Grenzen der Dekompression bei Wirbelsäulenmetastasen

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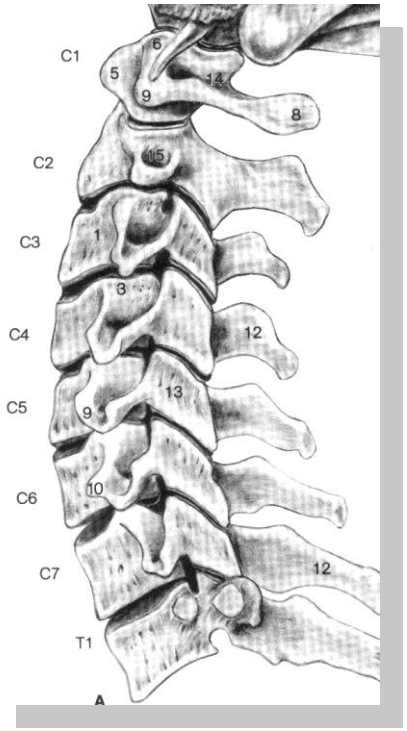
EPIDEMIOLOGIE

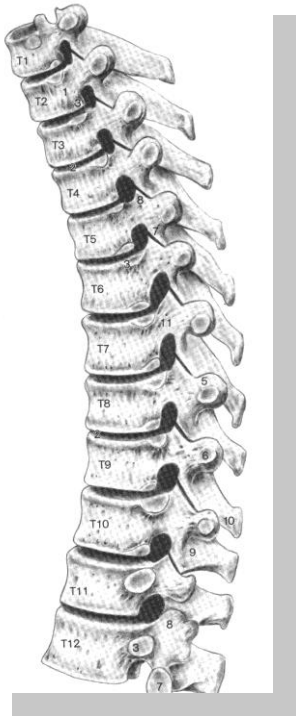
- 36% der metastasierenden Tumorpatienten entwickeln SMD (Autopsie)
- 10-20% der SMD Patienen mit epiduraler Rückenmarkskompression

30%	lung
20%	breast
20%	prostate
10%	kidney
10%	lymphoma
6%	GI tract
6%	thyroid
4%	melanoma

