

原位再生医疗技术治疗创疡的典型病例介绍

Typical Case of Wounds and Ulcers Treated with MEBT/MEBO

【关键词】 湿润烧伤膏；原位再生医疗技术；创伤；溃疡；病例报告

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【Key words】 Moist Exposed Burn Ointment (MEBO); In Stiu Regenerative Medical Technology; Wound; Ulcer;

Case report

病例 1：李某某，女，78 岁

Case 1: LI XX, Female, 78 yrs old

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|-------------------------------------|---|------------------|----------------------------|--|--------------------|
| 患者姓名 Name of patient | 李某某 LI XX | 性 别 Gender | 女 Female | 年 龄 Age | 78 岁 78 yrs old |
| 职 业 Occupation | - | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 北京市丰台区南苑 Nanyuan, Fengtai District, Beijing | | | 邮 编 Post code | 100075 |
| 入院日期 Date of admission | 2014 - 05 - 12 | | 出院日期 Date of Discharge | 2014 - 07 - 21 | |
| 住院时间 Duration of hospitalization | 70 d | | 经治医生 Attending doctors | 陈永翀、张泰安、李青 CHEN Yong-chong, ZHANG Tai-an, LI Qing | |
| 经治医院 Hospital | 北京市丰台区南苑医院烧伤创疡科 Burns Wounds & Surface Ulcers Division of Fengtai Nanyuan Hospital, Beijing | | 地址/邮编 Address/post code | 北京市丰台区南苑公所胡同 3 号 (100076) No. 3, Gongsuo Hutong, Nanyuan, Fengtai District, Beijing (100076) | |
| 临床诊断 Clinical diagnosis | 1. 左臀部压疮 (3 期); 2. 2 型糖尿病; 3. 糖尿病周围血管、神经病变; 4. 双下肢动脉硬化闭塞症; 5. 高血压病; 6. 脑梗死 1. Pressure ulcer of left hip (grade Ⅲ); 2. Type Ⅱ diabetes; 3. Diabetic peripheral angiopathy and neuropathy; 4. Atherosclerosis obliterans in both lower extremities; 5. Hypertension; 6. Cerebral infarction | | | | |
| 病史情况 Medical history | 患者于 2013 年 10 月被发现左臀部局部红肿, 未予特殊处理, 随后逐渐出现皮肤溃烂, 面积约鸡蛋大小, 在家自行换药治疗, 但创面仍逐步扩大, 为求进一步治疗于 2014 年 5 月 12 日来本院就诊。 The patient was found that her left hip was topically red and swollen in October 2013, to which no attention was paid. Subsequently, skin ulceration gradually developed and the ulcerated area was about an egg size. After treated at home by herself, the wound continued to enlarge. The patient was admitted to our hospital on May 12, 2014 for further treatment. | | | | |
| 专科情况 Specialized check-up | 患者左臀部可见面积约 10.0 cm×9.0 cm 的溃疡创面, 深达筋膜, 基底呈红色或暗红色, 创面脓性分泌物较多, 且散在黄色坏死组织, 部分创面有痂皮覆盖, 创周无明显红肿。 The patient's left hip had an ulcer at a size about 10.0 cm×9.0 cm, extending deep to fascia. Partial wound base was in red or dark red color. More purulent secretion and interspersed yellow necrotic tissues were observed on the wound surface, with crust on partial wound surface. No obvious redness and swelling on wound periphery. | | | | |
| 治疗情况 Treatment | 患者入院后立即给予清创、去除痂皮、耕耘减张等处理, 并全程规范采用原位再生医疗技术治疗, 同时积极予以控制感染、调控血糖、改善微循环、营养支持等全身治疗。70 d 后创面基本愈合, 临床效果良好。 In addition to the immediate debridement, escharectomy and tension relieving operation after the admission, MEBT/MEBO was applied to manage the wound through the whole treatment course and systemic treatments such as strict infection control, blood glucose control, microcirculation improvement and nutrition support were given actively. 70 days later, the wound healed basically with satisfying clinical effects. | | | | |

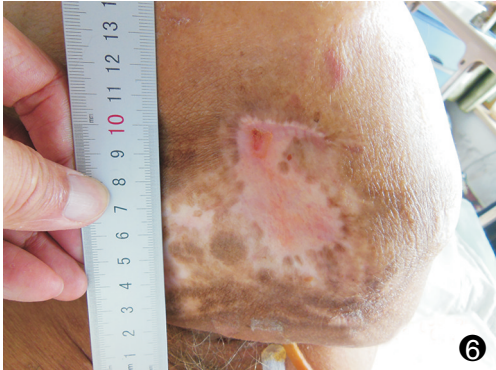
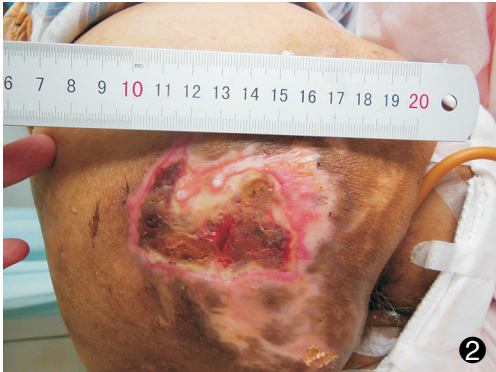


图 1 入院时创面情况；图 2 治疗 7 d 后创面情况；图 3 治疗 18 d 后创面情况；图 4 治疗 35 d 后创面情况；图 5 治疗 56 d 后创面情况；图 6 治疗 70 d 后创面基本愈合
Fig. 1 The wound condition on admission; Fig. 2 The wound condition 7 days after the treatment; Fig. 3 The wound condition 18 days after the treatment; Fig. 4 The wound condition 35 days after the treatment; Fig. 5 The wound condition 56 days after the treatment; Fig. 6 The wound healed basically 70 days after the treatment

