SCHULTHESS KLINIK
Manuelle Medizin

Wir machen mobil

Zervikoradikuläre Syndrome
Manuelle Therapie ?
Infiltrationen ?

SAMM Kongress Interlaken November 2012

Dr. G. Hämmerle
Leitender Arzt
Manuelle Medizin und Interventionelle Rheumatologie

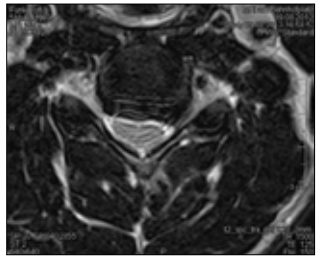
Interessante Zahlen und Fakten

- Inzidenz: ca. 90 von 100000 Personen
- Am häufigsten in der 5 -6 Lebensdekade
- Knöchern zu weich 2:1
- Bilaterale Symptome in ca. 1/3
- In 3 -23 % durch Autounfälle verursacht
- C7 , C6, C5
- 80 - 90 % der Fälle konservativ behandelt

Klinischer FALL

- Selbstständiger Spengler, 40 jährig, seit 4 Monaten mit Nacken/Schulter/Oberarm- Schmerzen links
- Auslöser: Rennvelo
- HA: Celecoxib und Physiotherapie
- Kein Erfolg: → MRI HWS

Bildgebung



V.a CRS C4 und/oder C5 li ohne neurol. Defizite

Behandlung

Klinische Fragen

- Argumente für eine konservative Therapie ?
- Hat die Manuelle Behandlung in dieser Situation überhaupt Aussicht auf Erfolg ?
- Verschlimmern wir die Symptome mit Manueller Behandlung ?
- Bringen allenfalls Medikamente, Kragen einen Zusatznutzen ?
- Welche Rolle spielen Schmerzinterventionelle Massnahmen ?
- Wann ist der richtige Zeitpunkt für eine Operation ?

…

Spine 1997 Apr 1;22(7):751-8.**Persson LC et al**

Department of Neurosurgery, University Hospital, Lund, Sweden.

, **Long-lasting cervical radicular pain managed with surgery, physiotherapy, or a cervical collar. A prospective, randomized study.**

conclusion:

- Surgery slightly better in the first months
- In the treatment of patients with long-lasting cervical radicular pain, it appears that a cervical collar, physiotherapy, or surgery are equally effective in the long term.

…

Eur.Spine J. 1997;6(4):256-66. **Persson LC et al.**

Department of Neurosurgery, University Hospital, Lund, Sweden.

, **Cervical radiculopathy: pain, muscle weakness and sensory loss in patients with cervical radiculopathy treated with surgery, physiotherapy or cervical collar. A prospective, controlled study.**

conclusion:

- We conclude that pain intensity, muscle weakness and sensory loss can be expected to improve within a few months after surgery,
- while slow improvement with conservative treatments and recurrent symptoms in the surgery group make the 1-year results about equal.

Spine

Ruptured cervical disc after Spinal Manipulation

You could be reading the full-text of this article now...

Spine:
1 February 2002 - Volume 27 - Issue 3 - pp E80-E82

Ruptured Cervical Disc After Spinal Manipulation Therapy: Report of Two Cases

Abstract

Neurosurg Focus 13 (6):Clinical Pearl, 2002

Complications of cervical spine manipulation therapy: 5-year retrospective study in a single-group practice

David G. Malone, M.D., Nevan G. Baldwin, M.D., Frank J. Tomecek, M.D., Christopher M. Bozell, M.D., Steven E. Gaebe, M.D., Christopher G. Covington, M.D., and Kenyon K. Kugler, M.D.

Oklahoma Spine and Brain Institute, Tulsa, Oklahoma, and Texas Tech University, Author: provide city and state

Object. The authors report a series of 22 patients in whom major complications developed after cervical spinal manipulation therapy (CSMT). A second objective was to estimate the regional incidence of these complications and to compare it with the very low incidences reported in the literature.

Methods. During a 5-year period, practitioners at a single group neurosurgical practice in Tulsa, Oklahoma, treated 22 patients, who were markedly worse during, or immediately after, CSMT. The details of these cases are reported. The 1995 US Government National Census was used to define the regional referral population for Tulsa. The published data regarding the incidence of serious CSMT-related complications and the rate of CSMTs undertaken nationally were used to estimate the expected number of CSMT related complications in the authors' region. The number (22 cases) reported in this series was used to estimate the actual regional incidence.

