St Luke's HOSPITAL

High Risk Foot case study

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Patient Profile

Mr. BR

- 63-year-old retired sale man
- Married with 2 children and lives in 4 room housing development block
- Social history: Non- smoker, ADL-I, Community ambulant

Medical history

- Poorly controlled type 2 diabetes mellitus (HbA1c 10.5% on 7th May 2024)
- Hypertension with likely hypertensive cardiomyopathy
- NSTEMI
- Normocytic normochromic anaemia
- Chronic kidney disease approaching end-stage renal failure (not keen for renal replacement therapy)
- Streptococcus pyogenes bacteremia of the right toe
- Left orbital capillaritis/small vessel vasculitis

Pharmacology treatment

- Linagliptin
- NovoMIX30
- Amlodipine
- Carvedilol
- Furosemide
- Atorvastatin
- Calcium acetate
- Darbepoetin Alfa
- Ticagrelor
- Omeprazole

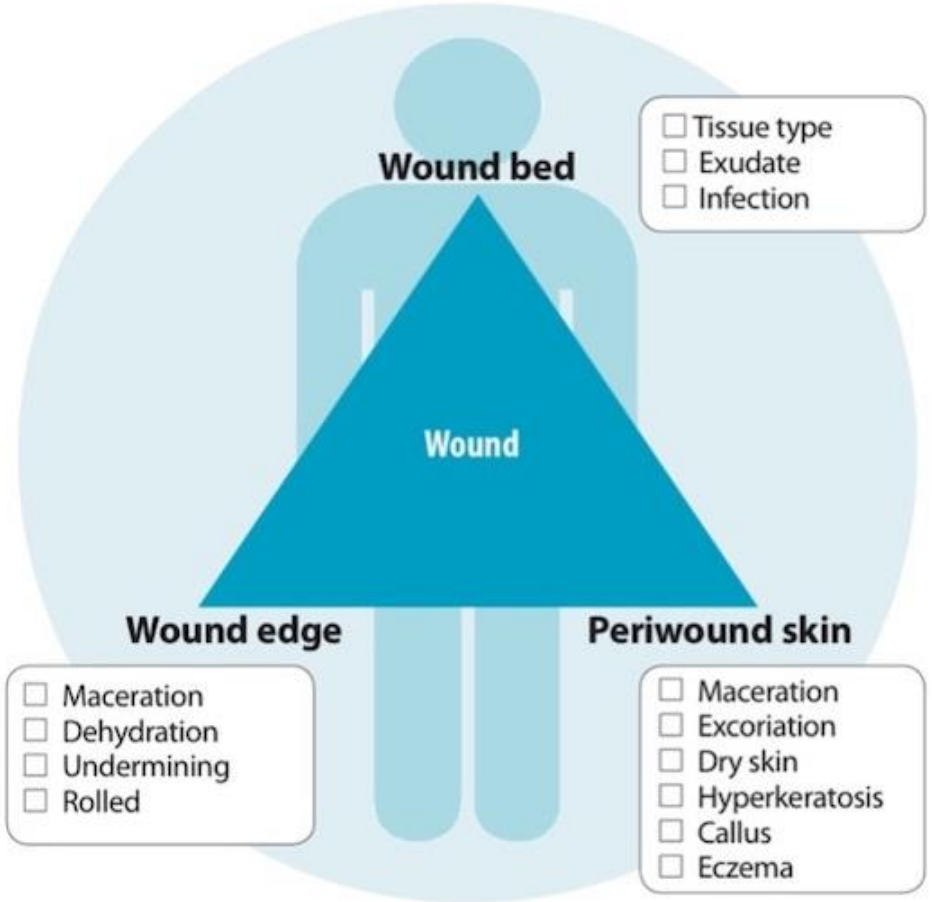
Presenting complain

- Mr. BR developed wound over the right big toe 2-3 weeks ago.
- Did not seek medical attention and self cared at home with home remedies.
- Wound continued to deteriorate.
- Presented to acute hospital on 30th April 2024 with wound over the right foot accompanied by pain, swelling, and pus. The areas between the big and 2nd toe were moist and there was malodour.

