Paper - Annual Meeting

Paper Session: Upper Extremity/Lower Extremity

No Difference in Outcome of the Reverse Shoulder Fracture Prosthesis in Dislocated Proximal Humerus Fractures in Primary and Delayed Treatment

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Purpose: Despite the PROFHER trial (PROximal Fracture of the Humerus: Evaluation by Randomisation) that proposed conservative treatment for all proximal humerus fractures (PHFs), the optimal treatment for displaced PHFs remains controversial. PROFHER did not distinguish complex PHFs from mildly displaced fractures, and furthermore complex 3- and 4-part fractures were underrepresented. Therefore, sound evidence guiding us in the treatment of complex displaced multipart PHFs is still required. The reverse shoulder arthroplasty (RSA) showed promising results, especially for displaced PHFs. Our hypothesis is that the RSA reduces pain and increases functional results in patients with displaced PHFs. Given the promising results for primarily treated patients with a RSA following PHFs, the question arises if primarily treated patients display the same function as secondarily treated patients with a RSA.

Methods: In this observational study, patients were included with a displaced multipart PHF who were treated with a RSA. Two groups were included: (1) primarily treated patients with a RSA and (2) secondarily treated patients following failed conservative treatment after 8 weeks or previously treated patients with another surgical procedure. After 1-year follow-up, 3 questionnaires were answered: the Constant Shoulder Score (CSS), the Oxford Shoulder Score (OSS), and the Disabilities of the Arm, Shoulder and Hand (DASH) score. Pain was assessed through the Visual Analog Scale (VAS) and the range of motion measured with a protractor.

Results: Until now, 35 patients had 1-year follow-up and were included. 35 patients were included with an RSA; 21 treated primarily, 14 secondarily. The mean pain score was 2.8 versus 3.1, mean flexion 101.7° versus 97.0, exorotation 16.1° versus 19.1, and abduction 86.6° versus 88.8 (respectively, primarily versus secondarily treated patients). The mean of the CSS was 27.7 versus 31.8, the DASH score had a mean of 34.5 versus 37.9, and the OSS 36.3 versus 36.1. No statistically significantly different outcomes were observed between primarily and secondarily treated patients.

Conclusion: Initial results of this study regarding the difference between primarily and secondarily treated patients with an RSA did not show any statistical or clinical relevant difference regarding function or outcome as reported with validated questionnaires. Furthermore, the optimal treatment of complex and dislocated PHFs with RSA are promising. Additional research will gain insight on how these results compare with conservative treatment and locking plate osteosynthesis.