Complications in the series included radiculopathy (21 cases), myelopathy (11 cases), Brown-Séquard syndrome (two cases), and vertebral artery (VA) occlusion (one case). Twenty-one patients underwent surgery. Poor outcomes were observed in three, outcome was unchanged in one, and 17 improved. The number of patients in this series exceeded the expected number for the region.

Conclusions. Cervical spinal manipulation therapy may worsen preexisting cervical disc herniation or cause disc herniation resulting in radiculopathy, myelopathy, or VA compression. In cases of cervical spondylosis, CSMT may also worsen preexisting myelopathy or radiculopathy. Manipulation of the cervical spine may also be associated with higher complication rates than previously reported.

Key Words • **chiropractic** • **intervertebral disc herniation** • **manipulation, orthopedic** • **neurological deterioration** • **cerebrovascular disease** • **vertebral artery**

Dvorak J, Kranzlin P, Muhlemann D, et al: Musculoskeletal complications, S.Haldeman :
Principles and Practice of Chiropractic.
Norwalk CT: Appleton and Lange, 1992, pp 549–578

Dvorak, et al.
In the acute phase of cervical disc herniation
with neurologic deficit,
manipulation and mobilization of the affected
segments are contraindicated as there is a high risk of spinal cord compression
due to massive prolapse.

Erste Erkenntnisse

- Situation nicht richtig eingeschätzt
- Komplikationen >> bei älteren Patienten
- Ignorieren von Behandlungsrückschlägen
- Evenuell schlecht ausgeführte Techniken

Klinische Diagnose CRS

Spurling Test ✓

Sulcus Nervalis Test ✓

Nervendehnungstest ✓

Positive Neurologie ✓

CRS
Behandlungskaskade

- Medikamentöse Therapie
  - Halskragen, Immobilisation
    - Traktion
      - Manuelle Behandlung / inkl. Übungen
        - Infiltration
          - Chirurgie

CRS
Behandlungskaskade

- Medikamentöse Therapie
  - Halskragen, Immobilisation
    - Traktion
      - Manuelle Behandlung / inkl. Übungen
        - Infiltration
          - Chirurgie

CRS
Behandlungskaskade

Medikamentöse Therapie

- Empirie
- Einzeln/Kombination
  - NSAR
  - Analgetika
  - Muskelrelaxans
  - Steroide
  - Opioide
  - Antikonvulsiva

- EBM
- Opioide ↑
- Synthetisches Opioid ↑
- Antikonvulsiva ↓↑
- Antidepressiva ↓ ↑

CRS
Behandlungskaskade

- Medikamentöse Therapie
  - Halskragen, Immobilisation
    - Traktion

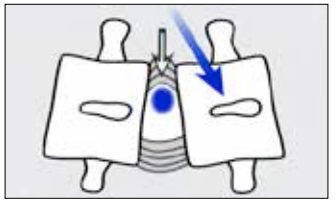
Manuelle Behandlung / inkl. Übungen

- Infiltration

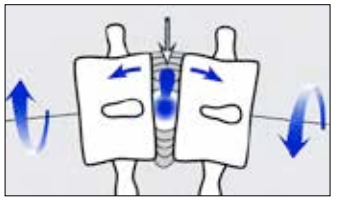
Chirurgie

Biomechanical correction of disc herniation by manipulation ?

- Directing the fragmented nuclear material towards a more central position



- Forcing the disc fragment to a less compromising position



Esposito 2005

Table 1. *Reports of the effect of traction (distraction) or flexion distraction on anatomical disk abnormalities*