病例 2：刘某某，女，63 岁

Case 2: LIU XX, Female, 63 yrs old

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|-------------------------------------|--|------------------|----------------------------|--|--------------------|
| 患者姓名 Name of patient | 刘某某 LIU XX | 性 别 Gender | 女 Female | 年 龄 Age | 63 岁 63 yrs old |
| 职 业 Occupation | 农民 Peasant | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 山西省吕梁市临县 Lin County, Lvliang City, Shanxi Province | | | 邮 编 Post code | 033200 |
| 入院日期 Date of admission | 2014 – 10 – 10 | | 出院日期 Date of Discharge | 2015 – 01 – 19 | |
| 住院时间 Duration of hospitalization | 102 d | | 经治医生 Attending doctors | 丁明华、秦国强 DING Ming-hua, QIN Guo-qiang | |
| 经治医院 Hospital | 中铁十二局集团中心医院创面修复科 Wound Repair Division of Central Hospital of China Railway 12th Bureau Group Co. , LTD | | 地址/邮编 Address/post code | 山西省太原市迎泽西大街 359 号（030053） No. 359, Yingzexi Street, Taiyuan City, Shanxi Province（030053） | |
| 临床诊断 Clinical diagnosis | 1. 右足糖尿病足（5 级）；2. 双下肢动脉硬化闭塞症；3. 2 型糖尿病 1. Diabetic ulcer of right foot（grade V）；2. Atherosclerosis obliterans in both lower extremities；3. Type II diabetes | | | | |
| 病史情况 Medical history | 患者于 1 年前无明显诱因出现右足背皮肤破溃，伴有少量出血及隐痛不适，自行予以消毒换药治疗，期间创面反复结痂、破溃。近 1 周来，破溃处出现流脓及周围皮肤红肿，继而出现足底红肿，右足第 4 足趾发黑、发干，疼痛及憋胀感明显，不能行走，为求进一步治疗遂来本院就诊。患者既往有 2 型糖尿病病史 20 余年，平素血糖控制差。 The patient presented with ulceration in his right dorsum pedis without obvious cause 1 year ago, with few bleeding and dull pain, so she conducted disinfection and dressing change at home, during which the ulceration ruptured and scabbed repeatedly. In recent 1 week, pus discharge was observed on the ulceration and the wound surrounding skin was red and swollen and then inflammation of planta pedis occurred. The fourth toe of right foot was black and dry, with obvious pain and swelling, resulting in walking difficulty, so the patient was admitted to our hospital for further treatment. The patient had diabetes for more than 20 years, with blood glucose usually poorly controlled. | | | | |
| 专科情况 Specialized check-up | 患者右足背外侧可见面积约 8.0 cm×4.0 cm 的溃疡创面，深达筋膜、骨膜，创面有淡黄色脓液流出，伴有恶臭，周围组织高度红肿；右足第 4 趾发黑、发干、坏死；右足底前 1/3 处皮肤高度肿胀，伴有破溃，并有淡黄色液体流出，溃疡面积约 8.0 cm×10.0 cm，表皮与基底分离，触压足底皮肤有“握雪”感，颜色苍白，创面深达骨膜；右足活动受限，第 4 足趾无自主活动，第 5 足趾关节活动差。右足 X 线检查结果显示：第 4 趾骨第 1 节近段部分骨质、中远段骨质及第 2 节骨质骨髓炎伴吸收改变，第 5 趾骨远端局部骨质破坏，右足部分跖趾骨多发囊性改变；下肢血管彩超示：双下肢动脉硬化伴双侧胫后动脉内斑块形成。 The lateral right dorsum pedis had an ulcer at the size of about 8.0 cm×4.0 cm, extending deep to fascia and periosteum, with light yellow pus seeping out on the wound surface and with stinky odor. The peripheral tissues were seriously inflamed；The fourth toe of right foot was black, dry and necrotic；the front 1/3 of the right planta pedis was very swollen, with ulceration and light yellow liquid. The ulcerated area was about 8.0 cm×10.0 cm. The epidermis and basal layer were separated and a feeling of “holding snow” existed while pressing the plantar skin, and the skin was in pale color. Periosteum can be touched by probe check；the movement of right foot was limited. The fourth toe of right foot had lost the ability of active movement and the fifth toe had poor joint mobility. X-ray examination for right foot：Destruction of the 1st segment of partial proximal sclerotin, the middle and distal sclerotin and the 2nd segment of sclerotin of the fourth phalanx caused by osteomyelitis, accompanied by altered absorption, destruction of partial distal sclerotin of the fifth phalanx and multiple cystic changes of partial metatarsal and phalangeal bones of right foot；vessel CDU of lower extremities：Arterio-sclerosis in both lower extremities, accompanied by plaque formation in bilateral posterior tibial arteries. | | | | |
| 治疗情况 Treatment | 入院后完善相关检查，了解全身及各脏器功能，予以胰岛素调控血糖、抗感染、抗氧化、活血化瘀、维持水电解质平衡、营养支持等全身综合治疗；同时，创面予以外科清创术+原位再生医疗技术规范治疗，每日换药 2 次，每次使用 40～80 g MEBO，治疗 102 d 后创面愈合，愈合效果满意。 After the admission, relevant examinations were done to understand the functions of the whole body and every organ, and systemic treatments were given including blood glucose control by giving insulin, anti-infection, anti-oxidation, blood circulation promotion and stasis removal, water and electrolyte balance maintenance and nutrition support；meantime, the wound was given surgical debridement and normative application of MEBT/MEBO, and the dressing was changed twice a day, with 40～80 g MEBO per time. 102 days later, the wound healed well. | | | | |



图 1 - 2 入院时创面情况；图 3 - 8 应用原位再生医疗技术治疗过程中创面情况
Fig. 1 - 2 The wound condition on admission; Fig. 3 - 8 The wound condition during the application of MEBT/MEBO

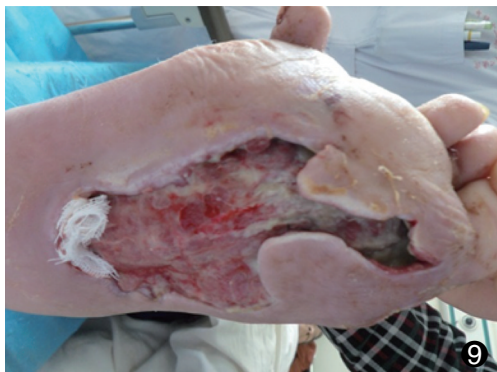


图 9 - 14 应用原位再生医疗技术治疗过程中创面情况；图 15 - 16 应用原位再生医疗技术治疗 102 d，创面基本愈合

Fig. 9 - 14 The wound condition during the application of MEBT/MEBO; Fig. 15 - 16 The wound healed basically after the application of MEBT/MEBO for 102 days