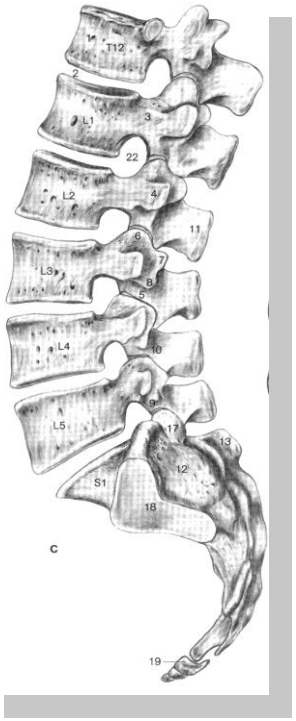
LOKALISATION



15%



60%

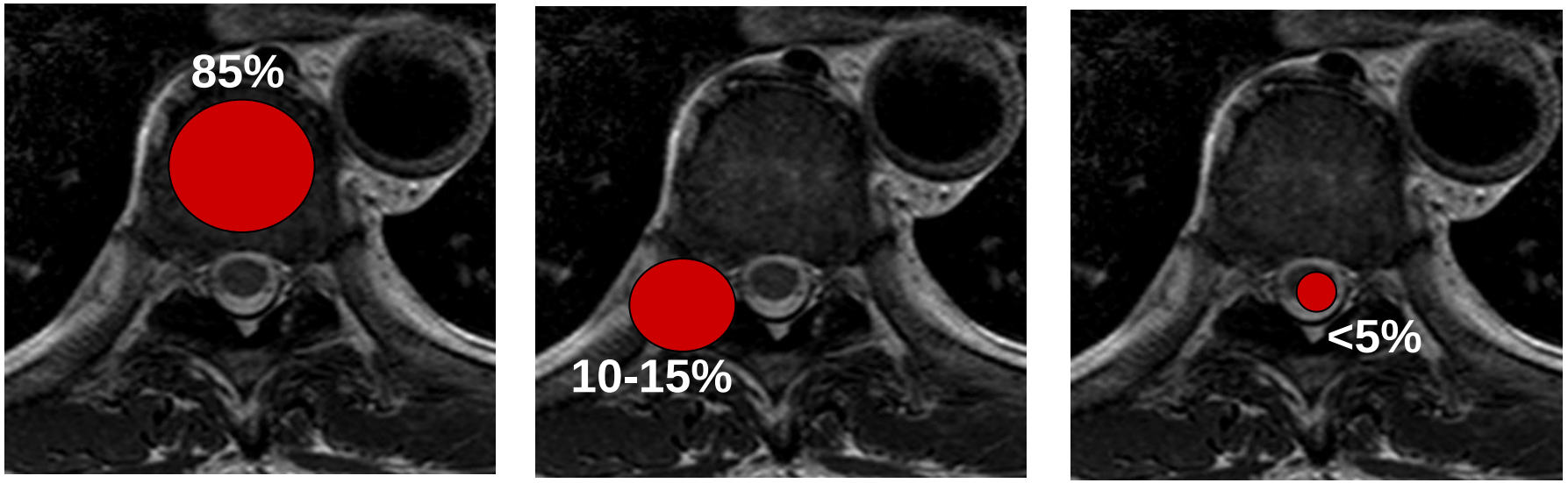


25%

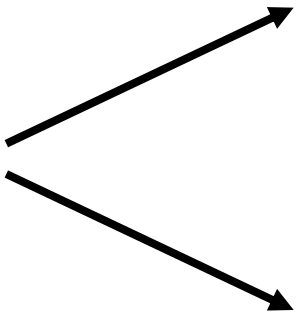
94% epidural
4% intradural
2% intramedullär

Multiple Metastasen: 20-35%

LOKALISATION



KLINISCHE MANIFESTATION



Schmerzen: 90%

Neurologisches Defizit: 10%

→ Sensibles Defizit: 70-80%

→ Motorisches Defizit: 60% (50-70% nicht gehfähig)

→ Inkontinenz: 14-77%

DIAGNOSTIK

- Anamnese/Neurologie
- MRT
- CT
- onkologisches Staging
- Biopsie

ENTSCHEIDENDE FRAGE

WANN MACHT ES SINN,

WAS ZU TUN?

„TRADITIONELLE“ THERAPIEOPTIONEN

- Strahlentherapie
- „traditionelle“ neurochirurgische Therapie:

  dekompressive Laminektomie

  als „ultima ratio“

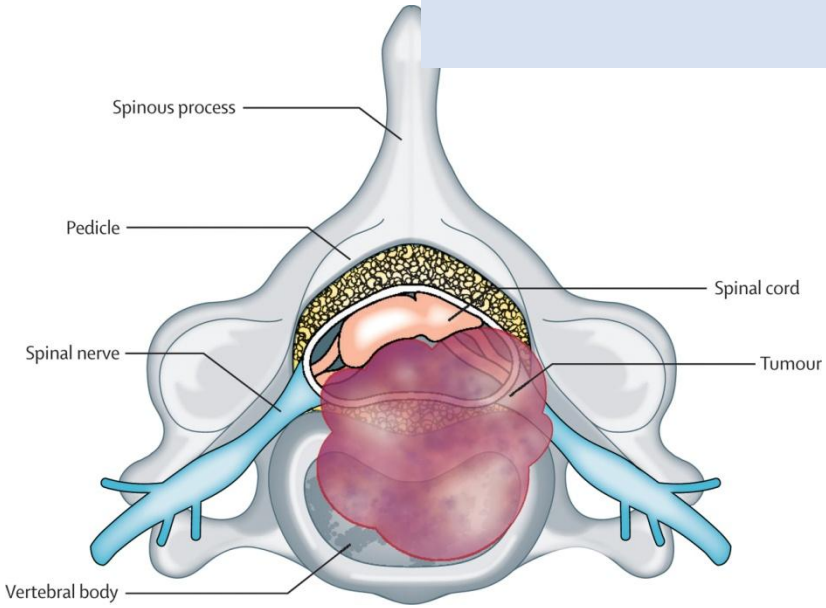
  bei progredientem oder kompletten Querschnitt

  (*Aktionismus*)

„TRADITIONELLE“ THERAPIEOPTIONEN

Treatment of spinal epidural metastases: randomized prospective comparison of laminectomy and radiotherapy.
Young RF, Post EM, King GA.
J Neurosurg 1980; **53:**

KEIN VORTEIL vs. RX allein!!!