STRAITS TIMES,
AUG 12, 2022

STRAITS TIMES
NOV 15, 2023

Wound assessment



Assessments undertaken

- **Inspection:** Calves supple, b/l pitting edema, Mallet toes
- **Pulse assessment:** R DP & PT diminished, CRT <2s
- **Wound:** Tenderness, Erythema with tissue necrosis. Collection of pus.
- **10g Semmes-Weinstein monofilament** revealed diminished sensation over the right big foot.
- **ABPI over right foot:** Monophasic doppler waveforms with no delayed upstroke. PT 0.98 and DP 0.88.
- **Microbiology swab:** Mixed bacterial growth with pseudomonas aeruginosa.
- **Blood test:** Elevated WBC & CRP
- **Xray** was obtained (results next page)
- **MRI foot:** Diffuse T2w hyperintensities are seen along the dorsal subcutaneous tissues of the foot as well as the musculature of the foot. There is a sinus tract to the dorsal skin which my represent collection.

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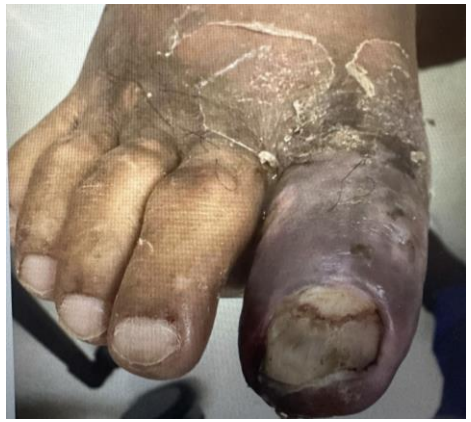
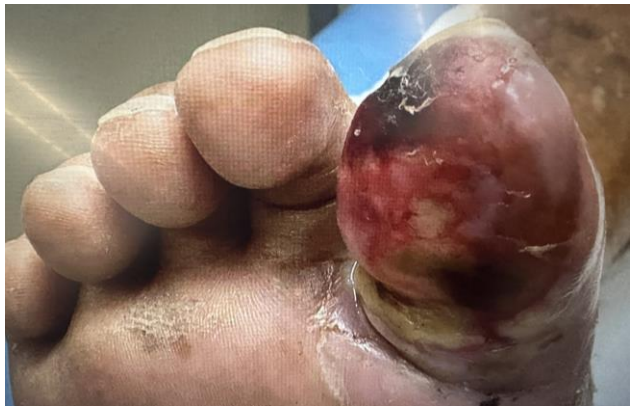
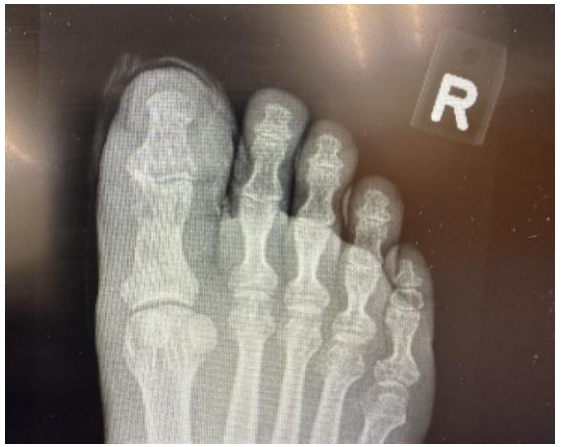
Photo of foot before amputation





X-ray of foot before amputation



Erosive changes noted at the right big toe proximal phalanx, suspicious for possible osteomyelitis. The diagnosis was made as diabetic foot ulcer with osteomyelitis, on the clinical ground.

Triangle of Wound Assessment (TOWA)