病例 3：刘某某，男，50 岁

Case 3: LIU XX, Male, 50 yrs old

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|-------------------------------------|---|------------------|----------------------------|---|--------------------|
| 患者姓名 Name of patient | 刘某某 LIU XX | 性 别 Gender | 男 Male | 年 龄 Age | 50 岁 50 yrs old |
| 职 业 Occupation | - | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 北京市大兴区西红门 Xihongmen Town, Daxing District, Beijing | | | 邮 编 Post code | 100162 |
| 入院日期 Date of admission | 2015 -03 -06 | | 出院日期 Date of Discharge | 2015 -04 -09 | |
| 住院时间 Duration of hospitalization | 34 d | | 经治医生 Attending doctors | 闵振兴、张勇、李际涛 MIN Zhen-xing, ZHANG Yong, LI Ji-tao | |
| 经治医院 Hospital | 北京市宣武中医医院 XuanWu TCM Hospital, Beijing | | 地址/邮编 Address/post code | 北京市西城区万明路 13 号（100000） No. 13, Wanming Road, Xicheng District, Beijing（100000） | |
| 临床诊断 Clinical diagnosis | 左胫前外伤后血肿伴感染 The left anterior shank had hematoma and infection after trauma | | | | |
| 病史情况 Medical history | 患者 20 d 前不慎从扶梯上滑落，致左小腿挫伤，当时疼痛难忍、局部肿胀，立即于当地医院就诊，X 线检查结果显示：未见明显骨折迹象。予以局部常规换药、口服抗生素治疗后未见明显好转，且红肿、疼痛逐渐加重，遂来本院就诊。入院时患者精神尚可，左小腿肿痛，活动尚可，无明显发热，食纳可，睡眠安，大便尚可，小便频、少。患者既往无其他特殊病史。 The patient accidentally slipped down from the escalator 20 days ago and bruised his left leg, and then the patient was immediately admitted to a local hospital due to unbearable pain and local swelling. The result of X-ray examination showed: No obvious signs of fracture. No obvious improvement was seen after local routine dressing change and oral administration of antibiotics, and the inflammation and pain aggravated gradually, so the patient was admitted to our hospital for further treatment. The patient had good spirit and inflamed left shank on admission, with average mobility, no obvious fever, good appetite and sleep, average defecation but frequent and less urination. The patient did not have any other special medical history. | | | | |
| 专科情况 Specialized check-up | 患者左胫前可见面积约 5.0 cm × 10.0 cm 的肿胀区，局部皮温略高，皮肤柔软，有波动感，触之疼痛；肿胀区域中间可见面积约 1.0 cm × 9.0 cm 的黑色结痂，质略硬，痂下有波动感；可扪及足背动脉搏动。 The left anterior shank had a swelling area at the size of about 5.0 cm × 10.0 cm, soft texture, slight higher local skin temperature, a sense of fluctuation and tenderness; a black scab at the size of about 1.0 cm × 9.0 cm and with slightly firm texture was noted in the middle of the swelling area and fluctuation under the scab could be felt; the dorsalis pedis artery was palpable. | | | | |
| 治疗情况 Treatment | 入院后于静脉全麻下行血肿切开清创引流术，术中沿黑色结痂边缘切开皮肤，去除痂皮及坏死组织后可见皮下空腔，切口长约 10.0 cm，内含大量红黑色血凝块，充分清除血凝块后用双氧水、生理盐水交替冲洗空腔，未见活动性出血，切口近端 3.0 cm 间断缝合 4 针，远端 7.0 cm 用 MEBO 药纱填塞后无菌纱布加压包扎。术后每日换药 2 次，直至创面愈合。 After the admission, the hematoma was cut open under intravenous anesthesia for debridement and drainage. During the operation, cut the skin along the edges of the black scab and the incision was about 10.0 cm in length, and a subcutaneous cavity was visible after the removal of crust and necrotic tissues, with a large number of red and black blood clots inside. After completely removing the blood clots, flushed the cavity alternately with hydrogen peroxide and normal saline, during which no active bleeding was observed. The proximal incision of 3.0 cm was given interrupted sutures for 4 needles and the distal 7.0 cm was given compression bandage with sterile gauze after the packing of MEBO-impregnated gauze. After the operation, dressing was changed twice a day until the wound healed. | | | | |

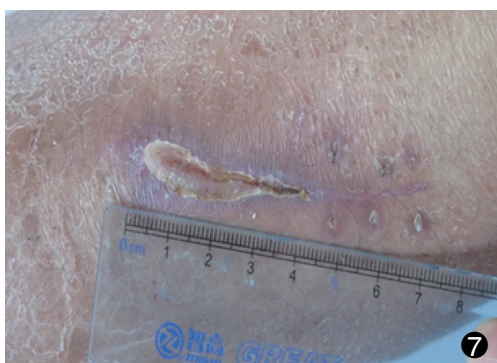
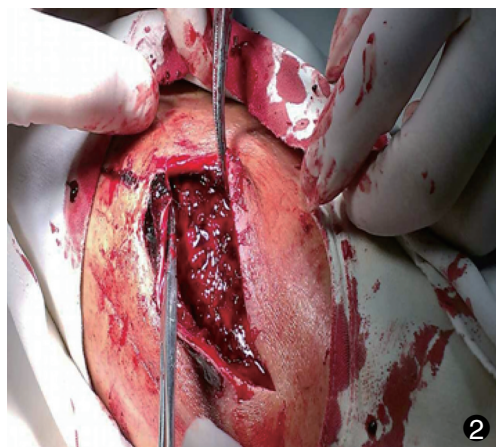


图 1 入院时创面情况；图 2 清创术中创面情况；图 3 治疗 3 d 时创面情况；图 4 治疗 7 d 时创面情况；图 5 治疗 12 d 时创面情况；图 6 治疗 21 d 时创面情况；图 7 治疗 28 d 时创面情况；图 8 治疗 34 d 时创面愈合，患者出院

Fig. 1 The wound condition on admission; Fig. 2 The wound condition during the operation; Fig. 3 The wound condition 3 days after the treatment; Fig. 4 The wound condition 7 days after the treatment; Fig. 5 The wound condition 12 days after the treatment; Fig. 6 The wound condition 21 days after the treatment; Fig. 7 The wound condition 28 days after the treatment; Fig. 8 The wound healed 34 days after the treatment and discharged from the hospital

病例 4：曲某某，女，71 岁

Case 4: QU XX, Female, 71 yrs old

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|-------------------------------------|--|------------------|----------------------------|--|--------------------|
| 患者姓名 Name of patient | 曲某某 QU XX | 性 别 Gender | 女 Female | 年 龄 Age | 71 岁 71 yrs old |
| 职 业 Occupation | 工人 Worker | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 北京市丰台区和义南路 121 号 No. 121, Heyi South Road, Fengtai District, Beijing | | | 邮 编 Post code | 100076 |
| 入院日期 Date of admission | 2013 -02 -01 | | 出院日期 Date of Discharge | 2013 -09 -28 | |
| 住院时间 Duration of hospitalization | 239 d | | 经治医生 Attending doctors | 陈永翀、李青、张泰安 CHEN Yong-chong, LI Qing, ZHANG Tai-an | |
| 经治医院 Hospital | 北京市丰台区南苑医院烧伤创疡科 Burns Wounds & Surface Ulcers Division of Fengtai Nanyuan Hospital, Beijing | | 地址/邮编 Address/post code | 北京市丰台区南苑公所胡同 3 号（100076） No. 3, Gongsuo Hutong, Nanyuan, Fengtai District, Beijing（100076） | |
| 临床诊断 Clinical diagnosis | 1. 右髋部压疮合并感染（3 期）；2. 2 型糖尿病；3. 高血压病；4. 冠心病；5. 脑梗死后遗症 1. Pressure ulcer and infection of right hip（gradeⅢ）；2. TypeⅡ diabetes；3. Hypertension；4. Coronary heart disease；5. Sequelae of cerebral infarction | | | | |
| 病史情况 Medical history | 患者因右髋部皮肤溃烂 1 月余入院。既往有 2 型糖尿病、高血压病、冠心病病史数年。 Admitted into the hospital due to skin ulceration of right hip for over 1 month. The patient has typeⅡ diabetes, hypertension and coronary heart disease for many years. | | | | |
| 专科情况 Specialized check-up | 患者溃疡创面位于右髋部股骨大转子处，创面面积约 4.5 cm×3.5 cm，深达深筋膜，潜腔面积约 9.5 cm×6.5 cm，创腔有较多脓性分泌物和坏死筋膜组织，部分创面覆盖黑色痂皮。 There was an ulcer at the greater trochanter of femur of patient's right hip at the size of about 4.5 cm×3.5 cm, extending deep to fascia. The hidden cavity was about 9.5 cm×6.5 cm, with much purulent secretion and necrotic fascial tissues in the wound cavity. Partial wound surface was covered with black crust. | | | | |
| 治疗情况 Treatment | 患者入院后阶段性使用抗生素控制感染，创面予以扩大清创处理，清除创面及创腔内的坏死筋膜、肌腱等组织后规范应用原位再生医疗技术治疗。208 d 后创面愈合，愈合过程顺利，无疼痛、出血等不良反应；随访 9 个月，无明显瘢痕增生，临床效果满意。 After the admission, antibiotics was used periodically for anti-infection and the wound was managed with debridement to remove the necrotic fascia and tendon tissues on the wound surface and in wound cavity, followed by normative application of MEBT/MEBO. 208 days later, the wound healed smoothly, with no pain and hemorrhage or other adverse reactions；nine-month follow up showed the wound healed with satisfying healing effects, no obvious scar hyperplasia. | | | | |



