

# An “Incurable” Diabetic Foot Ulcer

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I met this patient’s wife first, when she approached me after a diabetes education day in Bonn, Germany. She reported that her husband had recently been released from the hospital, where he had spent almost a year due to a diabetic ulcer on the sole of his foot.

The ulcer had not healed, the condition of his foot had not changed in a year, and the open wound was considered incurable. I asked the couple to come see me in my office. The patient was very unhappy because he had been told to spend most of the day lying down and not to put any weight on that foot. He almost never left the house anymore. His wife described him as a “closet depressive,” and he was becoming increasingly forgetful. While hospitalized, he had not been allowed to put any weight on the foot at all. Whenever he was not lying in bed, he wore a special shoe that kept the weight off the forefoot.

## Medical history

This 76-year-old patient had a twenty-year history of metabolic syndrome, type 2 diabetes, hypertension, and hyperuricemia. Diabetic nephropathy had developed, along with motor, sensory, and autonomic polyneuropathy. The patient no longer had any sensation of touch or pain in his feet, lower legs, or thighs. He was constantly dizzy and unsteady on his feet and had become very forgetful. His hospital records showed that he also had coronary heart disease with cardiac insufficiency (NYHA II). I ordered lab tests that revealed elevated levels of free radicals and hyperhomocysteinemia.

## Diabetic foot ulcer

The wound was 3 cm in diameter, clean, and clearly delineated (see Figure 1). It was not deep and there was no bone involvement. When examining a patient with diabetic foot syndrome, vibration sensation testing with a 128 Hz tuning fork is obligatory.

The patient had no vibration sensation in his feet and could not distinguish between cold and warm or pointed and dull. His feet were pale (with some livid discoloration) and slightly edematous. The foot pulses were not palpable. An MRI showed complete closure of the distal arteries of the lower legs.

The patient’s blood sugar levels were good, with fasting levels between 90 mg/dL and 120 mg/dL and postprandial levels between 120 mg/dL and 140 mg/dL, with only a few “maverick” readings up to 180 mg/dL (see Table 1).

## What to do?

The patient presented with multifactorial, pathological metabolic processes accompanied by significant late damage. During his almost year-long hospitalization, the causes of the foot ulcer had not been adequately treated and therapeutic measures had addressed only the ulcer itself. Successful wound healing requires treatment of the triggering

Laboratory parameter	Results 4/2003	Results 10/2003	Reference values
HbA1c	6.1%	6.1%	< 6.1%
Creatinine	3.4 mg/dL	2.9 mg/dL	< 1.1 mg/dL
Urea	134 mg/dL	100 mg/dL	< 71 mg/dL
Homocysteine	23	11	< 9
Oxidative stress	580	180	< 200

Table 1: Lab test results

factors, in this case impaired micro-circulation and diabetic polyneuropathy.

Figure 2 shows the pathological cascade that leads to polyneuropathy. Clearly, this patient needed therapeutic intervention on several different levels:

1. A combination of fast-acting and long-acting insulins effectively controlled his blood sugar, thus his dosages were not changed.
2. The patient's endogenous antioxidant capacity and free radical loads were out of balance, resulting in increased oxidative stress and subsequent metabolic inflammation. Intervention, therefore, had to include both antioxidant and anti-inflammatory therapy.
3. The patient had received no prior treatment for his macro- and microcirculatory disorders. The goal here was to achieve vasodilation of the small blood vessels and normalization of homocysteine levels as a discrete risk factor for atherosclerosis.
4. The overall therapeutic goal was to reduce matrix edema.
5. Therapy for the wound itself.