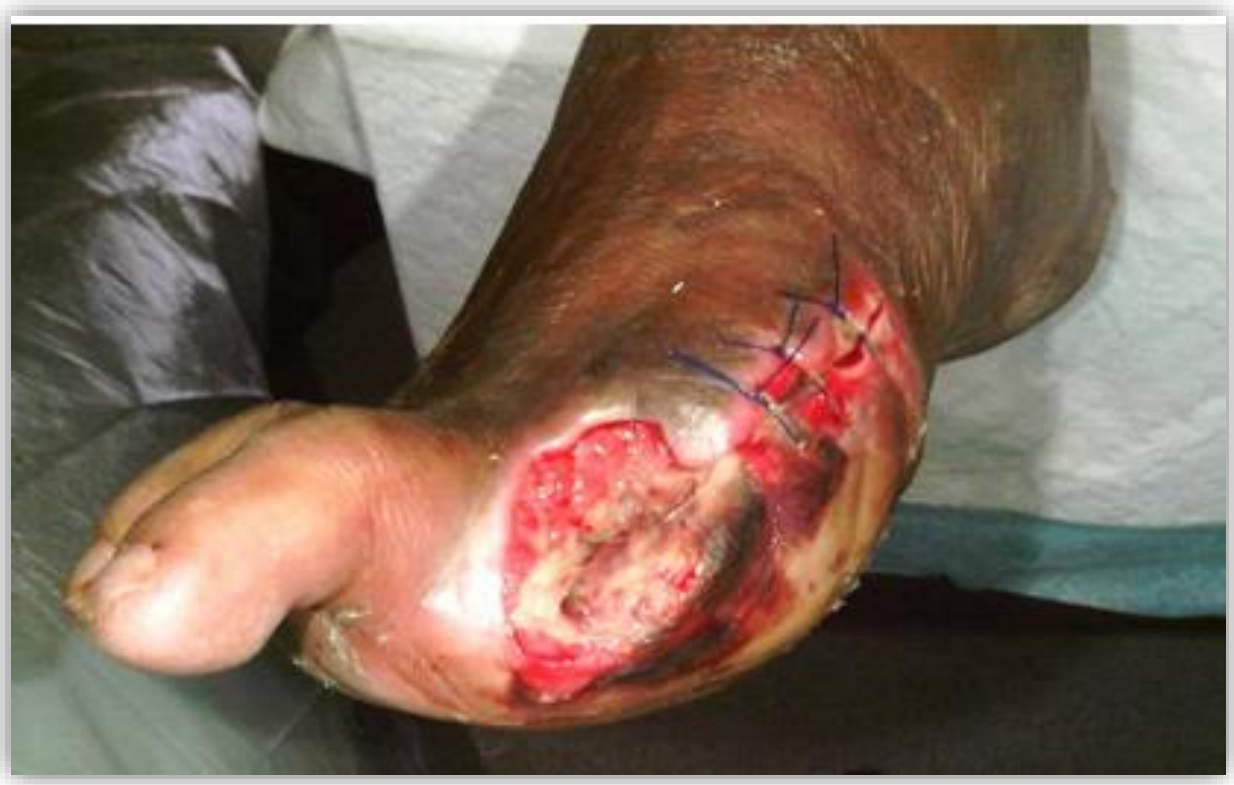


Figure 1: taken on 10th May 2024 (week 1)

- **Wound bed:** 20% slough, 80% granulating tissue. Moderate of serous exudate.
- Dimensions: 4.0 cm x 2.4 cm (distal wound).
- **Wound edge and peri-wound:** Macerated, hematoma and tissue necrosis at the plantar aspect.
- Signs of local wound infection with presence of malodour, erythema, warmness.
- The patient's pain score was assessed using the visual analogue scale (VAS) with a score of 5.

Management plan

1. Debridement
2. NPWT
3. Infection and inflammation control (Abx, EmoLED therapy)
4. Medication compliance
5. Glycemic control
6. Offloading
7. Nutrition

Triangle of Wound Assessment (TOWA)