图 1 入院时创面情况；图 2 治疗 3 d 后创面情况；图 3 治疗 41 d 后创面情况；图 4 治疗 53 d 后创面情况；图 5 治疗 68 d 后创面情况；图 6 治疗 135 d 后创面情况；图 7 治疗 168 d 后创面情况；图 8 治疗 182 d 后创面情况

Fig. 1 The wound condition on admission; Fig. 2 The wound condition 3 days after the treatment; Fig. 3 The wound condition 41 days after the treatment; Fig. 4 The wound condition 53 days after the treatment; Fig. 5 The wound condition 68 days after the treatment; Fig. 6 The wound condition 135 days after the treatment; Fig. 7 The wound condition 168 days after the treatment; Fig. 8 The wound condition 182 days after the treatment

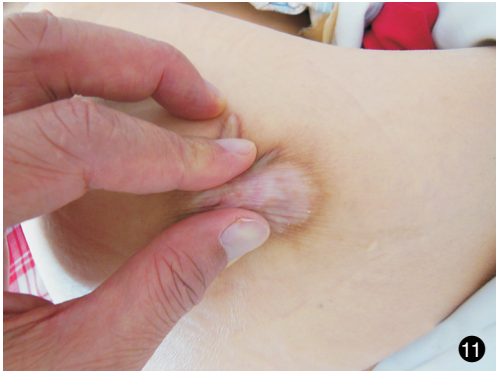
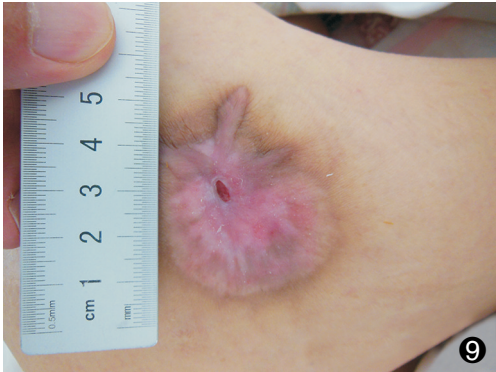


图 9 治疗 236 d 后创面情况；图 10 - 11 出院后 50 d 随访时创面愈合情况；图 12 - 13 出院后 127 d 随访时创面愈合情况；图 14 - 15 出院后 260 d 随访时创面愈合情况

Fig. 9 The wound condition 236 days after the treatment； Fig. 10 - 11 The healing condition of the wound in the follow-up after discharge for 50 days； Fig. 12 - 13 The healing condition of the wound in the follow-up after discharge for 127 days； Fig. 14 - 15 The healing condition of the wound in the follow-up after discharge for 260 days

病例 5：任某某，女，91 岁

Case 5: REN XX, Female, 91 yrs old

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|-------------------------------------|---|------------------|----------------------------|--|--------------------|
| 患者姓名 Name of patient | 任某某 REN XX | 性 别 Gender | 女 Female | 年 龄 Age | 91 岁 91 yrs old |
| 职 业 Occupation | 农民 Peasant | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 北京市丰台区和义农场 Heyi Farm, Fengtai District, Beijing | | | 邮 编 Post code | 100076 |
| 入院日期 Date of admission | 2014 -03 -06 | | 出院日期 Date of Discharge | 2014 -05 -08 | |
| 住院时间 Duration of hospitalization | 62 d | | 经治医生 Attending doctors | 陈永翀、李青、张泰安 CHEN Yong-chong, LI Qing, ZHANG Tai-an | |
| 经治医院 Hospital | 北京市丰台区南苑医院烧伤创疡科 Burns Wounds & Surface Ulcers Division of Fengtai Nanyuan Hospital, Beijing | | 地址/邮编 Address/post code | 北京市丰台区南苑公所胡同 3 号（100076） No. 3, Gongsuo Hutong, Nanyuan, Fengtai District, Beijing（100076） | |
| 临床诊断 Clinical diagnosis | 1. 右髋部压疮合并感染（4 期）；2. 2 型糖尿病；3. 高血压病；4. 冠心病；5. 脑梗死后遗症 1. Pressure ulcer and infection of right hip（grade IV）；2. Type II diabetes；3. Hypertension；4. Coronary heart disease；5. Sequelae of cerebral infarction | | | | |
| 病史情况 Medical history | 患者因右髋部皮肤溃烂 2 月余入院。既往有 2 型糖尿病、冠心病、高血压病史数年。 Admitted into the hospital due to skin ulceration of right hip for over 2 months. The patient has type II diabetes, coronary heart disease and hypertension for many years. | | | | |
| 专科情况 Specialized check-up | 患者右髋部股骨大转子处可见面积约 4.5 cm×3.5 cm 的溃疡创面，深达筋膜，部分创面覆盖黑色痂皮，创腔内有较多脓性分泌物和坏死筋膜组织。 There was ulcer at the greater trochanter of femur of patient's right hip, at the size of about 4.5 cm×3.5 cm, extending deep to fascia, with a lot of purulent secretion and necrotic fascial tissues in the wound cavity, and partial wound surface was covered with black crust. | | | | |
| 治疗情况 Treatment | 患者入院后阶段性使用抗生素控制感染，创面予以清创处理，清除创面坏死筋膜、肌腱等组织后规范应用原位再生医疗技术治疗。62 d 后创面愈合，愈合过程顺利，无疼痛、出血等不良反应；随访 1 个月，无明显瘢痕增生，临床效果满意。 After the admission, antibiotics was used periodically for anti-infection；after the debridement was performed to remove the necrotic fascia and tendon tissues on the wound surface, MEBT/MEBO was applied normatively to manage the wound. 62 days later, the wound healed smoothly, with no pain and hemorrhage or other adverse reactions；one month follow up showed the wound healed with satisfying healing effects, with no obvious scar hyperplasia. | | | | |

