ONENESS

調節巨噬細胞新藥 (ON101)

治療難治性糖足潰瘍 真實世界病例研究

陳瑞青 博士

合一生技股份有限公司 醫藥學術部 處長

ON101 (速必一®) 新藥 簡介

- 自1997年以來，美國FDA通過的Ⅲ期臨床試驗，唯一成功達標DFU新藥 (P=0.0001)
- 2021年台灣核准新藥上市，適應症為：【糖尿病足部傷口潰瘍】
- 藥理作用機制明確，藉由調節M1/M2巨噬細胞，重塑傷口免疫環境，達到完全癒合
- 國際多中心Ⅲ期試驗結果及藥理作用機制，發表於《JAMA Network Open》、《JID Innovations》、《Pharmaceutics》全球知名SCI學術期刊
- ON101上市後用於治療難治性糖足潰瘍，包含Wagner 3級、4級、長期洗腎患者，及多種難愈合創面，包括下肢靜脈潰瘍、褥瘡、燒傷、手術傷口等，取得顯著臨床療效

ON101 (速必一®) 新藥

歷經15年研發上市

2008
ONENESS
合一生技創立

2016
PIC/s GMP生產基地

2020
國際多中心
三期試驗完成

2021
台灣、澳門
新藥藥證

2022
東南亞多國藥證
上市申請中

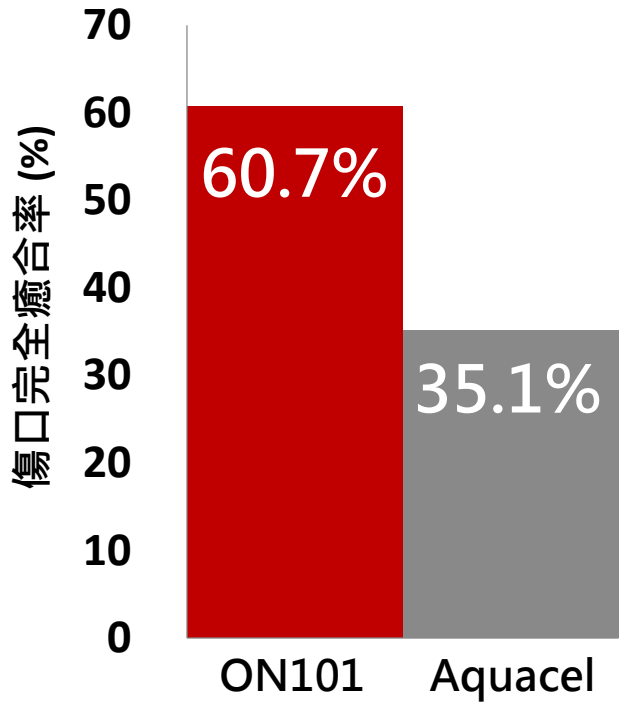
2023

- ✓ 2021年美國 FDA 准予納入「快速審查認定」(Fast Track Designation)及美國恩慈療法
- ✓ 大陸NMPA新藥藥證審評中

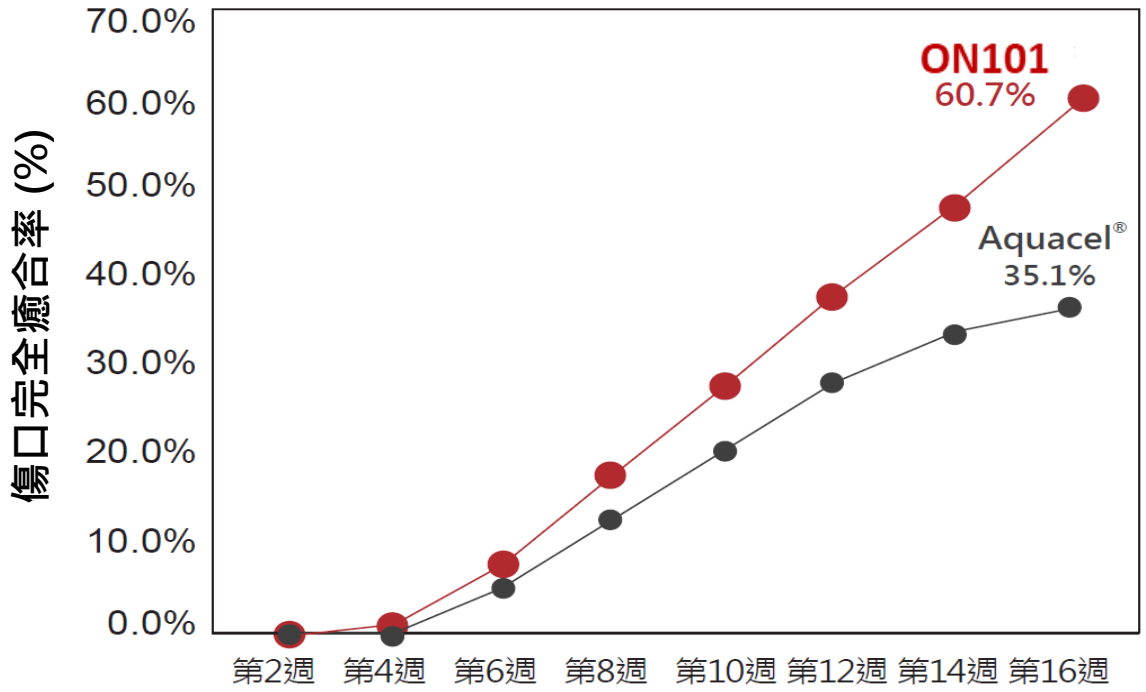
主要療效指標 – 傷口完全癒合率

- 236 位受試者完成試驗 (大陸、台灣、美國)

傷口完全癒合率 (P= 0.0001)



