Surgical Strategy for Pelvic Fractures With Morel-Lavallee Lesion

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Purpose: Our objective was to investigate the surgical strategy and clinical outcomes of pelvic fractures combined with Morel-Lavallee lesion (MLL).

Methods: From June 2016 to June 2021, 13 patients were surgically treated in our department for pelvic fractures combined with MLLs. In the acute phase of MLLs, drainage was placed through a small incision at the lowest point of the effusion area in the supine position. Until the patient's vital signs were stable and the MLL boundary was clear in an average of 14 days after injury, the MLL and pelvic fractures were treated simultaneously. Pelvic fractures were treated with open reduction and internal fixation, while the MLL was treated by resection of pseudocyst, necrotic fat, and fascia tissue, as well as skin with poor blood supply, followed by multi-point anchor suture of the skin with the deeper fascia and sufficient drainage. The visual analog scale (VAS) for pain, D'Aubigne hip function score, and Majeed score of pelvic fracture were used to evaluate the therapeutic outcomes; additionally, Matta imaging criteria were used to evaluate fracture reduction after operation.

Results: All the patients had the surgical procedures performed smoothly with average incision lengthof 32.50 ± 5.60 cm and average blood loss during operation of 420.00 ± 40.60 mL. Of them, 12patients were proved to have pseudocyst formation during operation, with the area of 15 cm × 9 cm ~30 cm × 14 cm. After operation, 9 patients got primary wound healing, whereas 3 patients had fatliquefaction in the wound and 1 patient had secondary wound necrosis and infection, which werecured after secondary wound debridement combined with vacuum-sealing drainage. At the last follow-up, VAS score (1.12 ± 0.26) , D'Aubigne score (17.22 ± 1.85), and Majeed efficacy score (86.44 ± 4.51) were significantly improved compared with those at 3 months after operation ($P<0.05$). The excellent and good rate of fracture reduction based on Matta imaging criteria was 84.61%.

Conclusion: The early small-incision drainage does effectively reduce the area involved by MLLs. After the MLL boundary is clear and infection is excluded, MLL can be simultaneously treated with the pelvicfracture. The resection of pseudocyst, multi-point anchor suture of the skin, and other details canachieve satisfactory clinical outcomes.