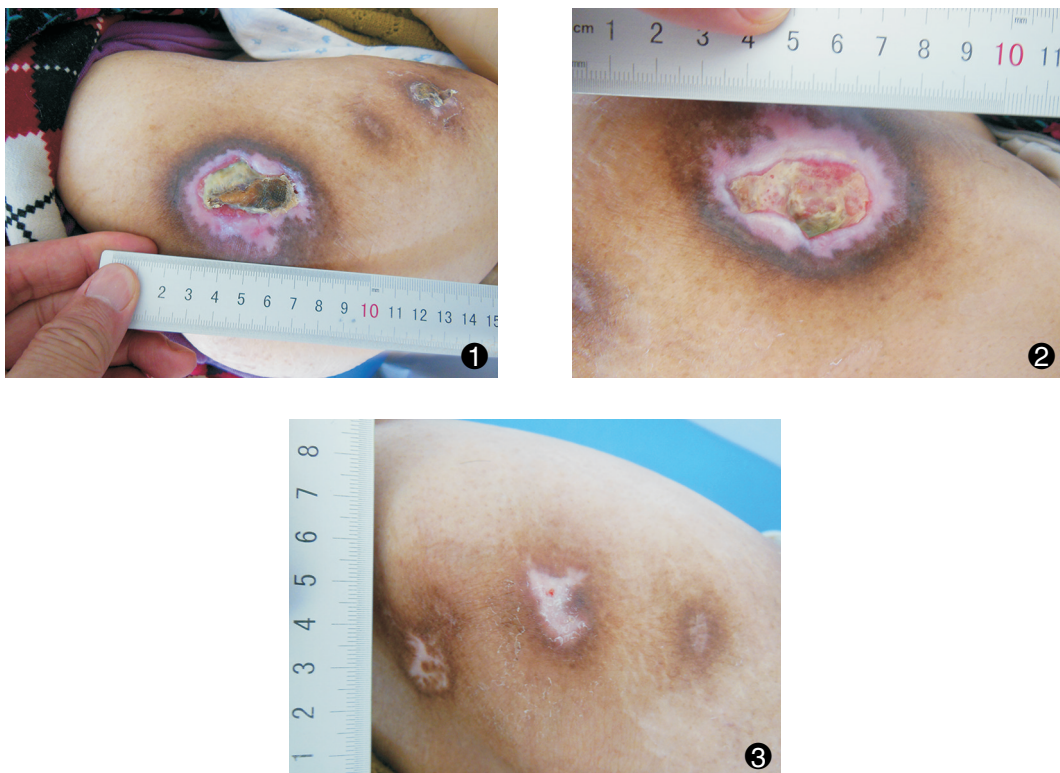


图 1 入院时创面情况；图 2 治疗 7 d 后创面情况；图 3 治疗 62 d 后创面愈合良好

Fig. 1 The wound condition on admission; Fig. 2 The wound condition 7 days after the treatment;

Fig. 3 The wound healed well 62 days after the treatment

病例 6：朱某某，女，57 岁

Case 6: ZHU XX, Female, 57 yrs old

| | | | | | |
|-------------------------------------|---|------------------|----------------------------|--|--------------------|
| 患者姓名 Name of patient | 朱某某 ZHU XX | 性 别 Gender | 女 Female | 年 龄 Age | 57 岁 57 yrs old |
| 职 业 Occupation | 农民 Peasant | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 广西省桂平市 Guiping City, Guangxi Province | | | 邮 编 Post code | 537200 |
| 入院日期 Date of admission | 2014 -07 -21 | | 出院日期 Date of Discharge | 2014 -12 -15 | |
| 住院时间 Duration of hospitalization | 148 d | | 经治医生 Attending doctor | 杨勇华 YANG Yong-hua | |
| 经治医院 Hospital | 广西省桂平市中医医院 Guiping TCM Hospital of Guangxi Province | | 地址/邮编 Address/post code | 广西省桂平市桂平镇城西街 523 号 (537200) No. 523, Chengxi Street, Guiping Town, Guiping City, Guangxi Province (537200) | |
| 临床诊断 Clinical diagnosis | 1. 左足糖尿病足（3 级）；2. 2 型糖尿病 1. Diabetic ulcer of left foot (grade Ⅲ)；2. Type Ⅱ diabetes | | | | |
| 病史情况 Medical history | 患者于 2 个多月前无明显诱因出现左足红肿、疼痛，无发热畏寒、头晕头痛、胸闷乏力、多饮多尿等症状。病后于当地卫生所输液治疗（具体不详），但病情反而加重，足底破溃、渗液，自行敷药治疗。近日来，左足红肿、疼痛继续加重，足底创面渗液，迁延不愈，为求进一步治疗遂来本院就诊。入院时，患者神清，精神好，尚能站立行走，低热，无畏寒，无胸闷乏力，纳寐一般，二便调。患者既往有 2 型糖尿病病史 4 年，一直服药（二甲双胍 + 格列本脲）治疗，未规律监测血糖，血糖控制情况不详。 The patient presented with inflammation and pain in his left foot without obvious cause over 2 months ago, without symptoms such as fever, chill, dizziness, headache, chest tightness, fatigue, polydipsia or polyuria. Then the patient was given transfusion treatment in the local health centre (no exact details were given), but the condition aggravated, with ulceration and seepage in the foot sole, which was treated with some ointments at home. In recent days, the inflammation and pain of the left foot aggravated seriously and the wound delayed to heal with more exudates, so the patient was admitted to our hospital for further treatment. The patient had clear consciousness, good spirit and can stand up and walk on admission, with mild fever but no chill, chest tightness and fatigue, with ordinary diet and sleeping and normal urination and defecation. The patient had diabetes for 4 years and always took metformin and glyburide for treatment, without regular blood glucose monitoring. The conditions of blood glucose control were unknown. | | | | |
| 专科情况 Specialized check-up | 患者左足可见面积约 4.0 cm × 8.0 cm 的足底至足背贯通的溃疡创面，渗液、红肿、疼痛明显；未触及左足足背动脉搏动。左足 X 线检查结果显示：未见异常。 The patient's left foot had an penetrating ulcer from planta pedis to dorsalis pedis at the size of about 4 cm × 8 cm, with obvious exudation, swelling and pain; the pulse of left foot dorsalis pedis artery was impalpable. X-ray examination for left foot: no abnormalities. | | | | |
| 治疗情况 Treatment | 入院后完善相关检查，予以胰岛素控制血糖，根据创面分泌物培养及药敏试验结果给予抗感染、改善微循环、营养支持等全身治疗；同时，患足行外科清创术，术后全程应用皮肤原位再生医疗技术治疗，148 d 后创面愈合，愈合效果满意。 After the admission, relevant examinations were done and systemic treatments were given including controlling blood glucose by insulin, fighting infection based on the results of wound bacterial culture and drug sensitive test, improving micro-circulation and supplying nutrition; meanwhile, the wound was managed with surgical debridement, followed by the whole-course application of MEBT/MEBO. 148 days later, the wound healed well. | | | | |



图 1 入院时创面情况；图 2 - 8 应用原位再生医疗技术治疗过程中创面情况；图 9 应用原位再生医疗技术治疗 148 d，创面愈合

Fig.1 The wound condition on admission； Fig.2 - 8 The wound condition during the application of MEBT/MEBO； Fig.9 The wound healed after the application of MEBT/MEBO for 148 days

