CEMENTLESS AND LOCKED PROSTHESIS FOR THE TREATMENT OF 3-PART AND 4-PART PROXIMAL HUMERUS FRACTURES: PROSPECTIVE CLINICAL EVALUATION OF HEMI AND REVERSE ARTHROPLASTY.

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INTRODUCTION

Cemented stem remain the gold standard for prosthesis in trauma.

The purpose of this study was to evaluate the functional and radiological outcomes of a cementless, trauma-specific locked stem (hemi and reverse) for 3- and 4-part proximal humeral fractures.
MATERIALS AND METHODS

One hundred and thirty four 3 & 4 part fractures have been treated by locked stem. 69 patients (mean age 68 yo (50-90)) with hemiarthroplasty (HA) and 65 others (mean age: 78 yo (66-91)) with reversed arthroplasty (RSA).

The length of the stem was 15 cm with a proximal coating of HA automatic locking system (2 screws) and 4 different diameters. Preliminary cadaver study allowed us to validate the system (22 shoulders, no injuries of nerves, locking system efficient).

The evaluation was clinical with Constant score, QuickDASH score and radiological.
RESULTS

In the group of HA, adjusted Constant score reached 72 (11-120) and QuickDash 31.2 (4.5-77.27) with a mean FU of 25 months (6-96).

In the group of RSA, Constant score with ponderation reached 77.6 (28.8-119) and QDash 36.2 (2-84) with a mean FU of 15 months (6-41).

Specific complications due to locking system reached 3% but without reoperation. Other complications were Capsulitis and infection.
CASE 1

Man
55 years old
4-part dislocated fracture

CASE 2

Woman
81 years old
4-part fracture
CONCLUSION

In this population of elderly patient, new fall with periprosthetic fracture or infection led the surgeon to remove the stem. At shoulder level, the removal of a cemented stem remains a highly demanding procedure with sometimes bad functional results and elevated level of complications.

This serie is the first one of locked stem without significant complications. Locked stem remains a new but logical tool in trauma.