

Open-door laminoplasty and fixation via unilateral approach for multi-level degenerative cervical myelopathy. A feasibility study

Gregor Schmeiser, J.I. Bergmann, Luca Papavero, Ralph Kothe
Klinik für Spinale Chirurgie, Schön Klinik Hamburg Eilbek

- mDCM = most common progredient cervical disease of older people
- Looking for a less invasive posterior cervical approach



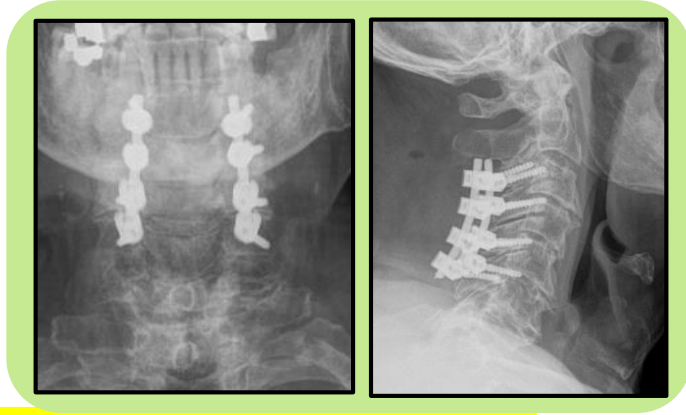
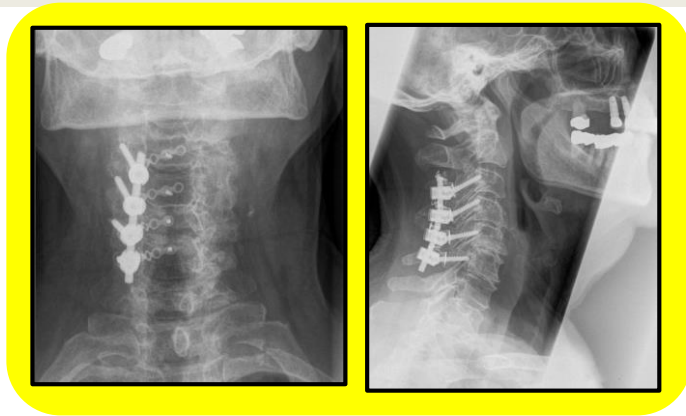
Evaluation: prospective case-control-study



Material und methods

Prospective study

- Inclusion: 46 pat. with mDCM, 22m, 24f
- mJOA, NDI, EQ5D, VAS neck/arm
- Surgical technique, duration of surgery, intraoperative bloodloss, intraoperative x-ray
- Radiological analysis: SVA C1/C2-C7, Cobb C2-C7 and C0/C1-C2, C7-Slope
- **2013-2017, follow up: preop, postop, 3mo, 12mo**



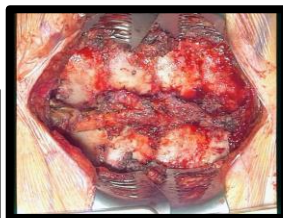
Two groups:

- | | |
|---|--------|
| 1. Laminoplasty with unilateral fusion (LP) | n = 23 |
| 2. Laminektomy with posterior Fusion (LC) | n = 23 |

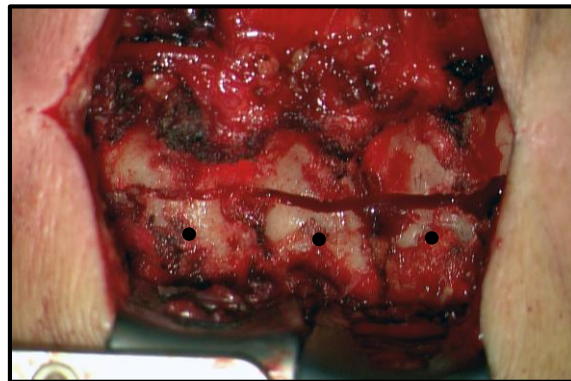
Surgical technique:



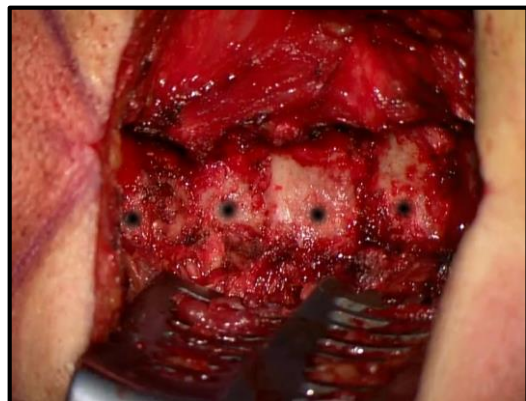
1. Unilateral approach



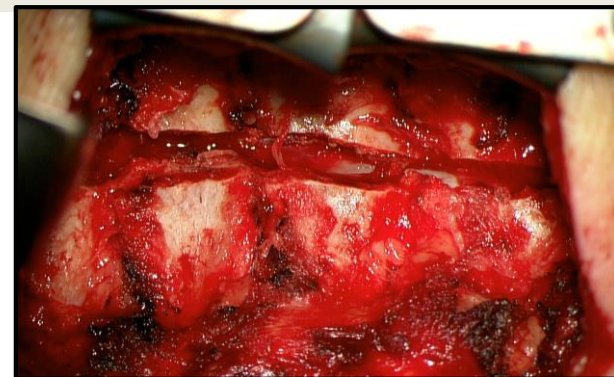
Common bilateral approach



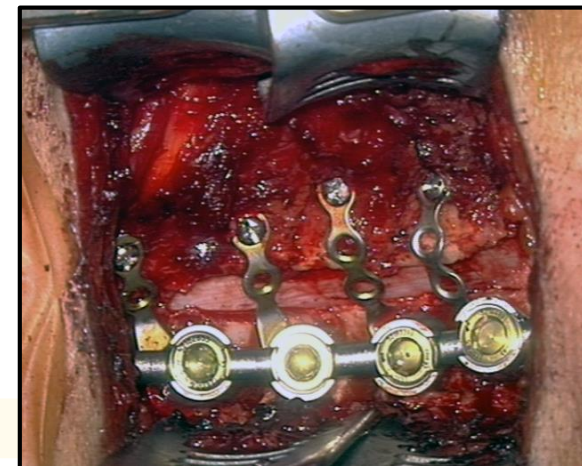
3. Laminotomy (Drill, Mini-Craniotomy)



2. Drillholes for ML-screws



4. Breaking the laminae



5. Screw-rod-system, unilateral fusion

Results:

No significant difference between the groups:

- ➔ Age, gender
- ➔ Intraoperative x ray, bloodloss
- ➔ PROMs and mJOA

Significant difference between the groups:

- ➔ Time of surgery
- ➔ Length of hospital stay

	LP	LC
Age	68	68
Bloodloss	<120 ml	<120ml
intraop X-ray	0,2 min	0,2 min
OP-time	89 min	139 min
Length of stay	9 days	12 days
mJOA preop	12,5	12,5
mJOA postop	16	16
NDI preop	32	32
NDI postop	15	21

Average values for both groups

Conclusion

Unilateral laminoplasty and fixation:



Significant reduction of surgery time



Significant reduction of length of hospital stay



Biomechanical theory: semirigid fusion (less adjacent level disease?)



Clinical and radiological no difference between
unilateral laminoplasty + stabilization
and laminectomy + fusion