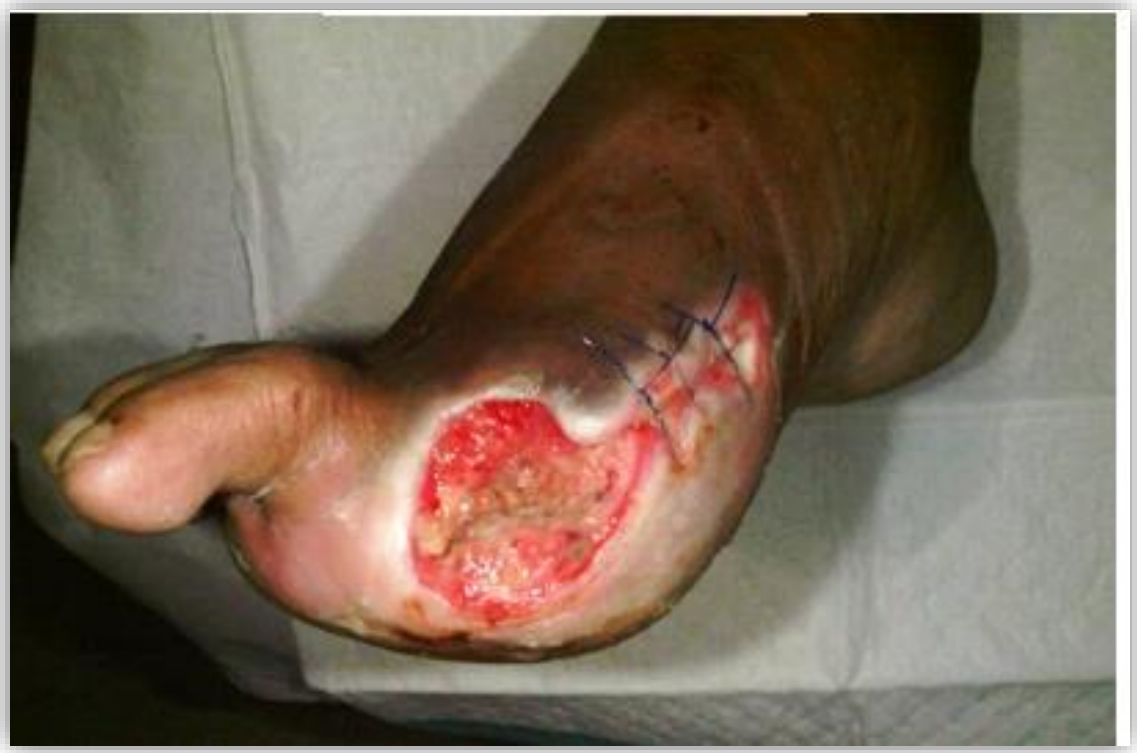


Figure 2: taken on 24th May 2024 (week 2)

- **Wound bed:** 20% slough, 80% granulating tissue. Moderate amount of serous exudate.
- Dimensions: 3.8 cm x 3.3 cm (distal wound).
- **Wound edge and peri-wound:** Macerated
- Improvement in clinical signs of infection.

Management plan

1. Debridement
2. NPWT
3. Infection and inflammation control (Abx, EmoLED therapy)
4. Medication compliance
5. Glycemic control
6. Offloading
7. Nutrition

Triangle of Wound Assessment (TOWA)

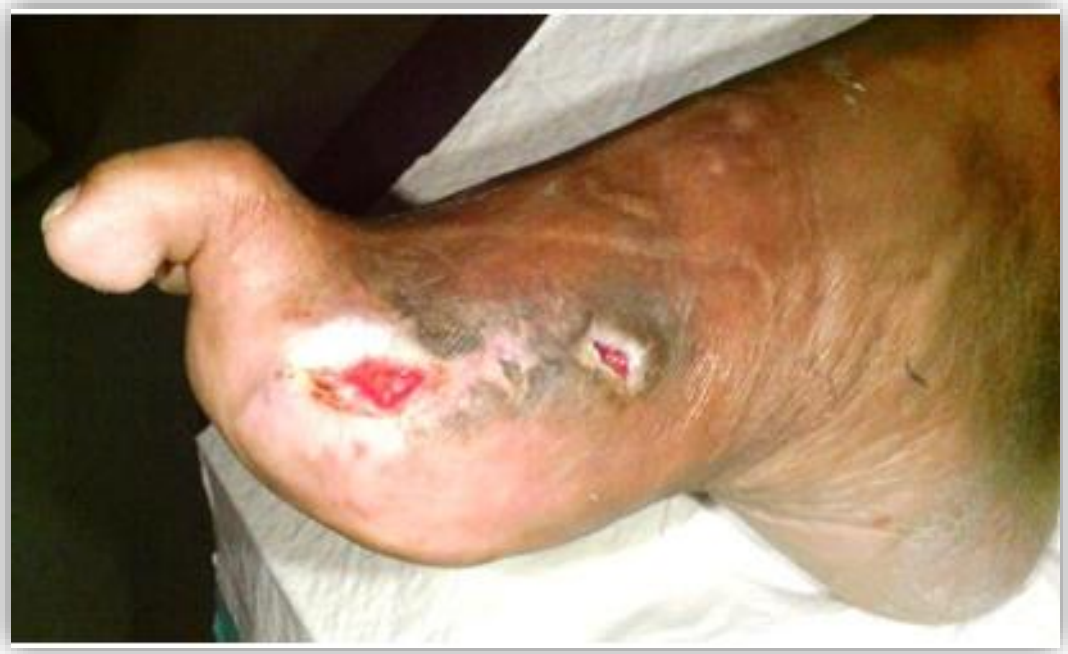


Figure 4: taken on 22nd June 2024 (Week 6)

- **Wound bed:** 100% granulating tissue. Low amount of serous exudate.
- Dimensions: 2.3 cm x 0.9 cm (distal wound)
- **Wound edge and peri-wound:** Dry
- EmoLED therapy was completed in 7 sessions.

Management plan

1. Alginate with foam dressing
2. Offloading
3. Medication compliance
4. Glycemic control
5. Offloading
6. Nutrition