

Pathology 2016: A comparative study on the mast cells count in oral squamous cell carcinoma and normal oral mucosa - Shimae Nafarzadeh - Babol Dentistry School, Iran.

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Oral squamous cell carcinoma (OSCC) is one of the 10 most common malignancies and SCC accounts for 94% of all oral malignancies. Mast cells are considered to be complex and multifunctional cells, playing an important role in immunopathology. The aim of this study is to assess the number of mast cells in tissue sections of oral squamous cell carcinoma (OSCC) compared to normal mucosa.

Material and Methods: Sixty paraffin-embedded samples were accomplished from the archives of the Department of Oral and Maxillofacial Pathology, Babol University Dental School of Medical Sciences (15 high grade, 15 low grade and 30 fibroid 'irritation'). The classification of OSCC cases was consistent with the BRODER Malignant Tumor Classification System. Hematoxylin and eosin stained slides were re-evaluated prior to entering samples into our study. Toluidine blue (1%) staining was used to identify mast cells in the samples. We used SPSS software version 18 and a one-way ANOVA test to analyze the data.

Symptoms

SCC usually begins with a dome-shaped bump or patch of red, scaly skin. It is generally rough and crusty and can bleed easily when scratched. Large growths may itch or hurt. It can also appear through scars or chronic skin sores, so check for any changes and report it to your doctor.

How is it diagnosed?

Your doctor can refer you to a dermatologist who specializes in skin conditions. He will ask you about your medical history, your history of severe sunburn or indoor tanning, any pain or symptoms you are experiencing, and when the spot first seemed.

Squamous cell carcinoma of the skin is a mutual form of skin cancer that versus in the squamous cells that make up the middle and outer layers of the skin. Squamous cell carcinoma of the skin is usually not life threatening, although it can be aggressive. Untreated squamous cell carcinoma of the skin can grow in size or spread to other parts of your body, causing serious complications. Most squamous cell carcinomas of the skin result from

Prolonged exposure to ultraviolet (UV) rays, either from the sun, tanning beds, or lamps. Avoiding UV rays helps reduce your risk of squamous cell carcinoma of the skin

And other forms of skin cancer. Squamous cells are found in many places in your body, and squamous cell carcinoma can occur anywhere that squamous cells are found. Squamous cell carcinoma of the skin denotes to cancer that customs in the squamous cells found in the skin.

The causes

Where does skin cancer grow Open pop-up dialog
Squamous cell carcinoma of the skin occurs when thin, flat squamous cells in the middle and outer layers of your skin develop changes (mutations) in their DNA. The DNA of a cell contains the instructions that tell a cell what to do. Mutations tell squamous cells to grow out of control and continue to live when normal cells die. Most DNA mutations in skin cells are caused by ultraviolet (UV) radiation found in sunlight and in commercial tanning lamps and tanning beds. But sun exposure doesn't explain skin cancers that develop on skin that is not usually exposed to the sun. This indicates that other factors may contribute to your risk of skin cancer, such as a disease that weakens your immune system.

Factors that may increase your risk for squamous cell carcinoma of the skin include:

Clear skin. Anyone, irrespective of skin color, can get squamous cell carcinoma of the skin. However, having less pigment (melanin) in your skin offers less protection against harmful UV rays. If you have blond or red hair and light eyes, and you get freckles or sunburn easily, you are much more likely to develop skin cancer, including squamous cell carcinoma, than a person with darker skin.

Excessive exposure to the sun. Exposure to UV light from the sun increases your risk for squamous cell carcinoma of the skin. Spending a lot of time in the sun - especially if you aren't covering your skin with clothing or sunscreen - further increases your risk of squamous cell carcinoma of the skin.

Use of tanning beds. People who custom indoor tanning beds have an increased risk of squamous cell carcinoma of the skin.

A story of sunburn. Having one or more blistering sunburns as a child or adolescent increases your risk of developing squamous cell carcinoma of the skin as an adult. Sunburn in adulthood is also a risk factor. A personal history of precancerous skin lesions. Having a precancerous skin lesion, such as actinic keratosis or Bowen's disease, increases the risk of squamous cell carcinoma of the skin. A personal story of skin cancer. If you have ever had squamous cell carcinoma of the skin, you are much more likely to develop it again.

Weakened immune system. People with debilitated immune systems have an increased risk of skin cancer. This includes people with leukemia or lymphoma and those who take drugs that suppress the immune system, such as those who have had an organ transplant.

Rare genetic disease. People with xeroderma pigmentosum, which causes extreme sensitivity to the sun, have a significantly increased risk of developing skin cancer.

Complications:

Untreated squamous cell carcinoma of the skin can destroy nearby healthy tissue, spread to lymph nodes or other organs, and can be fatal, although this is rare. The risk of aggressive squamous cell carcinoma of the skin may be augmented in belongings where the cancer: Is particularly large or deep involves the mucous membranes, such as the lips Occurs in a person with a weakened immune system, such as a person taking anti-rejection medications after an organ transplant or a person with chronic leukemia

You will have a physical exam to check the size, shape, color, and texture of the area. The dermatologist will also look for other spots on your body and will palpate your lymph nodes to make sure they are not bigger or harder than normal. If your doctor thinks a lump looks questionable, they'll take a sample of the stain (a skin biopsy) to send to a lab for testing.

Results: The highest mast cell count was observed in normal tissue and was higher in low grade OCCS than high grade, but the differences between groups were not statistically significant. The mean number of mast cells between OCCS and normal oral mucosa was statistically significant different ($p = 0.019$). We observed no statistically significant difference between the number of mast cells in the control group and low-grade OCCS.

The same result was observed between high grade and Low grade OSCC. The mean differences in the number of mast cells between the male and female groups were not statistically significant. The mean difference in mast cell count between high-grade OCCS and the control group was significant ($p < 0.05$).

Conclusion: According to the results, the mean amount of mast cells decreased in the OCCS compared to the normal oral mucosa. Mast cells do not appear to play an important role in tumor progression, although more study is needed