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Clinical Outcomes in Patients Undergoing Reverse Shoulder Arthroplasty for Dislocation Arthropathy vs Osteoarthritis of the Shoulder

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Disclosures:

- U Srikumaran – Tigon Medical, Thieme, Fx Shoulder, OrthoFix, Quantum OPS, ROM3, Sonogen, Arthrex, DePuy, Smith and Nephew, OMEGA, ASES Fellowship Grants, Stryker, Wright Medical Technology, board or committee member for (AAOS, ASES, IASES)
- E McFarland – DePuy, Stryker



Introduction

- Dislocation arthropathy (DA) of the shoulder is an advanced arthritis due to a history of shoulder dislocations.¹
- There is no consensus on the best operative management of DA, but reverse shoulder arthroplasty (RSA) is an emerging favorable choice of arthroplasty.²⁻⁵
- However, results for RSA in DA patients are limited to a few studies.⁶⁻⁹
- The goal of this study was to compare the clinical results of RSA in patients with DA with patients having glenohumeral osteoarthritis (OA) with intact cuff and severe bone loss.



Methods

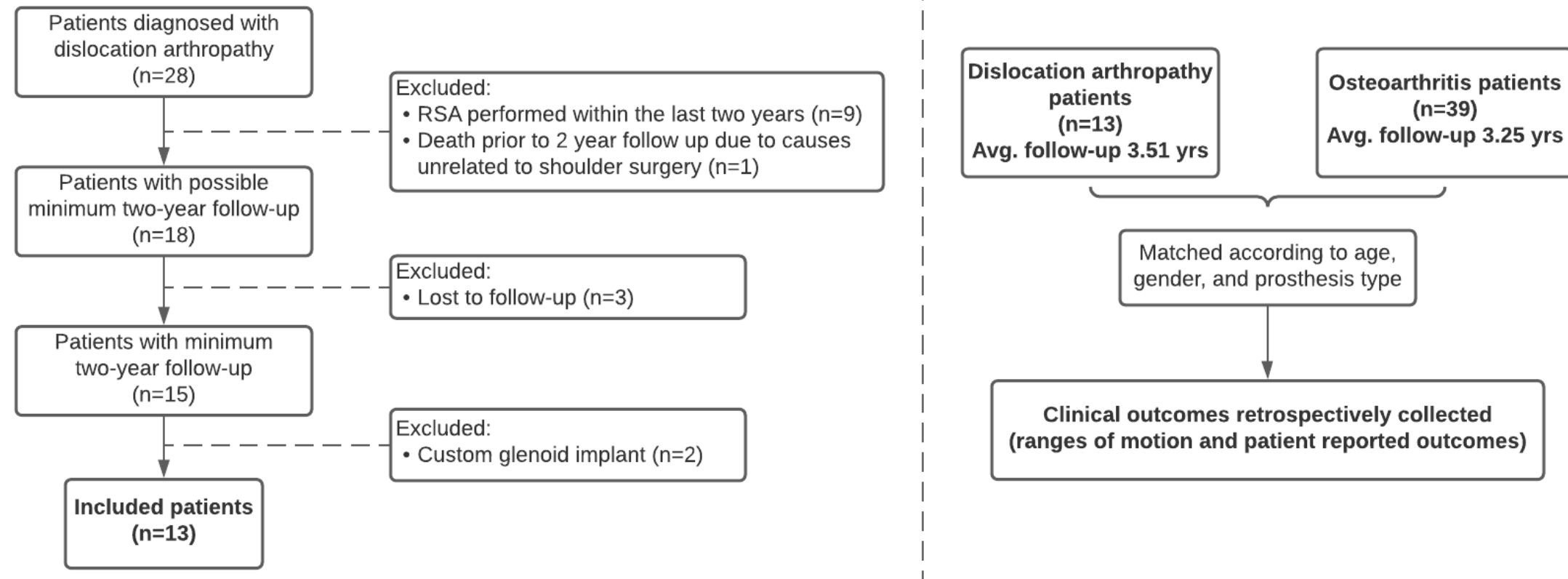
Study design and participant selection

- Retrospective matched cohort study of patients who underwent RSA performed by one surgeon between 2004 and 2019
- All patients were 1:3 matched to patients who underwent RSA for primary osteoarthritis, according to age, gender, BMI, and prosthesis type.
- Final cohort consisted of 13 patients with DA and 39 patients with primary OA.