病例 7：林某某，女，60 岁

Case 7：LIN XX, Female, 60 yrs old

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|-------------------------------------|---|------------------|----------------------------|---|--------------------|
| 患者姓名 Name of patient | 林某某 LIN XX | 性 别 Gender | 女 Female | 年 龄 Age | 60 岁 60 yrs old |
| 职 业 Occupation | 农民 Peasant | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 广东省茂名市 Maoming City, Guangdong Province | | | 邮 编 Post code | 525000 |
| 入院日期 Date of admission | 2015 -03 -03 | | 出院日期 Date of Discharge | 2015 -05 -02 | |
| 住院时间 Duration of hospitalization | 60 d | | 经治医生 Attending doctor | 陈铮 CHEN Zheng | |
| 经治医院 Hospital | 广东省韶关市第一人民医院 Shaoguan First People 's Hospital, Guangdong Province | | 地址/邮编 Address/post code | 广东省韶关市东堤南路 3 号（512000） No. 3, Dongdi South Road, Shaoguan City, Guangdong Province（512000） | |
| 临床诊断 Clinical diagnosis | 1. 右足糖尿病足（4 级）；2. 2 型糖尿病 1. Diabetic ulcer of right foot（gradeⅣ）；2. TypeⅡ diabetes | | | | |
| 病史情况 Medical history | 患者于 3 个月前无明显诱因出现右足第 4 趾足背皮肤溃烂，未予规范治疗；2 个月后因创面进行性加重，于当地医院治疗，予以坏死第 4 趾切除术，术后创面延迟不愈，且继续扩大；1 个月前右足第 5 趾也因坏死而切除，但创面持续流脓，迁延不愈，遂来本院就诊。既往有 2 型糖尿病病史若干年。 The patient presented with skin ulceration in his dorsum pedis of the right fourth toe without obvious cause 3 months ago, which was not given normative treatment；2 months later, the patient was admitted to the local hospital due to wound aggravation and the necrotic fourth toe was removed. After the operation, the wound didn't heal and continued to enlarge；1 month ago, the right fifth toe was also removed due to necrosis, but the wound continued to discharge pus and didn't heal, so the patient was admitted to our hospital. The patient has diabetes for many years. | | | | |
| 专科情况 Specialized check-up | 患者右足第 4 趾掌连接处的足背皮肤可见面积约 3.0 cm×4.0 cm 的溃疡创面，深达骨质，右足第 4、5 趾缺如；右足红肿、疼痛明显，并发湿性坏疽、坏死性筋膜炎、脓肿及骨髓炎。X 线检查结果显示：右足第 4、5 趾骨缺如，第 4、5 跖骨远端骨质破坏；下肢血管彩超示：右股浅动脉、腘动脉 100% 闭塞。 The dorsum pedis skin at the connection of palmaris and plantaris of the right fourth toe had an ulcer at a size of about 3.0 cm×4.0 cm, extending deep to sclerotin and the defect of the right fourth and fifth toes was observed；the right foot was inflamed with obvious pain, which was complicated by wet gangrene, necrotizing fasciitis, abscess and osteomyelitis. X-ray examination；defect of the right fourth and fifth phalanxes and destruction of distal sclerotin of the fourth and fifth metatarsal bones；Vessel CDU for lower extremities；100% occlusion of superficial femoral artery and popliteal artery. | | | | |
| 治疗情况 Treatment | 入院后完善相关检查，予以抗感染、通血管、改善微循环、调控血糖、口服拜阿司匹林等全身综合治疗；同时，创面全程予以外科清创术+原位再生医疗技术治疗，60 d 后创面愈合良好。 After the admission, relevant examinations were done and systemic treatments were given including anti-infection, vessel recanalization, circulation improvement, blood glucose control and oral administration of Aspirin Enteric-coated Tablets；meanwhile, the wound was treated with surgical debridement and MEBT/MEBO, and 60 days later, the wound healed well. | | | | |



图 1 入院时创面情况；图 2-3 清创术中创面情况；图 4-8 应用原位再生医疗技术治疗过程中创面情况
Fig. 1 The wound condition on admission; Fig. 2-3 The wound condition during the debridement; Fig. 4-8 The wound condition during the application of MEBT/MEBO



图 9 - 11 应用原位再生医疗技术治疗过程中创面情况；图 12 应用原位再生医疗技术治疗 60 d，创面愈合

Fig. 9 - 11 The wound condition during the application of MEBT/MEBO; Fig. 12 The wound healed after the application of MEBT/MEBO for 60 days

病例 8：赵某某，女，75 岁

Case 8: ZHAO XX, Female, 75 yrs old

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|-------------------------------------|---|------------------|----------------------------|--|--------------------|
| 患者姓名 Name of patient | 赵某某 ZHAO XX | 性 别 Gender | 女 Female | 年 龄 Age | 75 岁 75 yrs old |
| 职 业 Occupation | 农民 Peasant | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 广东省 Guangdong Province | | | 邮 编 Post code | 510000 |
| 入院日期 Date of admission | 2015 -03 -09 | | 出院日期 Date of Discharge | 2015 -04 -17 | |
| 住院时间 Duration of hospitalization | 49 d | | 经治医生 Attending doctor | 陈强 CHEN Qiang | |
| 经治医院 Hospital | 广东省台山市中医院 Taishan TCM Hospital of Guangdong Province | | 地址/邮编 Address/post code | 广东省台山市台城沙岗湖路 100 号（529200） No. 100, Shaganghu Road, Taicheng Town, Taishan City, Guangdong Province（529200） | |
| 临床诊断 Clinical diagnosis | 1. 双足糖尿病足（3 级）；2. 糖尿病视网膜病变；3. 糖尿病外周神经病变；4. 2 型糖尿病；5. 肝硬化（失代偿） 1. Diabetic ulcer of both feet (grade Ⅲ)；2. Diabetic retinopathy；3. Diabetic peripheral neuropathy；4. Type Ⅱ diabetes；5. Cirrhosis (decompensated) | | | | |
| 病史情况 Medical history | 患者于 1 个月前被热水烫伤双足背，自行治疗后未见好转，创面流脓，遂来本院就诊。既往有 2 型糖尿病病史若干年。 The patient’s dorsum of both feet was scalded by hot water 1 month ago and the scald was not improved after the treatment by herself at home. The patient was admitted to our hospital due to seepage and festering on the wound surface. The patient has diabetes for many years. | | | | |
| 专科情况 Specialized check-up | 患者左足足背可见 2 处面积分别约 3.0 cm×5.0 cm 和 1.0 cm×1.0 cm 的溃疡创面，深达足骨，右足足背可见 1 处面积约 3.0 cm×5.0 cm 的溃疡创面，深达足骨；双足红肿、疼痛，可触及腓动脉和足背动脉搏动，并发坏死性筋膜炎和化脓性腱鞘炎；下肢血管彩超示：双下肢动脉硬化并多发斑块形成。 The patient’s left dorsum pedis had 2 ulcers, at the sizes of 3.0 cm×5.0 cm and 1.0 cm×1.0 cm respectively, and the right dorsum pedis had 1 ulcer at the size of 3.0 cm×5.0 cm, all extending deep to foot bones；the feet were inflamed and aching, with the pulses of popliteal artery and dorsalis pedis artery palpable, and necrotizing fasciitis and suppurative tenosynovitis；CDU for lower extremities；Arteriosclerosis of both lower extremities, complicated with multiple plaque formation. | | | | |
| 治疗情况 Treatment | 入院后完善相关检查，予以调控血糖、营养支持等全身综合治疗；同时，创面予以外科清创术 + 原位再生医疗技术治疗，49 d 后创面愈合，愈合效果满意。 After the admission, relevant examinations were done and systemic treatments were given including blood glucose control and nutrition support；meanwhile, the wound was treated with surgical debridement and MEBT/MEBO. 49 days later, the wound healed well. | | | | |