傷口完全癒合累積比率

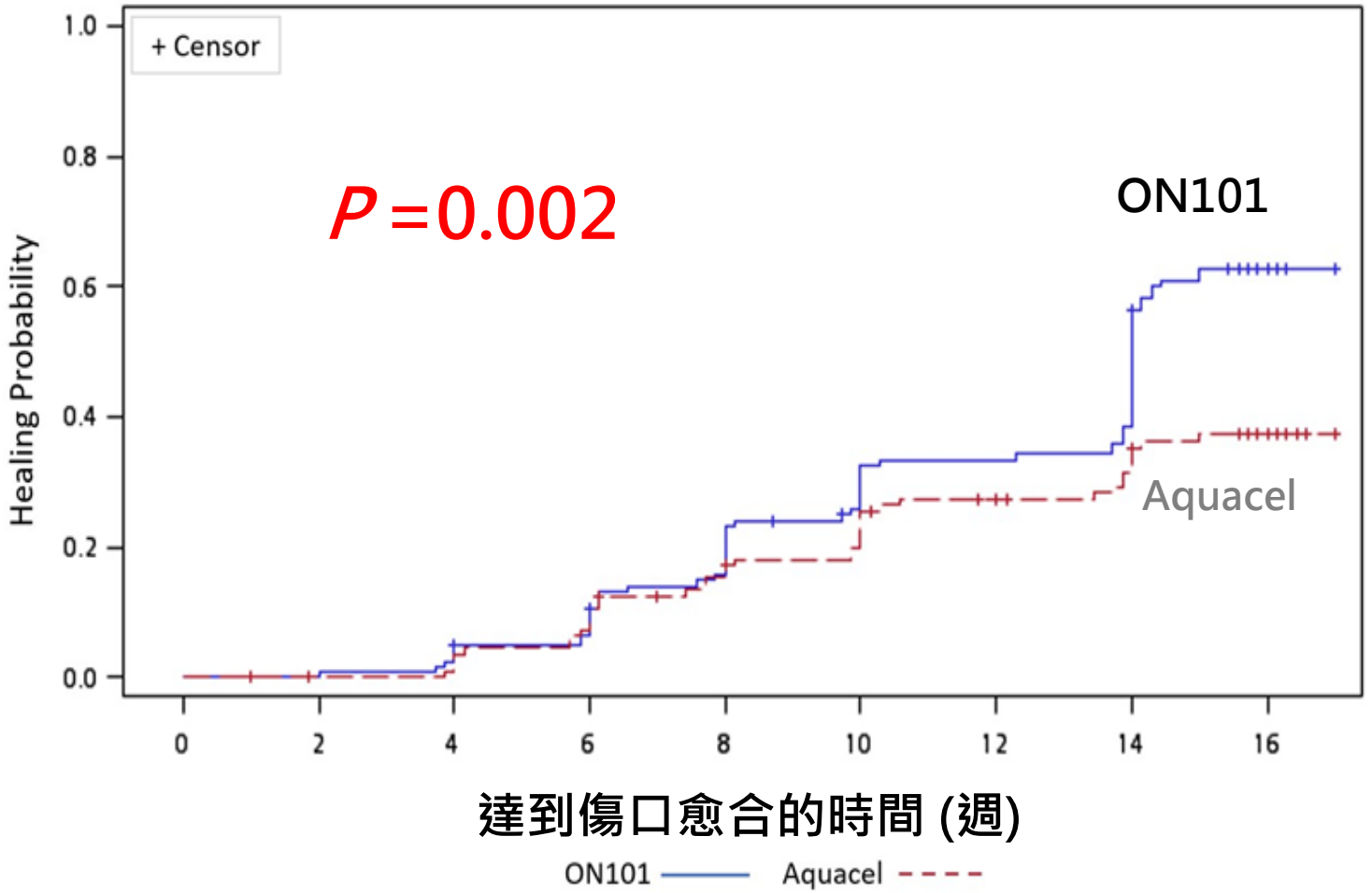


次要療效指標 – 傷口完全癒合時間

ON101組

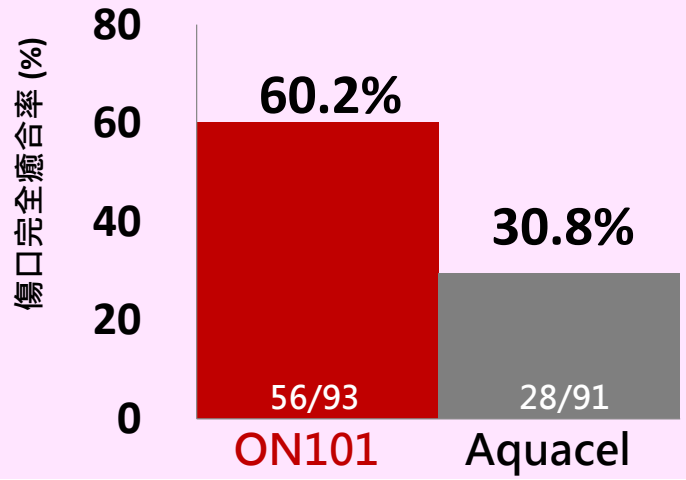
達到潰瘍愈合時間較快

