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Surgical treatment of pyoderma gangrenosum with negative pressure wound therapy and split thickness skin grafting under adequate immunosuppression is a valuable treatment option: Case series of 15 patients

To the Editor: Pyoderma gangrenosum (PG) is a rare inflammatory disease of unknown etiology. Only about 50% of patients achieve remission after 6 months of immunosuppressive therapy and even when patients respond well to treatment, relapses can occur in 30% to 60% of cases.[1-3] Progression of existing lesions or development of new lesions after trauma is reported in up to 30% of PG (pathergy phenomenon).[3] Therefore the role of surgical interventions is controversially discussed in that they might further aggravate the condition, especially if performed without immunosuppression.[2] On the other hand, PG ulcers without skin grafting require a prolonged time to heal, being prone to secondary infection, which potentially represents an additional trigger for pathergy. In addition, long-term systemic immunosuppressive therapy is associated with adverse reactions in about 65% of patients.[2,3] Therefore an urgent clinical need exists to close open wounds in these patients as fast as possible. Negative pressure wound therapy (NPWT) has become an important tool in the management of complex wounds and is used to secure split thickness skin grafts (STSG) in difficult recipient wound beds.[4] Here we report a multicenter case series of 15 patients with PG who were treated successfully with surgery under adequate immunosuppression, with STSG secured by NPWT after effective conditioning with NPWT (Fig 1).

Patient details, treatment, and outcomes are reported in Table I. All patients were hospitalized before surgical intervention to initiate immunomodulatory therapy. NPWT (VAC) was begun up to 1 week before surgical intervention. All interventions were performed under local tumescence anesthesia as previously described.[5] STSGs were secured by NPWT for 3 to 5 days. Ten patients healed completely and primary healing without recurrence after the first treatment cycle occurred in 9 of those patients, while patient 5 healed after 2 recurrences. One local recurrence healed after modification of the immunosuppressive treatment with NPWT alone and a second PG at a different localization healed after a second cycle of NPWT followed by STSG, secured by NPWT. In 3 patients, there was marked improvement of more than 90% of the wound surface healed; minor recurrence developed in 2 of those patients, which was managed with local wound dressings and increased immunosuppression, resulting in 95% improvement seen at follow-up. Two patients still have ulcers: ulcers healed in patient 4 but recurred twice after successful treatment cycles with NPWT followed by STSG secured by NPWT. Patient 11 never improved more than 30% despite treatment. No pathergy or reactivation of PG was observed, neither in the vicinity of the PG ulcers nor at the skin graft donor sites. NPWT followed by STSG secured by NPWT induced healing within 1 month after grafting in 67% (10/15) of cases and improvement of more than 90% in 4 (27%) cases, being significantly superior to the reported healing rates of 50% after 6 months when a conservative approach is performed while showing a similar recurrence rate of 30%.[1-3]

This large case series of surgical intervention in PG confirms that wound preparation with NPWT and

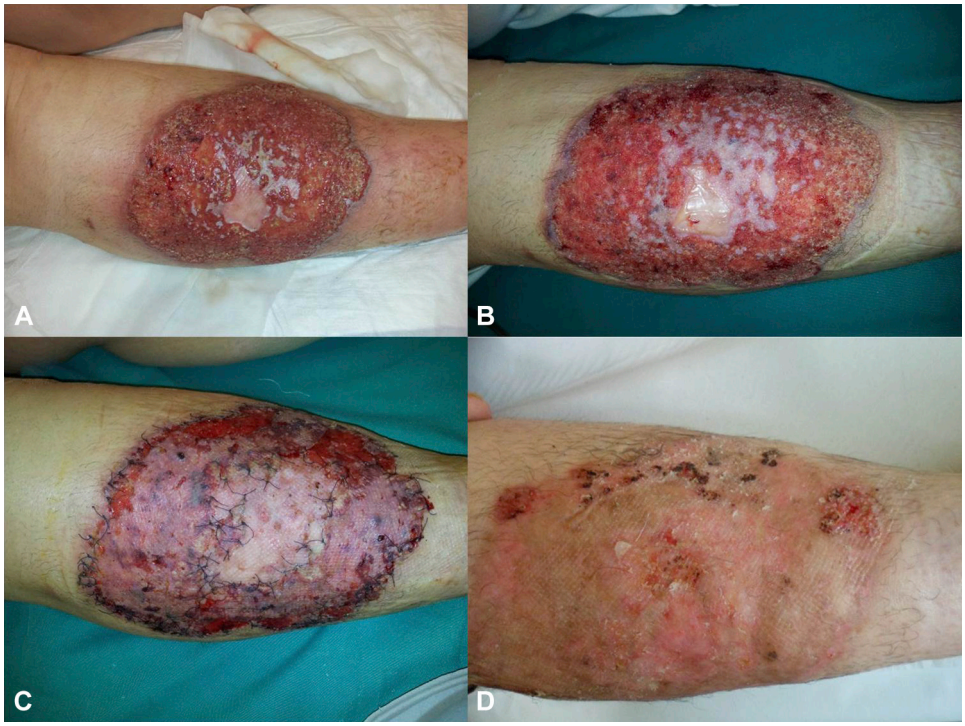

Fig 1. Pyoderma gangrenosum. Patient 5 before application of negative pressure wound therapy (NPWT) (**A**), after 7 days of NPWT (**B**), after removing NPWT from the skin graft (5 days after skin grafting) (**C**), and at follow-up 6 weeks after skin grafting (**D**).

surgical treatment with gentle debridement and STSG secured by NPWT under adequate immunosuppression is a potential treatment option for PG.

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