图 1 - 2 入院时创面情况；图 3 - 4 清创术后创面情况；图 5 - 12 应用原位再生医疗技术治疗过程中创面情况

Fig. 1 - 2 The wound condition of the feet on admission； Fig. 3 - 4 The wound condition after the debridement；

Fig. 5 - 12 The wound condition during the application of MEBT/MEBO



图 13 - 20 应用原位再生医疗技术治疗过程中创面情况；图 21 - 22 应用原位再生医疗技术治疗 49 d，创面愈合

Fig. 13 - 20 The wound condition during the application of MEBT/MEBO; Fig. 21 - 22 The wound healed after the application of MEBT/MEBO for 49 days

病例 9：蒙某某，男，75 岁

Case 9：MENG XX, Male, 75 yrs old

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|-------------------------------------|--|------------------|----------------------------|--|--------------------|
| 患者姓名 Name of patient | 蒙某某 MENG XX | 性 别 Gender | 男 Male | 年 龄 Age | 75 岁 75 yrs old |
| 职 业 Occupation | 退休 Retired | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 广西省南宁市 Nanning City, Guangxi Province | | | 邮 编 Post code | 530000 |
| 入院日期 Date of admission | 2014 - 11 - 19 | | 出院日期 Date of Discharge | 2015 - 05 - 16 | |
| 住院时间 Duration of hospitalization | 179 d | | 经治医生 Attending doctors | 覃文玺、李杰辉 QIN Wen-xi, LI Jie-hui | |
| 经治医院 Hospital | 广西中医药大学第一附属医院 The First Affiliated Hospital of Guangxi University of Chinese Medicine | | 地址/邮编 Address/post code | 广西省南宁市东葛路 89-9 号（530023） No. 89-9, Dongge Road, Nanning City, Guangxi Province (530023) | |
| 临床诊断 Clinical diagnosis | 1. 右足糖尿病足（5 级）；2. 2 型糖尿病；3. 前列腺增生 1. Diabetic ulcer of right foot (grade V); 2. Type II diabetes; 3. Prostatic hyperplasia | | | | |
| 病史情况 Medical history | 患者于 1 个月前因右足不慎擦伤致右足第 5 趾局部皮肤破溃、疼痛，未予特殊处理。2 周前溃疡加重，自行外涂“云南白药”“紫药水”等治疗，未见好转，局部创面逐渐变黑、坏死，伴有恶臭，周围组织红肿，触压痛明显，无发热，为求进一步治疗遂来本院就诊。入院时，患者无法下地行走，无发热，无胸闷不适，无腹痛腹胀，纳寐可，夜尿 2 次，大便正常。患者既往有 2 型糖尿病病史若干年。 The patient presented with ulceration and pain of local skin of his fifth toe of right foot due to accidental abrasion without special treatment . 2 weeks ago, the wound aggravated and was treated with Yunnan Baiyao and gentian violet by the patient himself, but it did not turn better. Local wound gradually became black, necrotized and smelled badly and the peripheral tissues were inflamed, with obvious tenderness but no fever. The patient was admitted to our hospital for further treatment. The patient was not able to walk on admission, without fever, chest tightness, abdominal pain or abdominal distension, and with general sleeping condition and regular bowel movement and 2 times of urination at night. The patient had the history of diabetes for many years. | | | | |
| 专科情况 Specialized check-up | 患者右足第 5 趾乌黑坏死、干枯，基底部呈环状溃疡面，面积约 8.0 cm ² ，第 5 趾近端外侧皮肤瘀黑，表皮浮脱，有少许脓液及淡黄色液体，伴有明显恶臭；右足底可见 1 处面积约 2.0 cm × 3.0 cm 的水疱，未破溃；右足背及小腿下段肿胀，触压痛明显，皮温高；右足足背动脉搏动未触及，并发坏死性筋膜炎、化脓性腱鞘炎及骨髓炎。右足 X 线检查结果显示：右足第 5 趾及周围软组织改变；下肢血管彩超示：双下肢股总动脉、股浅动脉、腘动脉、胫前动脉、胫后动脉、足背动脉粥样硬化伴斑块形成，左侧胫后动脉闭塞，右侧胫后动脉远端狭窄。 The patient’s fifth toe of right foot was black, necrotized and dry and the wound base had a ring-like ulcer at the size of about 8.0 cm ² . The proximal lateral skin of the fifth toe was bruised, with epidermis floated and sloughed, little pus and light yellow liquid seeping out, and stinky odor; the right planta pedis had a blister, at the size of about 2.0 cm × 3.0 cm, without ulceration; the right dorsalis pedis and shank were swollen, with obvious tenderness and higher skin temperature; the pulse of right foot dorsalis pedis artery was impalpable, and necrotizing fasciitis, suppurative tenosynovitis and osteomyelitis were observed. X-ray examination for right foot: Change of the fifth toe of right foot and peripheral soft tissues; CDU for lower extremities: Atherosclerosis and plaque formation in common femoral arteries of both lower extremities, superficial femoral artery, popliteal artery, anterior tibial artery, posterior tibial artery and dorsalis pedis artery; obliterans in left posterior tibial artery and distal stenosis of right posterior tibial artery. | | | | |
| 治疗情况 Treatment | 入院后完善相关检查，评估患者病情，予以胰岛素控制血糖，根据创面分泌物培养及药敏试验结果给予抗感染、纠正低蛋白血症、改善微循环、中药内服益气活血等对症支持治疗；同时，患足行清创减压术及坏死组织剜除术，术后全程应用皮肤原位再生医疗技术治疗，逐步行药刀结合蚕食清创，治疗 179 d 后创面愈合，愈合效果满意。 After the admission, relevant examinations were done to assess the patient’s condition and symptomatic and supportive treatments were given including controlling blood glucose by giving insulin and anti-infection based on the results of secretion culture and drug sensitive test, correcting hypoalbuminemia, improving microcirculation and replenishing Qi and activating blood with Chinese medicine, and meanwhile, the wound was treated with debridement decompression and necrotic tissues enucleation, and then MEBT/MEBO was applied through the whole treatment course, plus the gradual surgical encroaching debridement. 179 days later, the wound healed well. | | | | |



图 1-2 入院时创面情况；图 3-12 应用原位再生医疗技术治疗过程中创面情况
Fig. 1-2 The wound condition on admission； Fig. 3-12 The wound condition during the application of MBT/MEBO



图 13 - 20 应用原位再生医疗技术治疗过程中创面情况；图 21 - 22 应用原位再生医疗技术治疗 179 d，创面愈合

Fig. 13 - 20 The wound condition during the application of MEBT/MEBO; Fig. 21 - 22 The wound healed after the application of MEBT/MEBO for 179 days