且具有統計顯著意義

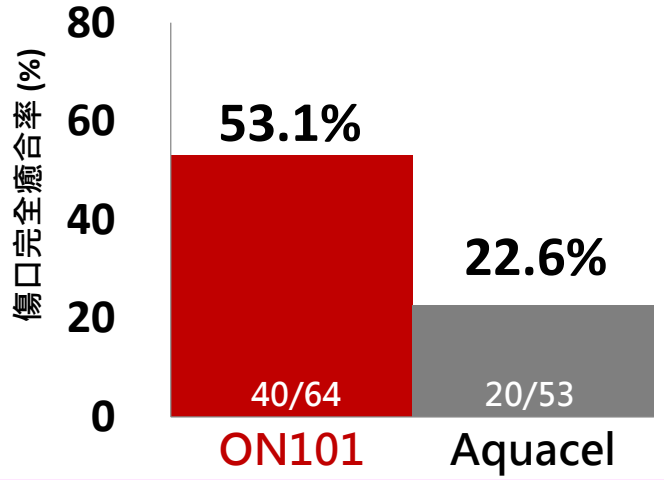


對糖足困難癒合潰瘍 療效-1

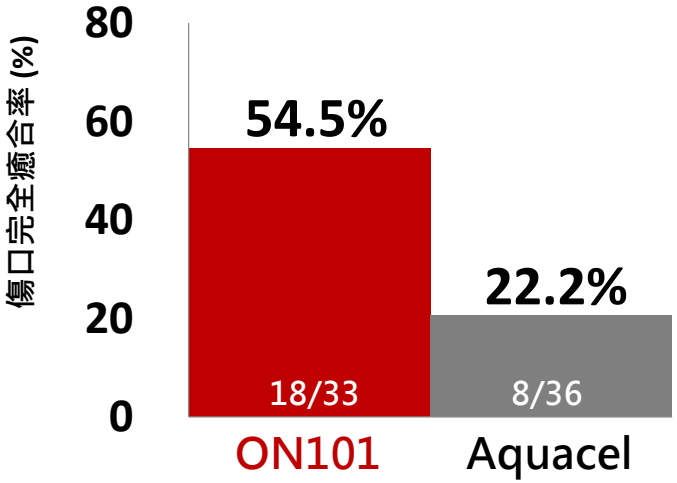
Wagner 2 級傷口 (P < 0.0001)