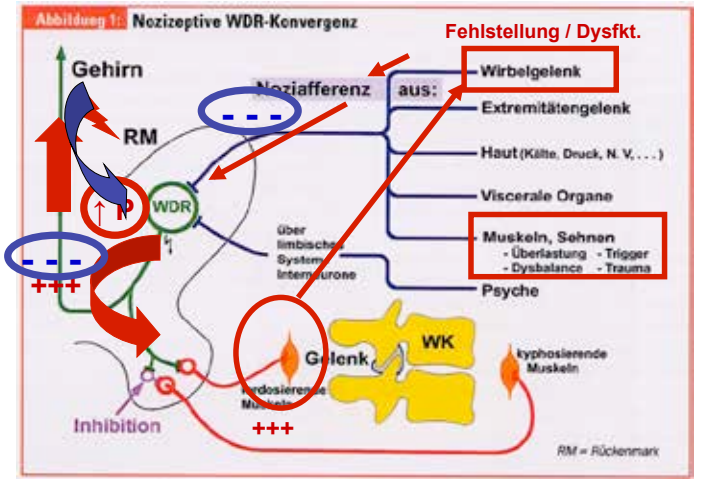
Author	Date	Measure	Study type	N	Rx	Results
Mathews[14]	1968	Epidurography (pre/post)	Prospective series	11	T	Reduction of protrusion in 2 cases
Gupta and Ramame[13]	1978	Epidurography (pre/post)	Prospective series	14	T	Resolved protrusion in 9/10 "good" subjects
Onel et al[10]	1981	CT (pre/post)	Prospective series	30	T (45 kg)	Decreased protrusion in 11/14 median, 6/9 posterolateral, 4/7 lateral
Neault[14]	1982	MRI	Case report	1	FD, H/CP, EMS, corset	Reduced size of prolapse
BenElyahu[17]	1990	MRI	Prospective series	16 (L) 11 (C)	FD, T, SM, E	Decreased protrusion in 17/22 "good," 0/5 "poor" subjects
Beata and Peets[25]	1998	CT (pre/post)	Prospective, randomized, unblinded	30	SP vs FD	No change in disk/canal ratio

FD, flexion distraction; *SP*, side-posture (rotary) manipulation; *SM*, spinal manipulation; *E*, Exercise; *T*, traction (distraction); *EMS*, electrical muscle stimulation; *H/CP*, hot and cold packs.

Table 2. *Reports of the effect of distraction and flexion distraction on intradiscal pressure*

Author	Date	Measure	Study design	N	Intervention	Effect
Andersson[28]	1983	Intradiscal pressure L3	Human, in vivo	4	Passive (500 N) or active traction	Variable (increase or decrease)
Ramos and Martin[24]	1994	Intradiscal pressure	Human, in vivo	3	VAX-D distraction (50-100 lb)	Decrease to −100 to −160 mm Hg
Gudavalli et al[27]	1998	Intradiscal pressure	Human, cadaver	5	Flexion distraction	Mean value decrease of 88.6 mm Hg

Die Wirkung der Manuellen Behandlung



Gemäss Konsensus Konferenz am Bodensee

Manipulation mit Impuls HVLA

Risikofaktoren für Komplikationen

1. Falsche Diagnose
2. Neurologie unterschätzt
3. Falsche Technik
4. Akute Diskushernie

- CTÜ /BWS/Rippen
- bei ≤ 3 Bewegungseinschränkungen
- Strukturelle Defizite müssen bekannt sein
- Neurologische Untersuchung zu Beginn und im Verlauf

SCHULTHESS KLINIK
Manuelle Medizin

The Winner is...

- Passiv
- Mobilisationen
- HVLA für CTÜ und/oder obere BWS. inkl Rippen
- NMI Techniken
- Nervenmobilisationen

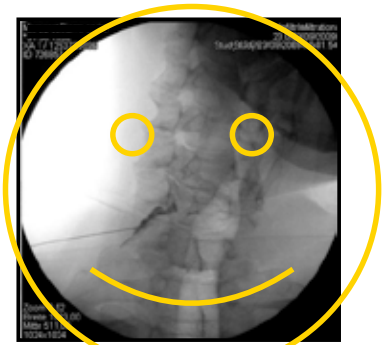
- Aktiv
- Scapulafixatoren
- Tiefe HWS Muskulatur
- Pectoralis Stretch
- Median nerve Sliders

- Allenfalls Traktionen
- Weichteilbehandlung

J Man Manip Ther. 2011 August; 19(3): **Effectiveness of manual physical therapy in the treatment of cervical radiculopathy: a systematic review** Robert Boyles et al

