all be removed, but pigmented bands in the nails of black individuals are common and usually benign. Pigmented lesions on mucus membranes or transitional

mucosal surfaces should be removed because they have a high incidence of malignant alteration. Occasionally, one will see a so-called bathing trunk nevus, often quite large and hairy as well as pigmented. Malignant melanoma occurring prior to the age of puberty is a very uncommon circumstance, but when it occurs, a number of melanomas have arisen in such large nevi. Sometimes these bathing trunk nevi cover 75% to 80% of the body surface, and it is very difficult to remove the entire lesion, but as much as can be removed with suitable grafting should be accomplished as early in life as possible.

Lentigo maligna is a lesion which occurs mostly in older individuals, frequently on the face, and characteristically will be present for many years, very slowly growing at the edge, oftentimes with a grayish or slate color. There may be a significant degree of pigment variability from one area to another. After a period of many months or years the lesion may develop very dark or jet-black areas or a small nodule. When this happens, the lesion, which was previously benign, has crossed the border into the malignant category. It is important to recognize that the melanoma that arises in such lesions is a much less aggressive type of melanoma than that which arises in the average pigmented mole. It will metastasize first to the regional nodes and often fairly late in the course, whereas malignant melanoma of the usual type may bypass the regional nodes and metastasize early to distant sites. Lentigo maligna can be treated by simple excision or by cryotherapy, if malignancy is

not present. A biopsy should be done of the most suspicious areas before one uses cryotherapy to confirm the fact that one is not dealing with a malignant process.

Two other special lesions should be mentioned in conclusion. The blue nevus because of its blue color may be mistaken for a melanoma. It occurs most often on the distal extremities and usually by the time the patient is seen he may have had it for many years. If a patient comes in with a lesion such as this, of recent onset, we might be suspicious that it is a blue nevus, but because we cannot always be sure that it is not a malignant melanoma, we remove a small number of benign blue nevi. Blue nevi may occasionally become malignant, but this is certainly an unusual circumstance. The halo nevus is essentially a benign nevus about which a halo of depigmentation arises usually in the process of autodestruction of the nevus. Generally speaking, we do not advocate removal of the lesions because we know that most of them will not become malignant. Occasionally, malignant melanoma may have a surrounding halo of depigmentation and thus each such lesion should be carefully examined. If you do remove a halo nevus, be sure to tell the pathologist that this is a lesion that you suspect of being a halo nevus, because microscopically such lesions have an intense inflammatory response around them, and the inexperienced pathologist looking at such a lesion may misinterpret this as evidence for a melanoma.