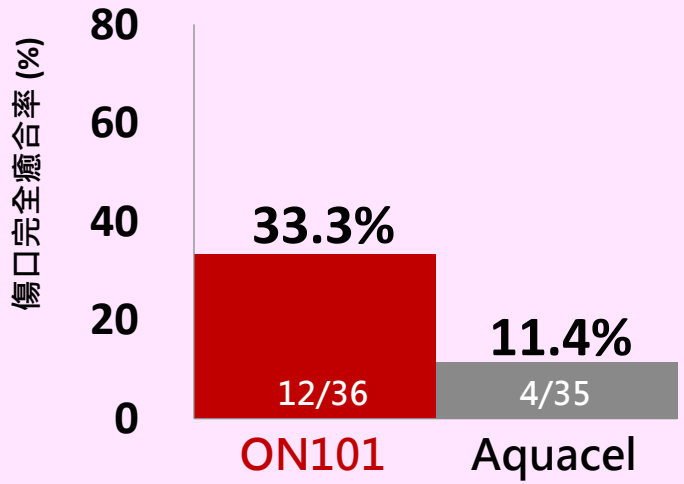
足底傷口 (P = 0.0008)



> 5 cm^2 大傷口 (P = 0.0056)

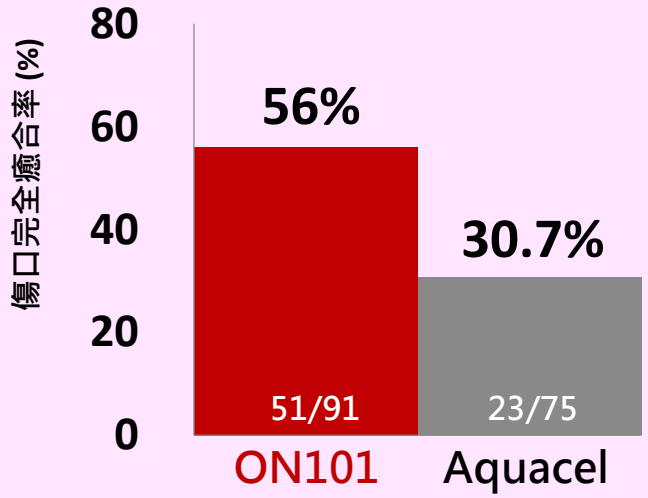


潰瘍持續時間 ≥ 6 個月 (P = 0.0272)

