Clinical outcome of deep wound infection after instrumented posterior spinal fusion: a matched cohort analysis

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STUDY DESIGN: Retrospective case control study. OBJECTIVE: Determine the impact of infection on clinical outcome in patients undergoing posterior spinal fusion surgery. SUMMARY OF BACKGROUND DATA: The outcome of patients treated for infection after spinal surgery is not well established because of variability in cohort identification, definition of infection, outcomes instrument, use of a control group, and/or sample size. METHODS: Thirty-two patients were included. Sixteen patients (“infection group”) met inclusion criteria of deep wound infection after spinal fusion with posterior segmental instrumentation (including combined approach). A 1:1 matched cohort (“control group”) was created based on primary or revision status, length of fusion, diagnosis, and age. Postoperative patient outcomes were evaluated using the physical components of SF-36 v2.0 with minimum 2-year follow-up. RESULTS: No significant difference in the Physical Function, Role Physical, Bodily Pain, and General Health domains was detected between the infection group and control group. Mean follow-up was 62 months. Mean Physical Component Summary was 41.4 in the infection group and 44.3 in the control group (P = 0.6). Infection occurred early in 12 patients and late in 4 patients. Most common organisms isolated were Staphylococcus epidermidis, Enterococcus sp., and Staphylococcus aureus. Multiple debridements were significantly associated with polymicrobial infections and later pseudarthrosis requiring reoperation. CONCLUSION: An aggressive approach to deep wound infection emphasizing early irrigation and debridement allowed preservation of instrumentation and successful fusion in most cases. At the conclusion of treatment, patients can expect a medium-term clinical outcome similar to patients in whom this complication did not occur.