

# "Diabetic Foot Syndrome"- A Few Dictums

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Diabetic foot is one of the most devastating complications and has become a formidable medical challenge. Foot problems are the most preventable of all the long-term complications of diabetes. Early identification of the high risk patients followed by proper education and foot-care effectively reduce the amputation rate. Here are some dictums about the diabetic foot syndrome to help clinicians to understand its pathogenesis.

- The human foot is truly is mechanical marvel occurring in humans, the only two legged animal and consists of 29 joints (8 major and 21 minor joints) and 26 bones and 42 muscles, forming the functioning foot unit.
- A meta-tarsal bone is about the diameter of a pencil-an individual meta-tarsal shaft can be snapped into half by the bare hands.
- The anatomical and functional provisions for keeping the foot undamaged would still be inadequate-were it not for one more important factor- namely the sensory feed-back. The skin of the dorsum of the foot is totally different in structure from the skin of the sole of the foot. The skin of the sole of the foot has the highest thickness of keratin. On the soles, thick calluses act as foreign bodies.
- In the foot the tendons descending down the leg, the vessels and nerves are all so very 'jam packed' that once they are released they cannot be easily put back into their places.
- The planter skin is 4 or 5 mm. thick with the thickest area covering the heel and the distal meta-tarsals. It is richly innervated. It has no hair follicles or sebaceous glands but has numerous sweat glands.
- The foot does not grow very much along with the body growth. Adult foot size remains constant except in some rare instances, like acromegaly and local gigantism. Although the things and legs can share the 'obesity design' increase in shoe size does not occur after certain age.
- While standing, the body weight is transmitted through the tibia to the talus and then distributed to the calcaneum and also to barefoot.
- The Talo-Navicular joint is the first and most vulnerable joint involved in the "Diabetic Foot Syndrome".
- In "Diabetic Foot Syndrome", one needs to assess neuropathic, vascular, infective & mechanical aspects, of these four elements the neuropathy is the 'starter' and others are 'chasers'.
- The feet that can sweat normally, rarely get ulcerated.
- Neuro-arthropathy of the foot in diabetes is clinically silent since primarily it is caused by lack of sensation in the foot. In contrast, changes on radiological examination are marked.
- Veins generally do not undergo atherosclerosis probably due to increased prostaglandin content (8 times more) in the vessel wall.
- The extensor tendons are not encased in sheaths but lie loose in areolar tissue on the dorsum of the foot, unlike the plantar tendons on the sole of foot.
- There is not doubt that 'foot care' is even more important than 'facial care' in the diabetics.
- The progression of an ischaemic pain is often called rest pain; "foot angina" is a familiar name in intermittent claudication.
- Walking on a thick callus may be compared to walking on a stone in a shoe. The insensitive foot does not detect the hard pressure point.
- For every million diabetics there are ten million toes that are potentially troublesome.
- "Non infective disease of the 'Diabetic Foot'- may be a clinical entity and it consists of six components; osteoporosis, new bone formation, bone loss, charcot neuro osteoarthropathy, pathological fractures, spontaneous dislocations and subluxation.
- Diabetic foot is one problem which cannot be studied in experimental animals (as compared to retinopathy, neuropathy and nephropathy) under any circumstances since diabetic foot syndrome cannot be spontaneously or experimentally reproduced for study purpose in animals.
- Prevention is much better than 'cure'. This is most appropriate for diabetic foot as compared to other diabetic complications.

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