Methods Continued

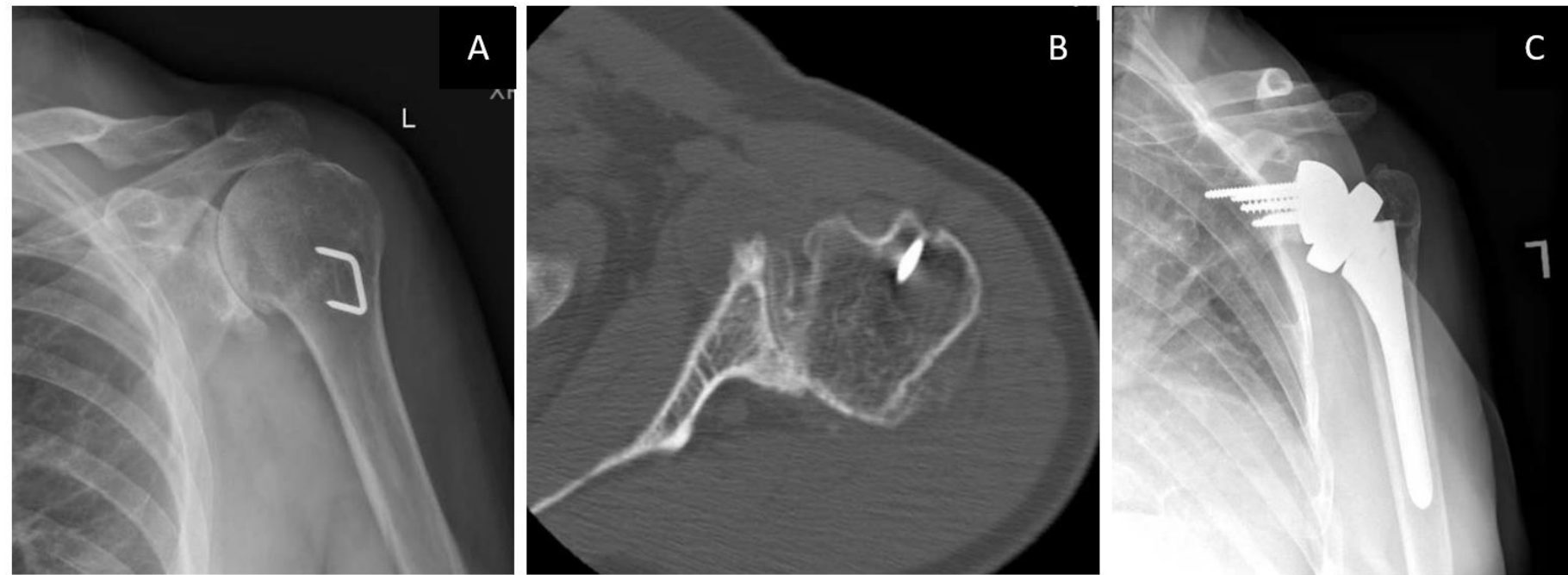
Figure 1. Flowchart of patient selection and matching process



Methods Continued

Figure 2. Imaging of patient with dislocation arthropathy.

- A. Preoperative X-ray showing implant from previous glenohumeral stabilization surgery
- B. Preoperative axial cut of CT scan showing a B3 modified Walch type glenoid.
- C. Postoperative X-ray of the same patient at follow-up of 2 years after reverse shoulder arthroplasty.



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Results

Table 1 Comparison of baseline variables between DA and OA group

	DA group N=13	OA group N=39	p-value
Age, years (Mean \pm SD)	58.1 \pm 14.9	64.8 \pm 9.6	0.12
Follow-up length, years (range)	3.51 (2-8.91)	3.25 (2-10.1)	0.90
Sex, male, N (%)	12 (92)	36 (92)	1.00
BMI, kg/m² (range)	29.04 (22.4-38.5)	30.90 (19-50)	0.39

Results continued

Table 2 Comparison of preoperative and final postoperative range of motion and patient reported outcomes in patients treated with RSA for dislocation arthropathy.

	Preop DA group N=13, (Mean ± SD)	Postop DA group N=39, (Mean ± SD)	p-value
Range of motion			
Abduction, degrees	98.07±31.52	138.5±15.64	<0.01*
Flexion°, degrees	97.30±31.59	138.5±15.64	<0.01*
ER at 90°, degrees	31.15±20.42	61.66±23.71	<0.01*
ER at side, degrees	4.61±21.35	21.66±14.14	0.02*
IR at 90°, degrees	11.53±20.75	30.0±21.21	0.08
Patient report outcomes			
SST	5±2.56	8.87±2.23	0.01*
ASES	36.91±15.58	83.91±12.74	0.01*
WOOS	33.31±16.57	74.81±19.87	0.01*
SANE	20.8±16.30	83.2±11.43	<0.01*
Satisfaction (Median, IQR)	1 (1,2)	4 (3,5)	<0.01*

Results continued

Table 3 Comparison of final postoperative range of motion and patient reported outcomes between patients in DA group and OA group treated with RSA

	DA group N=13, (Mean ± SD)	OA group N=39, (Mean ± SD)	p-value
Range of motion			
Abduction, degrees	138.33±16.58	127.69±19.46	0.10
Flexion°, degrees	138.33±16.58	126.28±20.15	0.07
ER at 90°, degrees	60.62±25.13	62.94±14.58	0.70
ER at side, degrees	24.37±12.37	31.41±11.80	0.06
IR at 90°, degrees	32.5±21.21	27.94±22.02	0.90
Patient report outcomes			
SST	8.87±2.23	9.17±3.19	0.32
ASES	83.91±12.74	82.73±22.08	0.47
WOOS	74.81±19.87	72.06±24.42	0.95
SANE	83.90±11.10	68.14±33.83	0.62
Satisfaction (Median, IQR)	4 (3,5)	4 (3,5)	0.92
Complications (%)	0 (0%)	5 (13%)	0.41

Conclusions

- Here, we report on the first single center, single surgeon study to assess the clinical and radiographic outcomes of patients undergoing RSA for dislocation arthropathy in comparison to a matched cohort of patients with primary OA.
- Clinical results of RSA for DA treated with eccentric reaming are comparable to the results of a matched cohort of OA patients with similar treatment.
- At the short term follow up, RSA with eccentric glenoid reaming is a valid treatment strategy in patients with DA but studies with larger sample size and longer follow up are warranted.



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