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Sternoclavicular dislocation

A plea for open treatment

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I report 12 cases of dislocation of the sternoclavicular joint. Eight cases were treated by closed reduction and redislocation occurred in five. The result was good in five out of these eight cases. Two cases with a redislocation and poor result were operated on: in one the sternoclavicular joint was successfully reconstructed with a palmaris longus tendon, and in the other the result was poor after medial resection of the clavicle. In four dislocations good results were obtained after primary open reduction, fixation with two Kirschner wires, and suture of the ruptured ligaments. Primary open reduction should probably be preferred in acute cases of sternoclavicular dislocation.

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Nettles & Linscheid (1968) treated dislocation of the sternoclavicular joint with closed reduction and 3 weeks of immobilization. When dislocation recurs after immobilization and causes pain on exercise, they recommended reconstruction with a tendon graft. If redislocation occurs during immobilization, the recommended treatment is open reduction and fixation with two crossed Kirschner wires with threads and suturing of the torn ligaments and capsule (Withvoët & Martinez, 1982).

I analyzed the results of treatment of sternoclavicular dislocation.

Patients and methods

During 1978–1984, 14 patients were treated for an anterior dislocation of the sternoclavicular joint at my department. In 1984, 12 patients (9 men and 3 women) were reexamined, while two patients could not be located. The mean age of the patients was 39 (21–75) years (Table 1). Six patients were injured in traffic accidents, two at home, two in sports, and two in simple falls at ground level.

In eight patients the dislocation was treated by closed reduction, and four were operated on primarily. Two Kirschner wires were used for fixation, and the ligaments and capsule were sutured. In two patients, reconstruction with a tendon graft was performed later (Table 1). The immobilization in the Velpeau dressing after closed reduction was 21 days. In the surgically treated patients, the immobilization in a sling averaged 18 days.

The patients were examined clinically and radiographically after an average of 3 (1–6) years.

When the patient was asymptomatic, the subjective final outcome was considered good. A poor final outcome was recorded when there was more than slight pain on exercise or there was restricted movement.

Table 1. Treatment of 12 patients with sternoclavicular dislocation

Case	Sex	Age	Treatment		Stability
			Primary	Secondary	
1	M	32	Ki		S
2	M	31	Ki		S
3	M	75	Cr		S
4	M	32	Cr		Rd
5	M	46	Cr		Rd
6	M	36	Ki		S
7	F	46	Cr	R	Rd
8	M	30	Ki		S
9	M	32	Cr		Rd
10	F	57	Cr		Rd
11	M	22	Cr		S
12	F	28	Cr	T	S

At follow-up, Cases 1 and 9 had pain upon exercise. All the other cases were painless with a good result.
Cr closed reduction, Ki two Kirschner-wires and ligament suture, R resection of the medial end of the clavicle, Rd redislocation, S stabile, T reconstruction with tendon graft.

Results

The range of movement of the shoulder joint was normal in all the patients. The result was good in 10 patients. Eight patients were treated by closed reduction, and in five of these the dislocation recurred and was painful in three patients, two of whom were operated on. In Case 12, reconstruction with a tendon graft was done with a good final result; in Case 7, resection of the medial end of the clavicle was performed, but the symptoms persisted.

The result was good in the four patients that were operated on primarily (Table 1).

Discussion

For sternoclavicular dislocation, Nettles & Lindscheid (1968) and Salvatore (1968) recommended closed reduction and immobilazation in a figure-of-8 harness; although redislocation occurs in a considerable number of patients, discomfort persists only in a few of them, and there is no risk of postoperative complications. On the basis of my study, I cannot agree with this completely because in three out of eight of my patients discomfort persisted after closed treatment. Even though serious, and even fatal, complications have been reported (Brown 1961, Salvatore 1968), I did not find any complications associated with the open treatment. Finally, Withvoët & Martinez (1982) also found inferior results among conservatively treated patients.

References

Brown, J. E. (1961) Anterior sternoclavicular dislocation – A method of repair. *Am. J. Orthop.* **3**, 184.

Nettles, J. L. & Linscheid, R. L. (1968) Sternoclavicular dislocations. *J. Trauma* **8**, 158–164.

Salvatore, J. E. (1968) Sternoclavicular joint dislocation. *Clin. Orthop.* **58**, 51–55.

Witvoët, J. & Martinez, B. (1982) Traitement des luxations sternoclaviculaires antérieures. A propos de 18 cas. *Rev. Chir. Orthop,* **68**, 311–316.