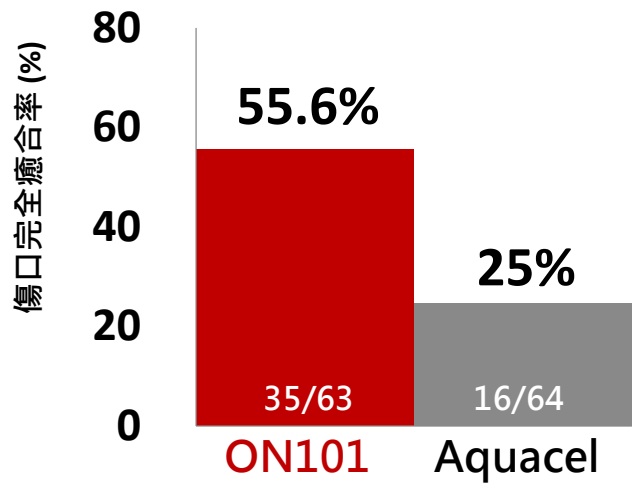


對糖足困難癒合潰瘍 療效-2

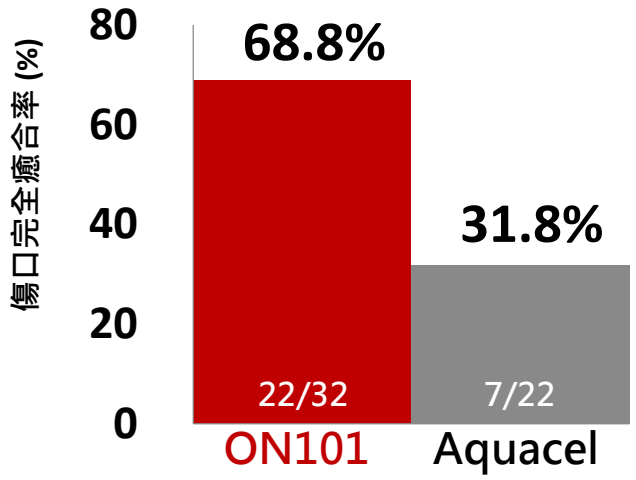
HbA_{1c} >7% (P = 0.0011)



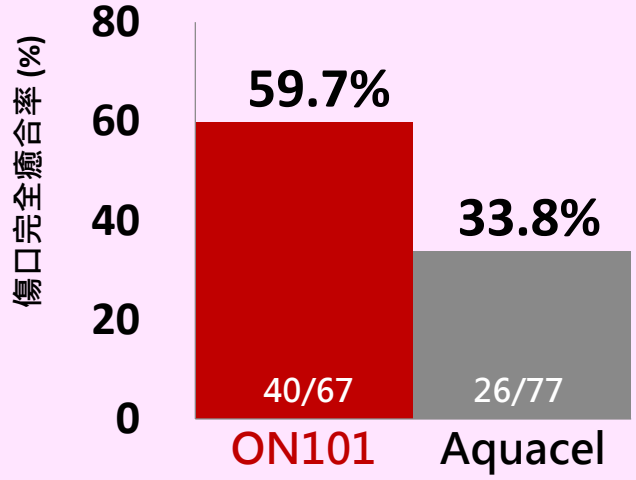
BMI ≥ 25 (體重過重) (P = 0.0004)



抽煙 (P = 0.0075)



糖尿病史 > 10年 (P = 0.0018)



SCI期刊

ONENESS

三期試驗 - 療效與安全性

ClinicalTrials.gov註冊編號：*NCT01898923*

IF: 13.366

JAMA Network | Open™

Original Investigation | Diabetes and Endocrinology

Effect of a Novel Macrophage-Regulating Drug on Wound Healing in Patients With Diabetic Foot Ulcers

A Randomized Clinical Trial

JAMA Netw Open. 2021;4(9):e2122607 | MRCT : Multi-center randomized clinical trial

SCI期刊

抑制M1巨噬細胞，活化M2巨噬細胞

重塑傷口微環境M1/M2巨噬細胞平衡

JID INNOVATIONS
Skin Science from Molecules to Population Health

ORIGINAL ARTICLE | ARTICLES IN PRESS, 100138

Restoring Pro-healing/remodeling- associated M2a/c Macrophages using ON101 Accelerates Diabetic Wound Healing

Ching-Wen Lin • Chih-Chiang Chen • Wen-Yen Huang • ... Li-Ying Liu • Ming-Liang Kuo • Shun-Cheng Chang • Show all authors

