

THE MUMMIFIED FOOT: CHRONIC, LOCALISED FOREFOOT GANGRENE IN A PATIENT WITHOUT PERIPHERAL VASCULAR DISEASE

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INTRODUCTION:

Dry gangrene of the extremities is almost always associated with the presence of underlying peripheral vascular disease (PVD). We describe an interesting case of localized gangrene of the foot in a chronic smoker who possesses no demonstrable evidence of PVD.

CASE REPORT:

A 27-year old fisherman, who is a chronic smoker, presented with painless blackish discoloration of all toes on his right foot. One year prior, he had history of a small laceration wound over his big toe, which he self-treated by doing dressing using warm pipe water and applying herbal plants as traditional medication. He noticed his big toe started to develop gangrene 5 months ago, before gradually involved his other toes. There was no progression of the discoloration proximal to the forefoot region. He decided to seek medical consultation due to cosmetic reason.



Figure 1: Dorsal and sagittal view of the right foot upon presentation. There was localized gangrene not extending beyond the forefoot, with exposed metatarsals.

On examination, there was mummified, dry gangrene of the right forefoot with exposed metatarsal bones. The vascular assessment revealed biphasic, good volume of all peripheral pulses (except for absent dorsalis pedis pulse), with an ankle-brachial systolic index (ABSI) of 1.02. The total white cell count was $13.5 \times 10^9/L$ blood and radiographs revealed osteomyelitic changes over all metatarsal heads. Computed tomography (CT) angiogram showed that all the

arteries of the lower limb were patent with good arterial flow and no stenosis.



Figure 2: Post-refashioning stump. The underlying tissue was healthy, and this stump healed well within 6 weeks without any skin grafting.

The patient was started on antibiotics after bone culture yielded growth of *Pseudomonas aeruginosa*. Refashioning of the forefoot was done with amputation at the level of proximal metatarsals, and the stump completely healed after 6 weeks. He is now able to walk normally using customised shoes.

CONCLUSION:

Despite no demonstrable evidence of PVD especially by CT angiogram, smoking remains as the most likely risk factor in this case, especially with its compound of nicotine and carbon monoxide acting on vessel wall. Osteomyelitis of the metatarsals is likely the sequelae, rather than the causative pathology for the localised, well-demarcated gangrene. The exact reason for such manifestation is unknown, but the well-healed stump is another evidence that the peripheral circulation was not exactly compromised.

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