„TRADITIONELLE“ THERAPIEOPTIONEN

Direct decompressive surgical resection in the treatment of spinal cord compression caused by metastatic cancer: a randomised trial

Roy A Patchell, Phillip A Tibbs, William F Regine, Richard Payne, Stephen Saris, Richard J Kryscio, Mohammed Mohiuddin, Byron Young

radiation alone. Surgical treatment was largely abandoned when several retrospective studies[5–10] and a small randomised trial[11] did not show any benefit for laminectomy alone or in combination with radiotherapy. However, laminectomy might not be the best operation for MESCC. Most spinal metastases causing MESCC are located in the vertebral body, anterior to the spinal cord.[1,2] Laminectomy involves the removal of posterior

Lancet 2005; 366: 643–48

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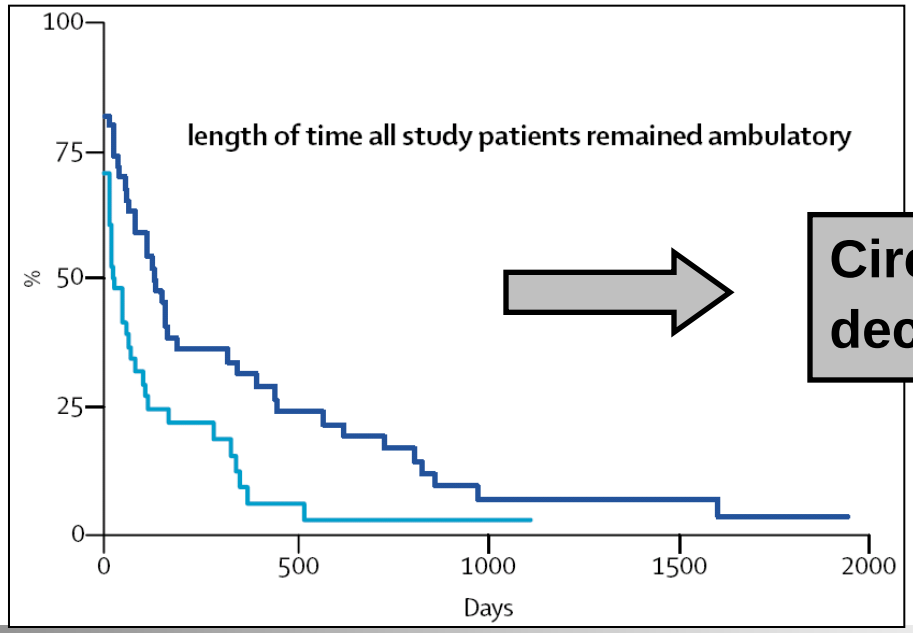
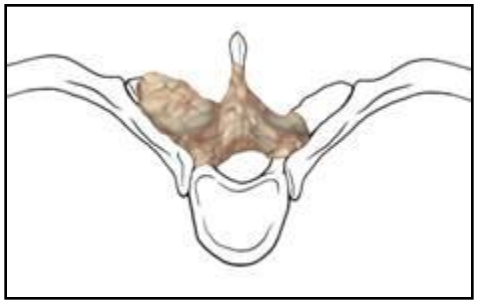
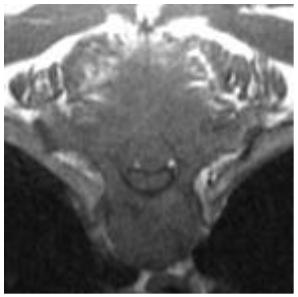
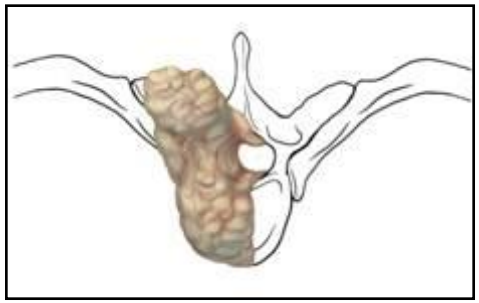
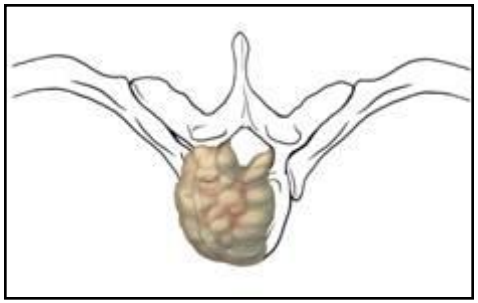
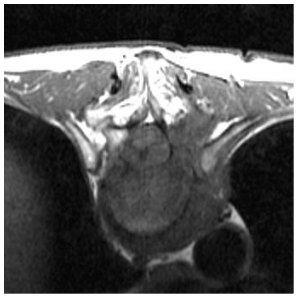
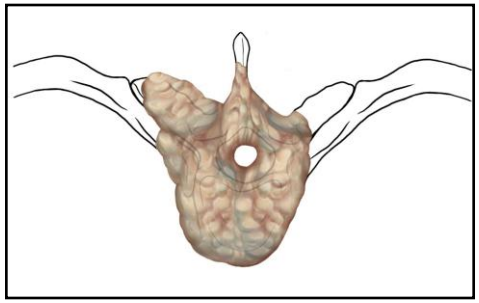
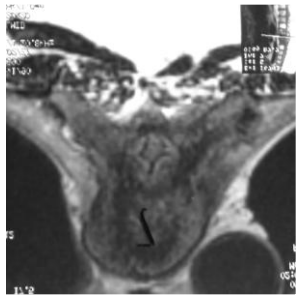


