

## The foot : An ignorant part of the body

Assoc. Prof. Dr. Supakorn Rojananin, M.D.  
Deputy Dean of Public Relations and Special Affairs  
Faculty of Medicine Siriraj Hospital, Mahidol University

Human is the only mammal that walks in the upright position with two feet. The feet carrying the whole body moving from place to place are composed of bunches of muscles, bones and joints which are nourished by peripheral blood vessels, nerves and lymphatic channels. Since it is most vulnerable to all sources of injury, to protect itself, the sole of foot is supplied with very dense sensory, proprioceptive and autonomic nerve endings for protective reflex and high blood circulation for nourishment and reparation. The pain and swelling even caused by minor trauma will signal to the body to take a rest and prompt to seek medication, making most wounds heal very nicely. However, in many parts of the world, people still ignore to protect their feet properly. Barefoot walking can still be observed in the rural areas for whatever reasons. Some also believe that foot is a lowly structure, can not be touch and is dirtier than hand. With these beliefs made some ignore to care their feet properly. As a consequence, many people may unnecessarily lose their feet from just a minor trauma especially in those with diabetes mellitus, peripheral vascular diseases.

Diabetes is a chronic disease. If not properly controlled, many serious complications will follow such as kidney failure, blindness. However, it is the complications of foot that take the greatest toll.

Thanks to the World Health Organization and International Diabetes Federation that urge the people this year to “Put Feet First Prevent Amputation”. This campaign will put the feet come to the public interest worldwide once again.

Dr. Chaneean Ruangsetakit, A vascular surgeon, Department of Surgery, Siriraj Hospital, says that most chronic foot ulcers that do not heal properly usually have

underlying diseases such as varicose veins, peripheral vascular diseases, and diabetes or in combinations.

Venous or varicose ulcers have a highest prevalence and more common in women than men. Most venous leg ulcers occur because the valves connecting the superficial and deep veins are not functional properly. Failure of these valves cause blood flows from the deep veins back out to the superficial ones resulting in the development of venous hypertension, stasis, deep vein thrombosis, and swelling. Risk factors include a history of leg injury, obesity, phlebitis, a family history of varicose vein, types of employment or activity that require standing or sitting for prolong periods, and history of deep vein thrombosis. However these ulcers rarely lead to amputation or loss of the limbs except those with diabetes or peripheral arterial diseases.

Peripheral arterial leg ulcers are caused by poor blood circulation as a result of narrowed arteries from atherosclerosis or plaque in the arteries in those with high blood pressure, heavy smoking, coronary heart disease, hyperlipidemia. The situation may become worse if the patients also have diabetes.

Why diabetic patients who are having a minor wound do not heal and turn to a chronic foot ulcers and eventually limb loss in some? This is partly because they have the impairment of peripheral nerve or neuropathy, short of vascular supplies or ischemia of the feet as well as the foot deformities and superimposed infection. Nerve damage results in a reduced ability to feel pain, and injuries often go unnoticed. Ischemia and infection can slow down any wound healing .These bring the patients underestimate and ignore to seek medication in time.

According to Dr. Gulapar Srisawasdi, Chief of the foot clinic, Department of Rehabilitation Medicine, Siriraj Hospital, chronic foot ulcer occurred in 5-10% of diabetic patients and ten times higher risk for amputation of toes or limbs than normal populations. Twenty five percents of diabetic foot ulcers need amputation with a mortality rate of 20%. The most common ages of amputees are 45-64 years. Toe

amputations are most common in 61% followed by below knee and above knee amputation in 20% and 14% respectively.

Diabetic foot ulcer not only causes a loss of quality of life especially if amputation is required, but also is a significant economic problem. Patients need prolong hospitalization, medical intervention, rehabilitation, and an increased need for home care and social services. These amputees had an average hospitalization of 32.5 days with an average direct cost of amputation about 80,000 baht in governmental hospital.

Dr. Gulapar also says that in most cases, diabetic foot ulcers and amputations can be prevented by well-informed self care, good diabetic control, and well-organized diabetic foot care teams. The warning signs in order to identify the foot at risk include, swelling of foot or ankle, very cold feet or legs, color changes, pain in legs at rest or while walking, open sores, non healing wounds, in-growing toe nails, corns and calluses and lack of hair growth on the feet.

Specially designed shoes and other podiatric devices are also important for the management. Tailored-made shoes are now available to individuals at the foot clinic, Siriraj Hospital. These shoes and medical devices can keep the pressure off the ulcers until healing has occurred, prevent the need of higher level of amputation and also protect the foot from recurrent ulcers as well.