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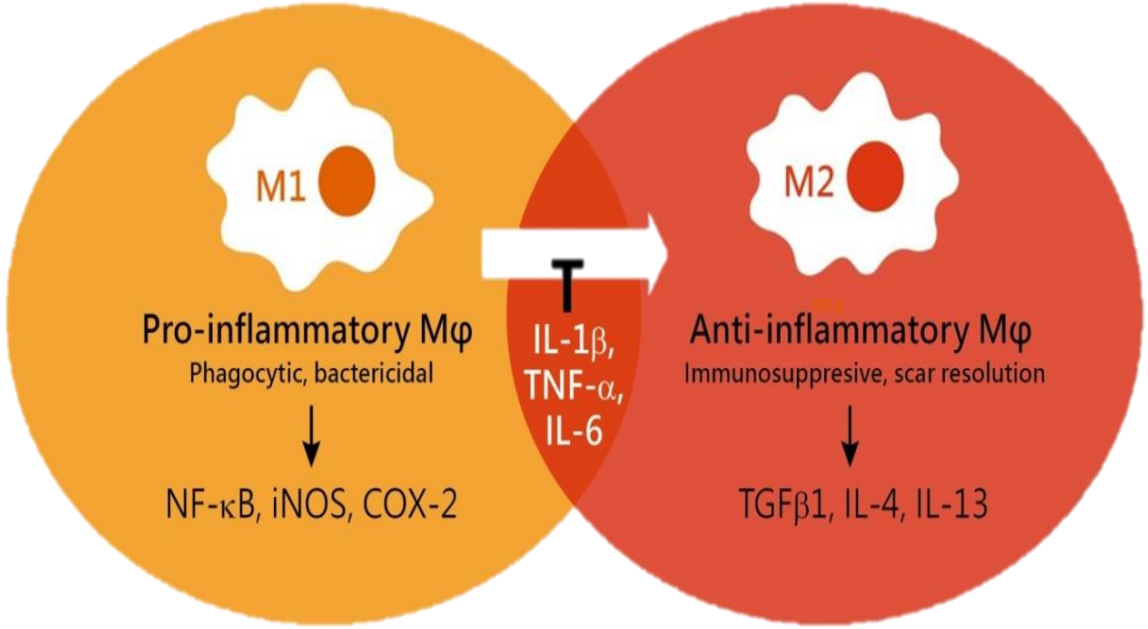

JID Innovations (2022), doi: https://doi.org/10.1016/j.xjidi.2022.100138.

SCI期刊

ONENESS

調控巨噬細胞免疫功能

有效治療多樣性糖足潰瘍

pharmaceutics

MDPI

Review

New Horizons of Macrophage Immunomodulation in the Healing of Diabetic Foot Ulcers

Ching-Wen Lin [1], Chien-Min Hung [2], Wan-Jiun Chen [2], Jui-Ching Chen [1], Wen-Yen Huang [2], Chia-Sing Lu [1], Ming-Liang Kuo [2,*] and Shyi-Gen Chen [1,3,*]

ON101 (速必一®) 於台灣上市後

難治性糖足潰瘍 真實病例研究

American Diabetes Association. | 82ND SCIENTIFIC SESSIONS | HYBRID | NEW ORLEANS | JUNE 3-7, 2022

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2022年6月 第82屆

美國糖尿病學會(ADA)發表

es

FU Real-world Case

Author Block: **SHYI-GEN CHEN**, YUN-NAN LIN, JUI-CHING CHEN, YUR-REN KUO, *Taipei, Taiwan, Kaohsiung,*

Abstract:

A 53-year-old female with type 2 DM (HbA_{1c} 11.7%), peripheral artery disease (PAD), hypertension, and hyperlipidemia was sent to the emergency room of K
an infected DFU with exposed tendon and ischemic necrosis (Figure 1a). Ankle brachial index of her right leg was 0.8 and angiography revealed severe sten
downgraded from Wagner grade IV to II after a 10-day treatment by broad-spectrum antibiotics and angioplasty for infection and ulcer severity control. Ho
inflammation and ischemia (Figure 1b). The growth of granulation tissue was limited despite using fat grafting to boost mesenchymal tissues. Pseudomonas
artificial dermis after further debridement and intravenous antibiotics but noted poor ingrowth of cells. The patient declined the recommended surgical re
macrophage-regulating drug, was applied twice a day. The ulcer area measured digitally by imitoMeasure, was 7.23cm^2 before treated by ON101 (Figure 1c)
healing is often hindered by DM or PAD despite of multiple interventions. Macrophage-regulation can be deemed as a novel approach to promote

Figure 1.
The DFU was presented with complicated skin and soft tissue infection and diagnosed as **Wagner grade IV.**

Figure 2.
The ulcer was downgraded to Wagner grade II after ag
treatment but persistent inflammation and ischemia pr
the tissue proliferation.

Figure 3.
Wound picture before **ON101 topical use.**

Figure 4.
The ulcer healed uneventfully after 16 weeks.