SCHULTHESS KLINIK
Manuelle Medizin

Epidurale Kortison Injektion



SCHULTHESS KLINIK
Manuelle Medizin

Komplikation des Zervikalen Nervenblockes

- 2 Fälle mit Tetraplegie/Parese nach CT gesteuerter periforaminaler Injektion mit Triamcinolon
- MRI nachgewiesene ischämische RM Läsionen
- Geschätzte Inzidenz 1: 3500
- Strenge Indikationsstellung
- Aufklärung einschliesslich Tod

Hodler. SAZ, 2007: Moratorium im Balgrist

Komplikation 1999-2003

Ma et al, JBJS Am.,2005:1025-30

Komplikation 1994-2007

Schellhas et al: Am JNeurology,2007:1909-14

- 1036 Injektionen bei 844 Patienten bei Ma et al
- 4612 Patienten bei Schellhas et al
- C Arm fluoroskopy, 25 gauge Nadel, Depot Medrol
- Keine schwerwiegenden Komplikationen
- 14 Patienten mit leichten reversiblen Nebenwikungen

Folgerungen bei zervikaler Nerveninjektion

Malhotra et al. Spine 2009 Vol.34 pp.31-39

- Prävalenz nicht geklärt
- Pathophysiologie : Luft ?, kristalline Steroide

- Korrekte Technik und Erfahrung !!
- Keine synthetischen kristallinen GC
- Nur unter Visualisierung und Kontrastmittel
- Echtzeitverfahren sicherer (BV gesteuert)

Wann überweisen?

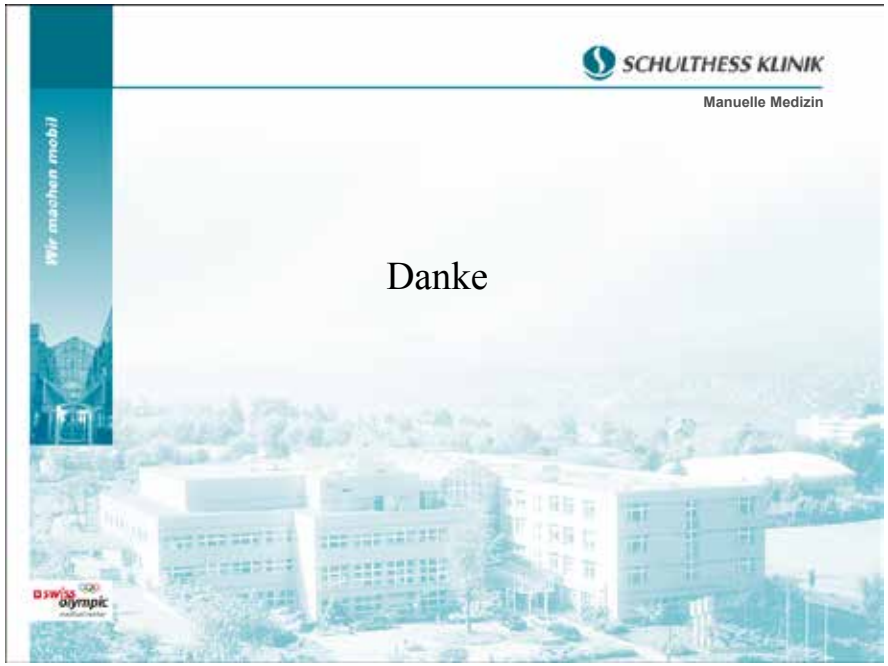
- Nicht kontrollierbarer Schmerz
- Progrediente Neurologie

Nicht vergessen

- Aspirin vorher mindestens 5 Tage abgesetzt
- Antikoagulation = Kontraindikation
- Ohne Bildgebung keine Infiltration
- Weiterfahren mit Medikamente und Manueller Therapie

Zusammenfassend

- In 80 bis 90% der CRS ist die konservative Therapie erfolgreich
- Einzelne Therapiemodalitäten haben keine gute Evidenz
  - Ausser: Epidurale Steroid Injektionen und Opioide
- Multimodale Therapie am erfolgreichsten
- HVLA am Segment machen keinen Sinn.
  - Risk /Benefit schlecht
- Chirurgie nur bei zunehmender Neurologie und/oder nach erfolgloser konservativer Therapie


SCHULTHESS KLINIK
Manuelle Medizin
Wir machen mobil
Danke
swiss olympic