Circumferential decompression

Lancet 2005; 366: 643–48

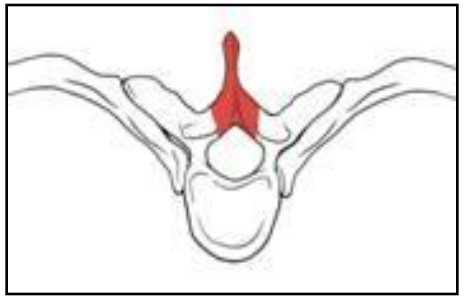
DIAGNOSTIK

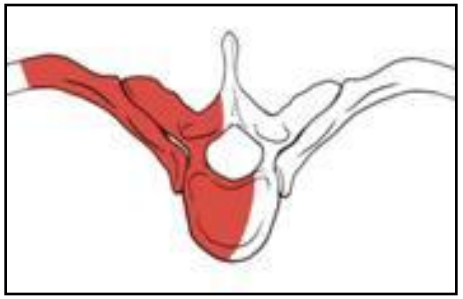





ZUGÄNGE

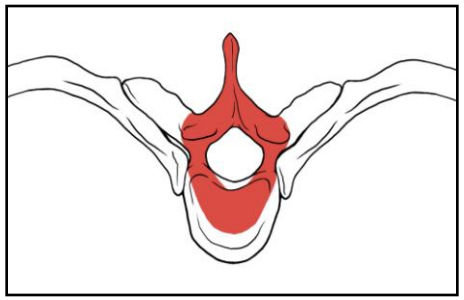
posteromedian – laminectomy



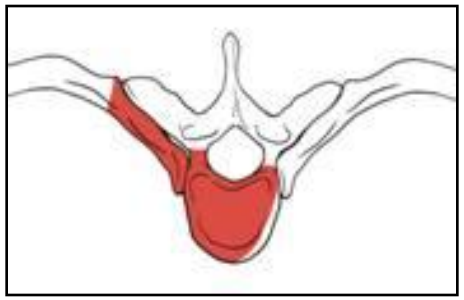
posterolateral – extracavitary