Macrophage-regulating Drug Healed a Diabetic foot Ulcer with Gangrene and Osteomyelitis

Shun-Cheng Chang, MD[1]; Shyi-Gen Chen, MD, MPH[2]; Jui-Ching Chen, PhD[2]; Yi-Hsin Wu[2]
1 Division of Plastic Surgery, Department of Surgery, Integrated Burn and Wound Care Center, Taipei Medical University-Shuang Ho Hospital, Taiwan
2 Department of Medical Science, Oneness Biotech Co., Ltd., Taiwan

Introduction

ON101 is a topical macrophage-regulating new drug for diabetic foot ulcers (DFUs). With its mechanism by inhibiting pro-inflammatory M1 macr
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Materials and methods

The presented case in figure 1B is a 77-year-old male with type 2 DM (Hb A1c 7.2%), peripheral artery disease (PAD), chronic kidney disease (CKD) stage 3, coronary artery disease, and a persisted DFU for 8 months. Deep with
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2022年9月 第51屆

歐洲皮膚病研究學會(ESDR)發表

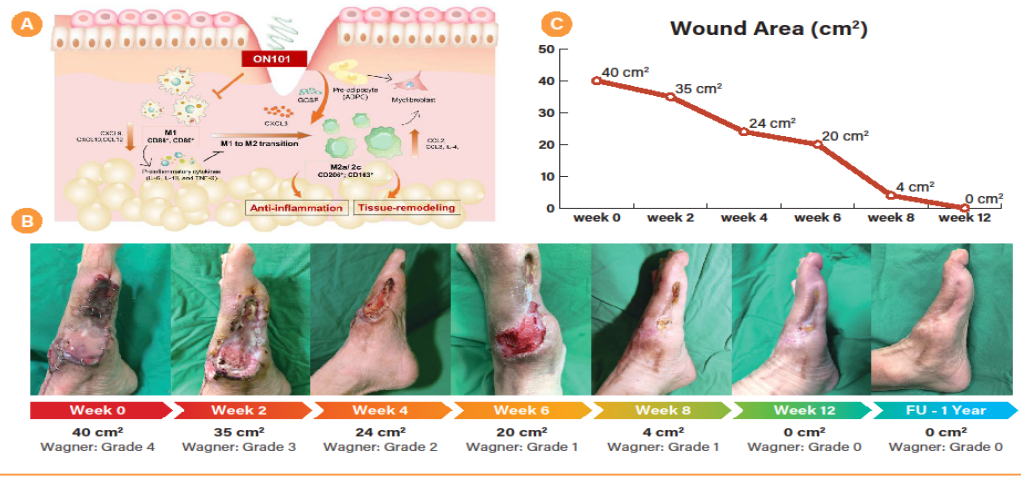
Results

The unresponsive ulcer to artificial dermis measured 40 cm^2 (figure 1C), prior to the treatment with ON101 and reached complete closure after 12 weeks. There is no treatment-related adverse event. The patient was able to walk wearing protective shoes without crutches or assistive devices, and can return to work. After a one-year follow-up (FU), the patient reminded ulcer-free. This has demonstrated the healing durability by ON101 treatment.

Discussion

The finding of this case study is in alignment with the previously-reported randomized, multi-regional phase 3 clinical trial on ON101, where a macrophage-regulator is different from moisture-retaining dressings can provide treatments with an active-healing ability for patients with chronic DFUs at an out-patient setting. This also provides an evidence-based approach in the proposed new treatment flow. Healing of full-thickness ulcers is commonly hindered by DM, PAD, or CKD despite of multiple interventions, and macrophage-regulation can be deemed as a novel approach to promote tissue repair on full-thickness skin ulcers, and suitable for routine care.

Figure 1



NPUAP 2級 褥瘡

- 92歲男性
- 患有高血壓、貧血
- 後背部、下肢長年患有多處褥瘡
- ON101治療後，3周 潰瘍面積縮小 45%，10週 完全癒合

8.8 cm^2 → 3 週 → 4.8 cm^2 → 7 週 → 癒合

深二度 燒傷

- 41歲男性
- 工作中發生深二度燒傷
- ON101治療後，6天 燒傷面積縮小 69%，12天 完全癒合

6.3 cm^2 → 6天 → 1.98 cm^2 → 6 天 → 癒合

ON101 (速必一®) 新药

- 自2021年起，開展全球上市計畫，目前進行大陸、新加坡、馬來西亞、泰國、菲律賓、印尼、越南上市申請審查中
- 同步執行以美國人種為主的第二個三期臨床試驗中
- 2026年達成全球上市目標，藥物目標病患 3,000萬人/年

首創新藥與國際連結

Globalization by Innovation