

Management of Distal Tibia Infected Nonunion with Antibiotic Beads Local Therapy and Staged Plating Osteosynthesis

O-144

徐永衡 周應照 游宜勳 陳威志 翁文能
林口長庚紀念醫院骨科部

Background: Infection which results from a complication of an open fracture or an internal fixation disturbs both the patient and the orthopedic surgeon. No single standard therapeutic procedure is suitable for the patients with distal tibia fractures complicated by osteomyelitis. This study presents a two-stage treatment protocol for treating these patients with small infected distal tibia defects and minor soft tissue defects.

Materials and Methods: From February 2004 to April 2010, 12 patients with distal tibia infected nonunion were treated based on the prospective two-stage protocol at our osteomyelitis service. There were seven males and five females, aged from 28 to 81 years (mean, 48.5 years). Six patients suffered from open fractures and six had closed fractures. Four patients with open fracture were treated with external fixation initially, and then were treated definitively with internal fixation for fracture fixation. The other two were treated with external fixation. The six patients with closed fractures had received definitive treatment with nailing or plating initially.

Results: All 12 patients were followed up regularly, for an average of 36.2 months. (range, 15-57 months) The average course of intravenous antibiotics given during the first operation was 10.8 days. (range, 5-18 days) and the average course during the second operation was 8.4 days (range, 5-11 days). The interval between the staged operations was 6.75 weeks (range, 4 to 10 weeks). All the infected nonunions healed within 4 to 8 months (mean, 5.2 months).

Conclusions: The two-stage protocol with antibiotic beads local therapy and the definitive staged reconstruction with plate and bone grafting was a useful treatment. It provided rapid recovery from osteomyelitis in the first stage and a predictable result for nonunion in the second operation.

Level of evidence: Therapeutic Level IV

壞死性筋膜炎 - 經驗分享 Necrotizing Fasciitis – Our Experience

O-145

陳信銓 林承志 許弘昌
中國醫藥大學附設醫院骨科部

Introduction: Necrotizing fasciitis is a rapidly progressive and life-threatening soft-tissue infection characterized by its spread along the fascial planes, resulting in adjacent tissue necrosis and secondary gangrene. Early diagnosis with prompt surgical intervention is important to minimize the associated morbidities and mortality. Treatment includes parenteral antibiotics, fluid and critical care resuscitation, and surgical debridement. Debridement should be aggressive and may have to be repeated. The mortality rate associated with this condition remained high. Diabetes mellitus is the most important predictor of mortality, and a delay before surgery of greater than 24 hours also contribute to mortality. We shared our experience in treating necrotizing fasciitis here.

Materials and Methods: Since March 2010 to May 2012, we treated 20 patients with necrotizing fasciitis in our institute. There 16 men and 4 women. 12 patient had necrotizing fasciitis involving leg, 5 involving thigh, one involving hand, one involving forearm and one involving foot. Most of the patients had medical comorbidities, such as DM, liver cirrhosis, chronic kidney disease. All patients received emergent debridement and fasciotomy. Serial debridement needed if the first debridement and antibiotics treatment could not control the infection. Amputation was another treatment choice to save life. STSG might be needed after infection controlled to cover the skin defect. We analyzed the outcome of the patients in relation with the time between onset and operation, numbers of debridement, medical comorbidities, and offending pathogen.

Results: 6 patients (30%, 6/20) died even after aggressive serial debridement, resuscitation and antibiotics treatment. 5 patients who died had DM; the other one had heart failure. 2 patients had liver cirrhosis. In patients who survived, two patients ended with BK amputation, one with AK amputation and one with finger amputation. The time between onset and operation less than 72 hours had better prognosis.

Discussion: Necrotizing fasciitis is a severe soft tissue infection disease with high mortality rate. Emergent fasciotomy and debridement was warranted for life saving, and sometimes amputation could not be prevented. Medical comorbidities affected the result, especially DM. Antibiotics treatment covering staphylococcus, streptococcus and anaerobic pathogen might be needed before offending pathogen was identified.