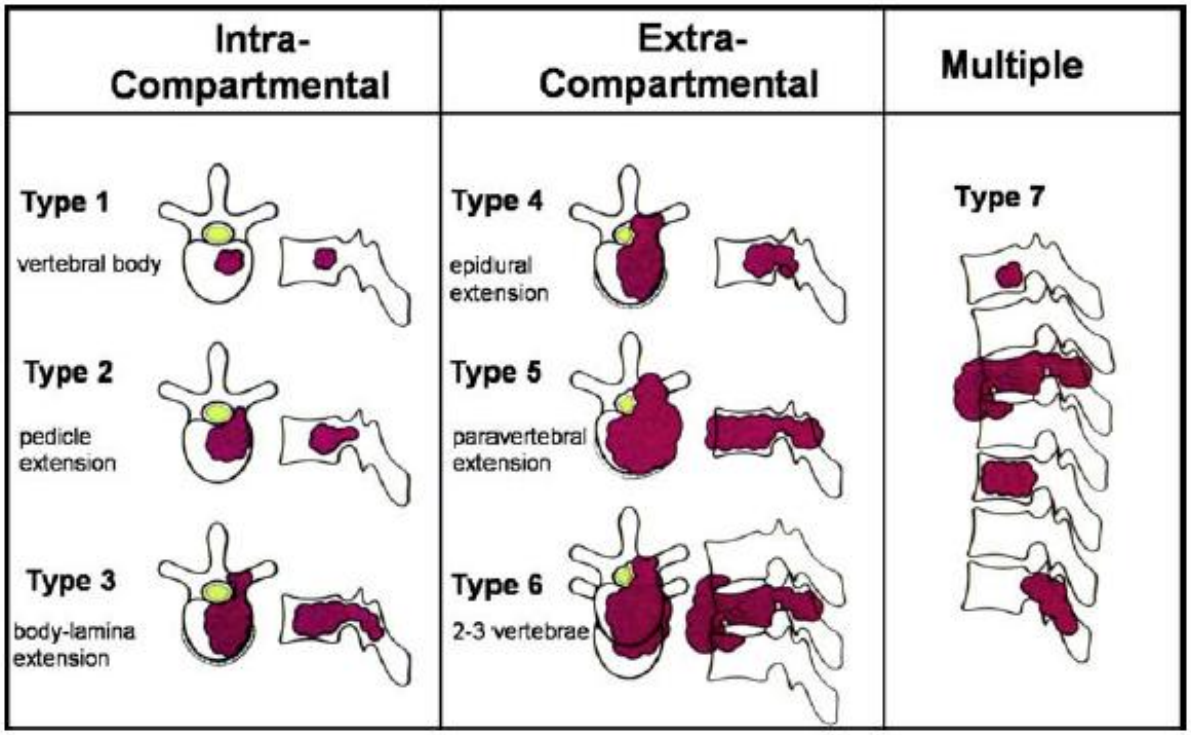
posteromedian – transpedicular



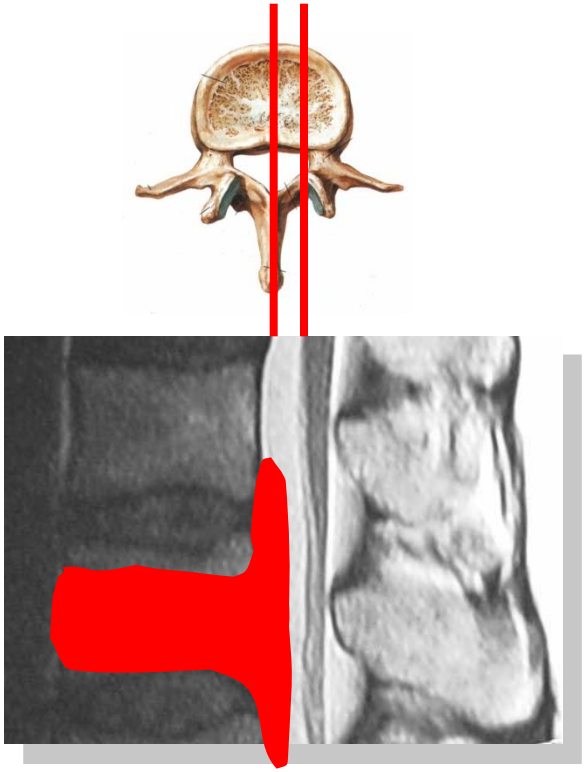
anterolateral – transcavitary



DIAGNOSTIK – Ausmass der Metastasierung



Tomita Klassifikation



Laterales Tumorwachstum

OUTCOMEPARAMETER

- Gehfähigkeit
- Plegie (**Zeitdauer des Defizits**, >24h)

