

Factors affecting length of hospital stay and mortality in patients with infected diabetic foot ulcer requiring surgical drainage



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Introduction

- Diabetic foot ulcer is a common and serious complication of DM.
- Concurrent infection with diabetic foot ulcer often aggravates disease progression and impedes wound healing and recovery, affecting the patient's prognosis.

Purpose

- To investigate the prognostic factors affecting **length of hospital stay** and **mortality** in patients with infected diabetic foot ulcer requiring surgical drainage

Materials and Methods

- IRB approved
- Retrospective review of medical records
- Consecutive patients with infected diabetic foot ulcer between Oct. 2003 and May 2013
 - ✓ Surgical drainage (including partial foot amputation) and subsequent antibiotic Tx.
- Exclusion
 - ✓ Primary major amputation (BK, AK..)

Data collection

- Age, gender, BMI
- Length of hospital stay, mortality
- Wagner stage
- Major vascular disease (CVA, CAD)
- ABI, blood test (ESR, CRP, BUN/Cr, OT/PT, glucose, HbA1c)

Data analysis

- Multiple regression analysis with stepwise selection
 - ✓ Dependent variable: length of hospital stay
- Cox proportional hazard model with stepwise selection
 - ✓ Dependent variable: mortality

Results

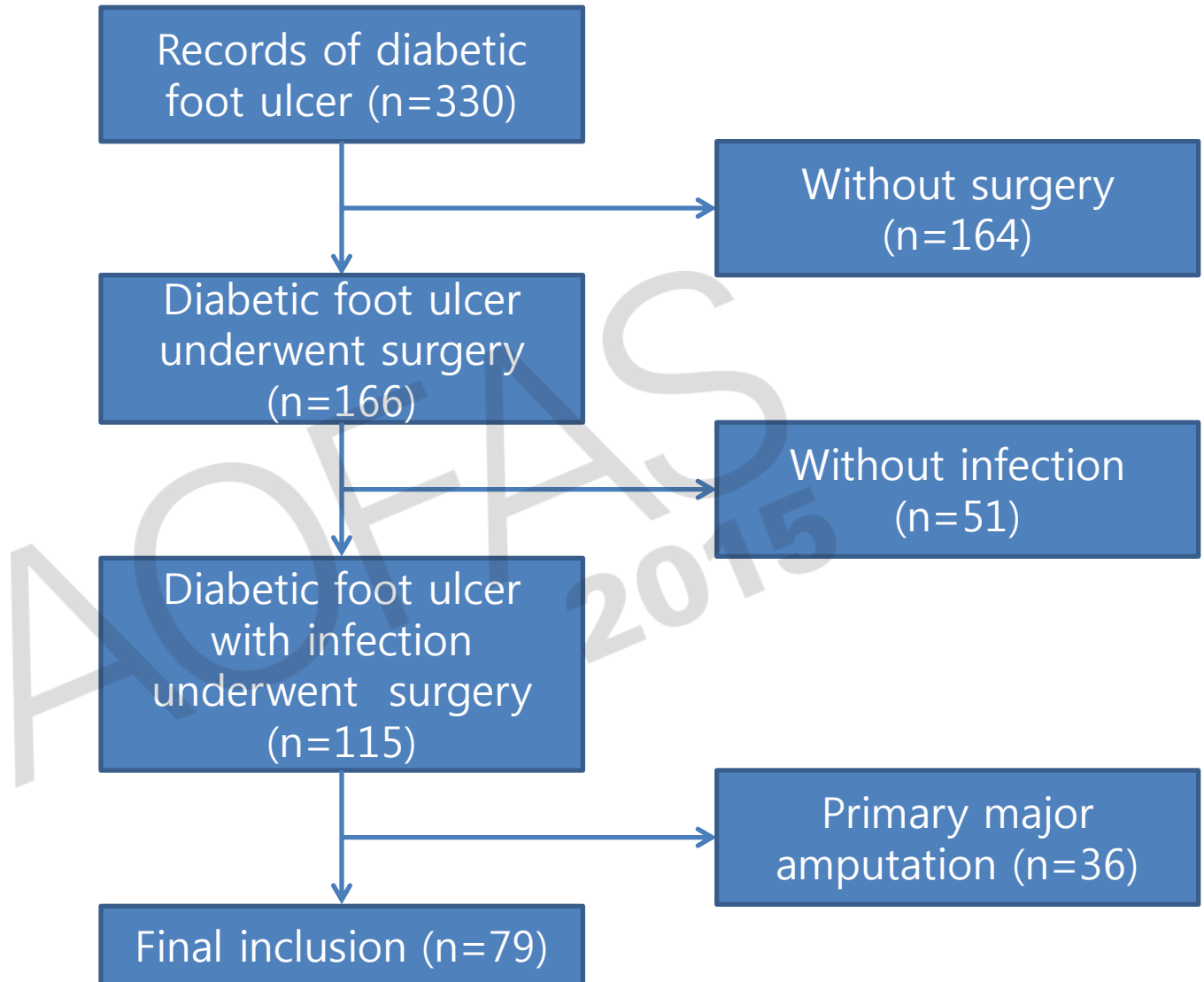


Table 1. Patient Demographics and Characteristics

Patients number (n)	79
Mean age (years)	66.1 (12.3)
Male : Female	60 : 19
Body mass index (kg/m ²)	22.2 (3.5)
Follow up duration (month)	20.0 (22.3)
Alive : Dead	69 : 10
Wagner classification	
Stage 3 / 4	67 / 12
Major vascular disease (CVA and CAD) (yes/no)	14/79
ABI	0.98 (0.31)
ESR (mm/h)	68.6 (29.3)
CRP (mg/L)	7.8 (7.6)
BUN (mg/dl)	24.6 (17.3)
Cr (mg/dl)	2.5 (2.7)
AST (IU/L)	26.9 (21.9)
ALT (IU/L)	25.5 (38.1)
Glucose (mg/dl)	185.5 (112.6)
Hemoglobin A1c (%)	8.6 (2.0)

CVA, cerebrovascular accident; CAD, coronary artery disease; ABI, ankle brachial index; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; BUN, blood urea nitrogen; Cr, serum creatinine; AST, aspartate aminotransferase; ALT, alanine aminotransferase.

Data are presented as mean (SD)

Table 2. Significant factors affecting length of hospital stay in patients with infected diabetic foot ulcer in multiple linear regression analysis with stepwise selection method

Variables	Beta	Standard error	p-value
BMI	4.016	0.848	0.001
CVA&CAD	24.368	6.635	0.004
HbA1c	2.839	1.041	0.021
ESR	0.223	0.091	0.034
Constant	-115.525	26.293	0.001

BMI, body mass index; CVA&CAD, cerebrovascular accident & coronary artery disease; ESR, erythrocyte sedimentation rate

Table 3. Significant factors affecting mortality in patients with infected diabetic foot ulcer in multiple cox regression model with stepwise selection method

Variables	HR	95.0% CI	SE	p value
Wagner stage	19.479	2.278 to 166.556	1.095	0.007
Cr	2.015	1.126 to 3.607	0.297	0.018

HR, hazard ratio; SE, standard error; CI, confidence interval; Cr, serum creatinine

Conclusions

- Length of hospital stay was affected by the severity of inflammation (ESR), recent blood glucose level (HbA1C), BMI, and major vascular disease.
- The mortality of patients was affected by the severity of diabetic foot ulcer and the status of renal function (Cr).

Thank you !!

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