

Poor clinical outcomes and high rate of recurrent instability after treatment of seizure-related shoulder injuries

D. Cucchi ¹(d.cucchi@gmail.com), R. Ossendorff ¹, S. Walter ¹, T. Baumgartner ², A. Menon ³, R. Surges ², P. Randelli ³, M. Friedrich ¹

¹ Department of Orthopaedics and Trauma Surgery and ² Department of Epileptology, Universitätsklinikum Bonn, Bonn, Germany

³ Laboratory of Applied Biomechanics, Department of Biomedical Sciences for Health, Università degli Studi di Milano, Milano, Italy

INTRODUCTION & AIM

Treating seizure-related shoulder injuries is challenging and an evidence-based consensus to guide clinicians is lacking. The aim of this study is to evaluate the results of a large cohort of patients undergoing treatment of seizure-related shoulder injuries and to categorize them according to the lesions characteristics and the chosen treatment.

METHODS

Patients referred to a tertiary epilepsy centre suffering from seizure-related shoulder injuries and with a minimum follow-up of one year were included.

A quality-of-life assessment instrument (EQ-5D-5L), a district-specific patient reported outcome measure (quick Disabilities of the Arm, Shoulder and Hand questionnaire, qDASH) and a pain assessment tool (Visual Analogue Scale, VAS) were used for the clinical outcome evaluation.

Subjective satisfaction and fear of new shoulder injuries was also documented.

CONCLUSIONS

Patients suffering from seizure-related shoulder injuries report only moderate clinical results at mid-term follow-up; these results are inferior to those reported in high-quality trials not restricted to patients with seizures. In a high percentage of cases, residual moderate to severe pain and disability persists after treatment. This warrants special care and appropriate counselling when treating this subgroup of patients.

RESULTS

Sixty-four patients were included. After a median follow-up of 4.9 years, the mean EQ-5D-5L index value was 0.76 ± 0.22 . Mean qDASH was 32.81 ± 24.64 points, with 27.4% of the patients scoring < 15 points (no problems), and 35.5% of the patients ≥ 40 points (severe disability); mean VAS was 23.38 ± 37.20 mm, with 30.0% of the patients scoring ≥ 35 mm (moderate to severe pain).

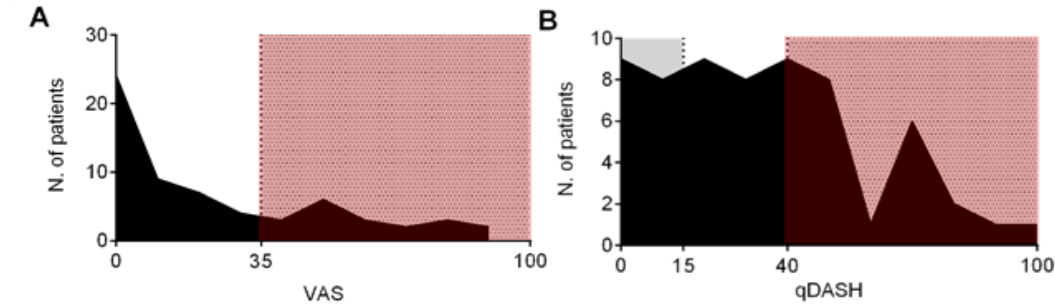
In the subgroup of patients suffering combined shoulder fractures-dislocations, the percentage of patients with VAS ≥ 35 mm and qDASH ≥ 40 points rose to 38.5% and 46.2%, respectively, with only 23.1% of patients scoring < 15 points in the qDASH.

40.6 % of the patients considered themselves unsatisfied with the treatment due to persistent pain, compromised upper limb function or as a consequence of the complications.

Persistent fear of a new shoulder injury was reported in 63.5% of the patients.

Patient demographics and summary of the main clinical results).

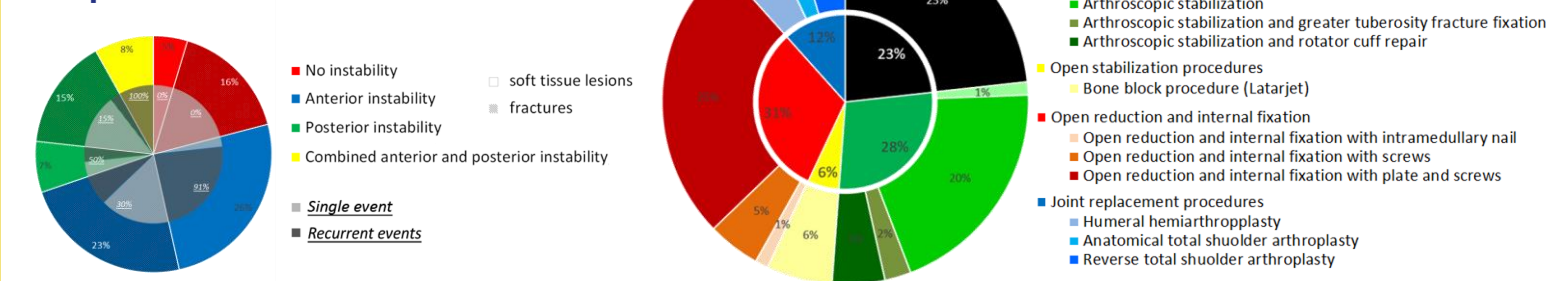
Group	Overall (n = 64)	Fracture-dislocation (n = 26)
Gender (F/M ratio)	0.31/0.69	0.23/0.77
Side (L/R/B ratio)	0.22/0.44/0.34	0.23/0.46/0.31
Age at time of shoulder injury (years)	38.58 ± 16.55	39.69 ± 12.96
Shoulder injury during 1 st seizure (Y/N ratio)	0.30/0.70	0.46/0.54
AED at shoulder injury time (Y/N ratio)	0.52/0.48	0.42/0.58
Follow-up (years since 1 st event)	4.90 [1.93-9.53]	3.75 [1.75-7.98]
EQ-5D-5L index value	0.76 ± 0.22	0.75 ± 0.23
VAS (points)	23.38 ± 37.20	28.85 ± 28.19
VAS ≥ 35 mm (%)	30 %	38.5 %
qDASH (points)	32.81 ± 24.64	38.02 ± 27.41
qDASH ≥ 40 points (%)	35.5 %	46.2 %
Satisfaction with treatment results (Y/N ratio)	0.59/0.41	0.54/0.46
Fear of reinjury (Y/N ratio)	0.63/0.37	0.52/0.48



Graphic representation of results obtained in terms of Visual Analogue Scale (VAS) and qDASH in the study population. The dotted area highlights scores indicating moderate/severe pain (A) and severe disability of the upper limb (B).

17 patients anterior (4 bilateral)
 9 patients posterior (2 bilateral)
 ↓ quality of life
 ↓ clinical results
 ↑ % of "very bad"
 ↑ % of dissatisfied
 ↑ fear of reinjury

Distribution of observed shoulder lesions and performed treatments



REFERENCES

D. Cucchi, T. Baumgartner et al. Epidemiology and specific features of shoulder injuries in patients affected by epileptic seizures, Arch Orthop Trauma Surg. 2022 Mar 28. doi: 10.1007/s00402-022-04420-6