

Merkle Cell Carcinoma

Introduction

Merkel Cell Carcinoma is a rare, aggressive form of skin cancer that has a high risk of recurring and metastasizing that appears as a flesh or blueish color. It affects close to the nerve endings on the top layer of the skin and the sensation of touch. This form of cancer is most common in adults over the age of 50, but can affect any age. This carcinoma is forty times more rare than melanoma and has only an average of 2,500 cases in the United States. The survival rate is low as one in every three cases pass.

Causes and Symptoms

One of the major risk factors includes immune suppression. When the immune system is low from other infections, diseases, or medications there is a higher chance of developing Merkel cell carcinoma. Another cause is a high amount of UV light exposure as most cases begin in an area which is often excessively exposed. New growths or lumps develop on the skin usually near the lymph nodes on the head, neck and chest. The growth is rapid and metastasizes quickly.

Review of Carcinoma Treatments	
Term:	Definition:
Radiation Therapy	The use of high-energy radiation from x-rays, gamma rays, neutrons, protons, and other sources to kill cancer cells and shrink tumors. Radiation may come from a machine outside the body (external-beam radiation therapy),
Surgery	The treatment of injuries of disorders of the body by incision or manipulation, especially with instruments.
Chemotherapy	Treatment that uses drugs to stop the growth of cancer cells, this is done by either killing the cells or by stopping them from dividing. This type of treatment may be given by injection, oral, infusion, or on the skin.
Immunotherapy	Therapy that uses substances to stimulate or suppress the immune system to help the body fight cancer and infections.

Chart 1. Correlation of treatment for Merkel Carcinoma

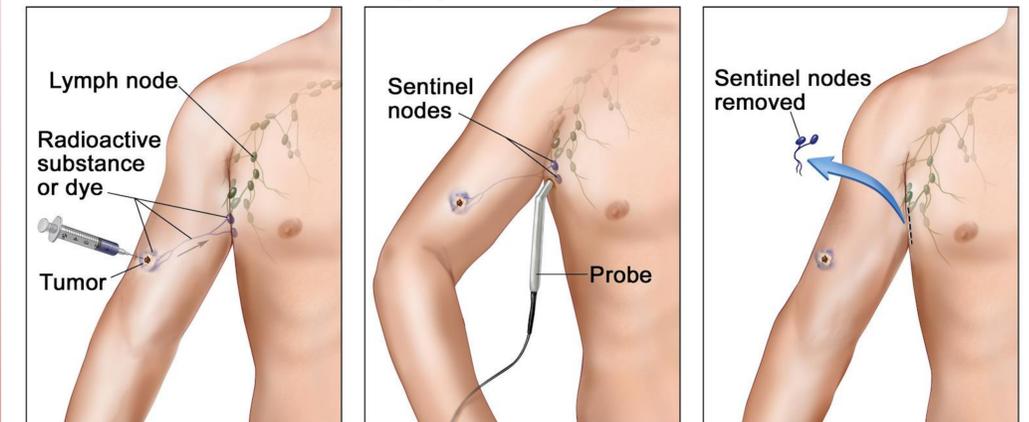
Diagnosis and Stages

The Diagnostic Stage begins with a physical examination of the patient by a physician, checking the surface of the skin for any lumps. Medical staff also looks into a patient's health history and habits. If a growth is detected, they will continue with a skin biopsy of the area to check if it is cancerous. If results are positive, the cancer is staged using CT, PET, and a Lymph Node Biopsy (See Image 2) ¹. Depending on physician preference, many different diagnostic modalities can be used to stage the carcinoma. The stages run from Stage 0- Stage IV, depending on the size of the tumor, area affected, and metastases. Stage 0 is under control and the cancer is only present in the top layer of the skin. When the tumor is 2cm or smaller. Stage III is divided into two subcategories IIIA and IIIB, where A is not felt in the physical exam of lymph nodes and B can be palpated. The final stage, Stage IV, is when the cancer has spread to skin or organs that are not near the beginning area.

Treatment and Prevention

Treatment will depend on the stage of the carcinoma and what is best for each patient. Physicians choose between Surgery, Radiation Therapy, Chemotherapy, and Immunotherapy (See Chart 1) ¹. Depending on the stage, the patient may have the option to participate in new clinical trials that are being tested for this specific type of carcinoma. Treatment can cause several side effects and be very rough for them to go through. Prevention of this cancer can begin with UV protection. Using sunscreen with a high SPF and eye protectives when in the sun in the hours of 10 am-4pm. Physical exams or checking the skin for any new growths or unknown lumps quite often can help prevent any form to develop.

Sentinel Lymph Node Biopsy of the Skin



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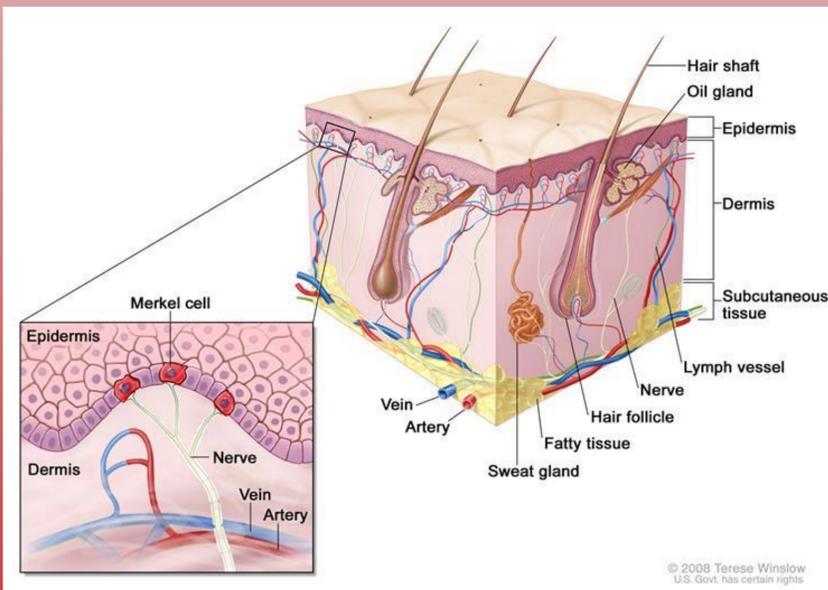
Image 2: An example diagram of how the lymph nodes affected by Merkel cell carcinoma are removed. ¹

Conclusion:

With this you can see the importance of proper skin care and why it is very important to wear sunscreen when outdoors and to avoid using tanning salons due to the UV lighting. If diagnosed with Merkel Cell carcinoma it is very important to weigh your options for treatment and consult with your doctor in which they will help you decide what course of treatment will be best for you.

References

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- <https://www.mayoclinic.org/diseases-conditions/merkel-cell-carcinoma/symptoms-causes/syc-20351030>
- <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/immunotherapy>



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Image 1.

The location of the Merkel cell is in the top layer of the skin on the nerve endings. ¹