

## *Common Soft Tissue Tumors and Skin Lesions of the Foot*

By Pamela Jensen- Stanley, DPM

Tumors of the foot involve abnormal tissue development of skin, muscle, fat, blood vessels, nerve tissue and fibrous tissue. The majority of these abnormal growths are primarily benign with malignant lesions making up less than 0.5% of all foot masses. We will only touch on the most common lesions and their treatments. Please follow up with your physician or dermatologist regarding any mass or lesion on your body of unknown origin.

Common causes of abnormal foot masses are largely unknown although we do know it is a combination of physical and chemical factors. These include trauma or past injury, environmental carcinogens, radiation, immunosuppression, and genetics. The patient's history including pain, associated trauma, rate of progression, location, changes in shape over time, sudden weightloss, night sweats, family history, and reoccurrence of lesions after previous excisions are important in determining whether a lesion is just a lesion or something to be more aggressive about.

Although soft tissue lesions maybe found all over the foot, there are some zones of the foot that have consistent findings. Masses on the plantar (bottom) arch of the foot are primarily benign plantar fibromas, toe lesions are primarily benign (less than 100 cases documented for malignancy), and the most common area for malignant lesions is in the heel. Ganglion cysts are most commonly found on the dorsum (top/front) of the foot and ankle.

The most common masses are skin lesions making up 66.2% of all lesions of the foot. These lesions include verruca (plantar warts), acrochordon (skin tags), keloids (hypertrophic scars), dermatofibromas, piezogenic papules, and a multitude of other skin abnormalities.

Plantar warts are the most notable and common of skin lesions. They are caused by a virus and can present as a single lesion or can reproduce into large colonies. They are typically more painful with lateral compression than with direct compression and can appear as a callous with "peppering" within the lesion. Depending upon the variant of the virus, plantar warts can be resistant to over the counter treatments necessitating in medical treatment. Treatment may involve the use of acid, debridement, and laser therapy. Cryotherapy, although effective on warts of the hands and other areas of the body, is far less effective on the plantar aspect of the feet due to the thickness of the skin and the protection that the skin provides as the wart is pushed within the skin due to weight and ambulation.

Other skin lesions maybe excised and sent for pathology if they are causing irritation, are changing shape, size, color, or there is bleeding or ulceration. Although cancerous skin lesions are rare on the foot, the most common found is Basal Cell Carcinoma (benign), followed by Squamous cell carcinoma which is malignant and can be fatal if not treated early. Don't forget to put sunscreen on the top of your feet. This area is commonly forgotten and routinely exposed to the sun's harsh rays during the summer months when you are wearing sandals and beach shoes.

The most common nerve lesion is the neuroma. Although it is not a true tumor, it is caused by repetitive trauma to a nerve by nearby bones, tight shoes, and chronic thickening of the nerve by chronic trauma. Treatment can range from orthotics and padding, injections, decompression and nerve removal. Your podiatrist can make the appropriate recommendations for your individual case, depending upon length of onset and severity of pain.

Ganglion cysts are caused by a weakening and herniation in the joint capsule and tendon sheath. This produces a soft, gelatinous filled sac under the skin and/or muscle. Its location to the joint space or tendon can be evaluated by ultrasound and aspiration of the cyst can alleviate pain and discomfort. However, it maybe necessary to remove the cyst surgically if there is a reoccurrence.

Plantar fibromas, or thickening of the plantar fascia resulting in painful masses, are associated with chronic inflammation secondary to trauma. It is a firm dense lesion within this plantar band of tissue, can affect both arches, and is more common in men than women. It is a benign lesion that can be conservatively treated with physical therapy and orthotics. If there is no resolution of pain with conservative care, excision of the plantar band maybe necessary.

There are many types of lesions and masses of the foot and most of them are benign. Routinely inspect your feet for changes in skin lesions or palpate your foot for unknown painful masses. Skin lesions or masses that have changed shape, size, color, or have ulceration warrants an inspection by a physician.