A comprehensive analysis of percutaneous screw fixation for metastatic disease of the pelvis: Outcomes of 107 Cases

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INTRODUCTION: Percutaneous screws fixation for pelvic metastases provided pain relief and functional improvement in previous case series. We retrospectively reviewed the largest single-center cohort to date to assess pain palliation, ambulation, function, predictors of suboptimal outcomes, and complications.

METHODS: Electronic medical records and imaging studies were reviewed. Primary outcome measures were pain [visual analog scale score (VAS)], functional status [Eastern Cooperative Oncology Group performance score (ECOG)], ambulation [combined pain and ambulatory function score (CPAFS)] which were assessed preoperatively, and postoperatively at the 1st day, 1st, 3rd, 6th, and 12th months. Secondary outcome measures included radiographic evidence of healing and need for narcotics.

RESULTS:

here were 103 patients (42 men, 61 women) with a mean age of 64.1 years (34-93) and follow-up of 14.4 months (3–63) who underwent 107 procedures (4 bilateral). Sixty-nine had periacetabular lesions, whereas 38 were non-periacetabular. VAS, ECOG, and CPAFS scores decreased at all timepoints (p < 0.001). Fifty-seven of the 67 patients presenting with a pathologic fracture demonstrated radiographic healing (85.0%). Lack of radiographic healing was associated with increased need for narcotics (p < 0.001). Six hips were converted to arthroplasty, and one underwent a Girdlestone procedure. Complications were observed in 4 cases, two of which were major complications. DISCUSSION AND CONCLUSION:

Percutaneous screw fixation is effective and mostly safe with a low rate of major complications. The improvements in pain palliation, ambulation, and function were maintained throughout follow-up. Bone healing after fixation is common, and narcotic usage is higher in those without evidence of healing.