病例 10：樊某某，男，47 岁

Case 10: FAN XX, Male, 47 yrs old

| | | | | | |
|-------------------------------------|--|------------------|----------------------------|--|--------------------|
| 患者姓名 Name of patient | 樊某某 FAN XX | 性 别 Gender | 男 Male | 年 龄 Age | 47 岁 47 yrs old |
| 职 业 Occupation | 农民 Peasant | 民 族 Ethnicity | 汉族 Han | 婚 姻 Marital status | 已婚 Married |
| 患者住址 Address | 山西省太原市 Taiyuan City, Shanxi Province | | | 邮 编 Post code | 030000 |
| 入院日期 Date of admission | 2015 -03 - 19 | | 出院日期 Date of Discharge | 2015 - 11 - 01 | |
| 住院时间 Duration of hospitalization | 227 d | | 经治医生 Attending doctors | 秦国强、丁明华、张旭 QIN Guo-qiang, DING Ming-hua, ZHANG Xu | |
| 经治医院 Hospital | 中铁十二局集团中心医院创面修复科 Wound Repair Division of Central Hospital of China Railway 12th Bureau Group Co. , LTD | | 地址/邮编 Address/post code | 山西省太原市迎泽西大街 359 号（030053） No. 359, Yingzexi Street, Taiyuan City, Shanxi Province（030053） | |
| 临床诊断 Clinical diagnosis | 1. 左足糖尿病足（5 级）；2. 双下肢动脉硬化闭塞症；3. 2 型糖尿病 1. Diabetic ulcer of left foot（grade V）；2. Atherosclerosis obliterans in lower extremities；3. Type II diabetes | | | | |
| 病史情况 Medical history | 患者于 2 个月前无明显诱因出现左足底皮肤破溃，无疼痛、流脓，自行予以消毒换药治疗，期间破溃处反复结痂、破溃。近 1 周末，破溃处皮肤红肿、流脓，继而红肿蔓延至整个足底，疼痛明显，不能行走，为求进一步治疗遂来本院就诊。患者既往有糖尿病病史 20 余年，平素血糖控制差。入院时，患者高热，精神状态差，饮食、睡眠差，体重减轻，大小便正常。 The patient developed skin ulceration in his left planta pedis without obvious causes 2 months ago, with no pain and pus discharge, so he disinfected and dressed the ulcerated region by himself at home, during which the ulceration festered and formed scab repeatedly. In recent 1 week, pus discharge, redness and swelling occurred on the ulceration and then redness, swelling and obvious pain occurred in the plantar, which made the patient unable to walk, so the patient was admitted to our hospital for further treatment. The patient had diabetes for more than 20 years, with blood glucose usually poorly controlled. The patient had high fever, bad spirit, poor diet and sleeping, weight loss but normal urine and defecation on admission. | | | | |
| 专科情况 Specialized check-up | 患者左足明显肿胀，足底、足背、足踝内外侧、小腿外侧均可见溃疡创面。左足底创面面积约 5.0 cm × 4.0 cm，深达骨膜，与第 4、5 足趾间隙贯通，有淡黄色脓液流出，可见肌腱、筋膜、肌肉等组织坏死。左足拇趾背面皮肤发黑，高度红肿，可见多处溃疡创面，探查最深处深达骨膜，肌腱、筋膜、肌肉等组织均坏死，有黄色脓液及淡红色渗液流出，伴有恶臭。左足踝内外侧均可见溃疡创面，探查可见潜腔顺肌腱向小腿方向延伸，周围组织高度红肿，足踝外侧部分关节腔暴露，关节液渗出，足跟处肌肉、肌腱、跟腱等组织均坏死。小腿外侧创面面积约 10.0 cm × 20.0 cm，皮肤高度红肿，有液波感，清创后探查部分创面深达骨膜，部分肌肉、筋膜、肌腱等组织坏死，有脓液渗出，伴有恶臭。左足 X 线检查结果显示：左侧胫腓骨轻度骨质疏松，局部软组织缺损；下肢血管彩超示：双下肢动脉硬化闭塞症。 The patient's left foot was obviously swollen and planta pedis, dorsum pedis, medial and lateral ankle and lateral shank all had ulcers. The left plantar pedis had an ulcer at a size of 5.0 cm × 4.0 cm, extending deep to periosteum and reaching the gap between the 4th and 5th toes, with light yellow pus seeping out on the surface, and necrosis of tendon, fascia and muscle were observed. The blackened surface of big toe was noted on left dorsum pedis, with obvious stench and severe inflammatory skin. Multiple ulcers were observed and the deepest wound extended to periosteum by probing. Necrosis of tendon, fascia and muscle were observed, with stinky yellow pus and light red exudate seeping out with stench. Ulcers were observed on both medial and lateral left ankle, and the hidden cavity extended towards the shank along the tendon, peripheral tissues were very red and swollen and joint cavity on lateral ankle was exposed, with joint fluid seeping out. Necrosis of tissues such as muscle, tendon and Achilles tendon on the heel was observed. Lateral shank had an ulcer at a size of about 10.0 cm × 20.0 cm and the skin was very red and swollen with the fluid sensation. After the debridement, partial ulcers were probed extending deep to periosteum and partial muscle, fascia, tendon were necrotized, with pus seeping out and stinky odor. The peripheral skin was also very red and swollen. X-ray examination for left foot: Mild osteoporosis of left tibiofibula and local soft tissue defect. CDU for lower extremity: Atherosclerosis obliterans in both lower extremities. | | | | |
| 治疗情况 Treatment | 入院后完善相关检查，了解全身及各脏器功能，予以胰岛素调控血糖、抗感染、抗氧化、活血化瘀、维持水电解质平衡、营养支持等全身综合治疗；同时，创面予以外科清创术 + 原位再生医疗技术规范治疗，227 d 后创面愈合，愈合效果满意。 After the admission, relevant examinations were done to understand the performance of the whole body and every organ and accordingly systemic treatments were given including blood glucose control by giving insulin, anti-infection, anti-oxidation, blood circulation promotion and stasis removal, water and electrolyte balance maintenance and nutrition support; meantime, the wounds were given surgical debridement and normative application of MEBT/MEBO and 227 days later, the wound healed well. | | | | |

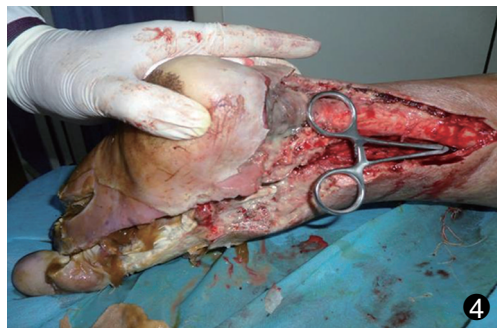


图 1-2 入院时创面情况；图 3-4 清创术中创面情况；图 5-10 应用原位再生医疗技术治疗过程中创面情况

Fig. 1-2 The wound condition on admission; Fig. 3-4 The wound condition during the debridement;

Fig. 5-10 The wound condition during the application of MEBT/MEBO



图 11 - 18 应用原位再生医疗技术治疗过程中创面情况；图 19 - 20 应用原位再生医疗技术治疗 227 d，创面愈合
Fig. 11 - 18 The wound condition during the application of MEBT/MEBO; Fig. 19 - 20 The wound healed after the application of MEBT/MEBO for 227 days