### Treatment Concept

#### Antioxidants<sup>1</sup>

- 600 mg vitamin E
- 300 µg selenium
- 20 mg zinc
- 500 mg vitamin C

#### Normalization of elevated homocysteine

- 50 mg vitamin B<sub>6</sub>
- 1 mg vitamin B<sub>12</sub>
- 5 mg folic acid

#### Antihomotoxic treatment

- For organ strengthening in coronary heart disease with cardiac insufficiency: Cor compositum twice weekly, i.v.
- To improve macrocirculation: Circulo-Injeel twice weekly, i.v.
- To improve cerebral microcirculation: Cerebrum compositum twice weekly, i.v.
- To improve systemic microcirculation: Vertigoheel 2 tablets 3 times a day for 8 weeks, then 2 tablets 2 times a day

<sup>1</sup> Unless otherwise noted, dosages refer to the daily amount of medication (taken orally).



Figure 1: Diabetic foot ulcer

- To reduce matrix edema: Lymphomyosot 1 tablet 3 times a day; Ubichinon compositum and Coenzyme compositum injected together, once weekly, i.m.
- To reduce inflammation: Traumeel 1 tablet 3 times a day
- Wound therapy: daily treatment of the wound with Traumeel ampoules, dry bandage

Under this treatment regimen, the wound grew smaller and flatter from week to week. After five months, it had completely closed. The patient's subjective symptoms were significantly reduced, and his quality of life had improved considerably. He was already able to go for short walks again, and even under this stress the ulcer did not break open again. Objective criteria (lab results) also showed improvement over the initial findings.

His wife reported that he was responding better to minor exertion, did not get out of breath as quickly, and was no longer so forgetful (which she especially appreciated). He was able to concentrate much better during his daily rummikub games. Antihomotoxic therapy addressed the causes of the ulcer by improving microcirculation and reducing matrix edema, which then allowed the wound to heal. ■

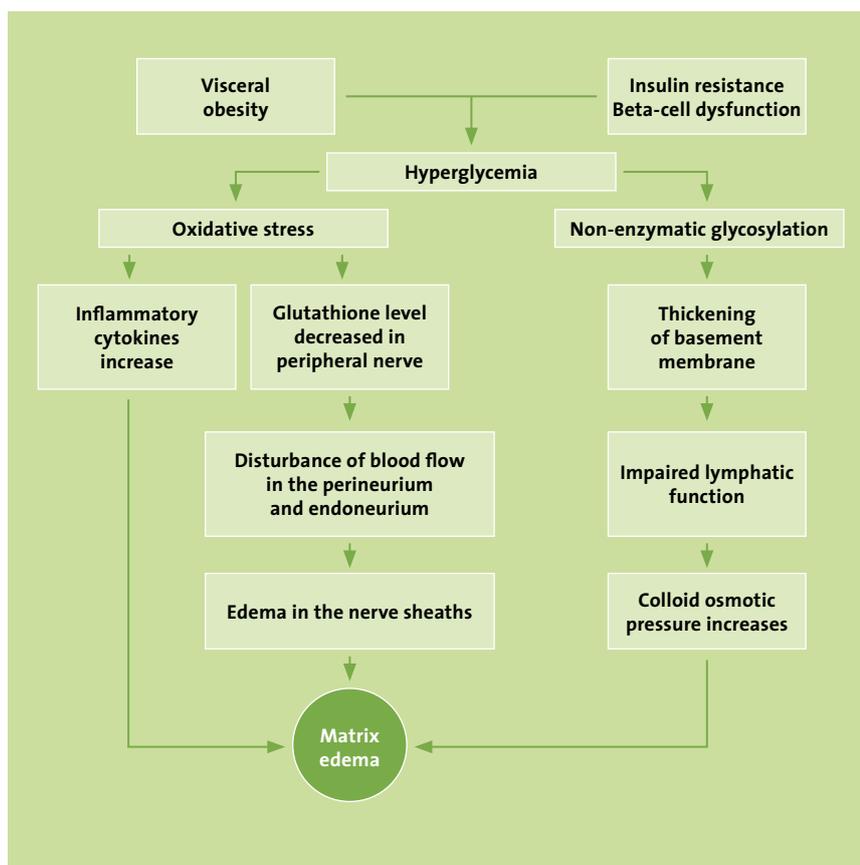


Figure 2: Pathological cascade leading to polyneuropathy