OUTCOMEPARAMETER

- Überlebensdauer (allg. Prognose)

Primärtumor	mittleres Überleben (Monate)
• Lunge	4
• Melanom	4
• Nierenzellcarcinom	> 12
• Mammacarcinom	15 - 25
• Prostatacarcinom	> 48
• Lymphom/Myelom	> 48
• Schilddrüsencarcinom	> 48

OUTCOMEPARAMETER

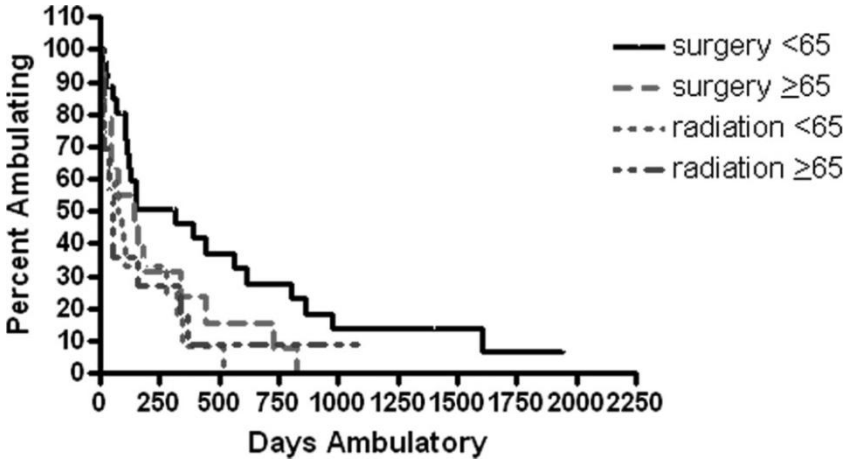
- Alter

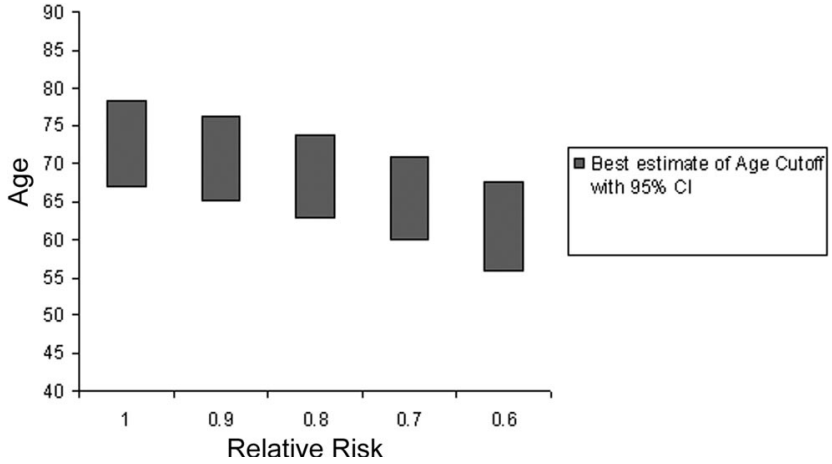
Selecting Treatment for Patients With Malignant Epidural Spinal Cord Compression—Does Age Matter?

Results From a Randomized Clinical Trial

John H. Chi, MD, MPH,* Ziya Gokaslan, MD,† Paul McCormick, MD, MPH,‡ Phillip A. Tibbs, MD,§ Richard J. Kryscio, PhD,¶ and Roy A. Patchell, MD§

SPINE 2009 Volume 34, Number 5, pp 431–435





OPERATIVE OPTIONEN

- supportive Therapie
- palliative Dekompression und Stabilisierung
- konventionelle ´Piecemeal´ Exzision (intraläsional)
- en bloc Exzision

OPERATIVE OPTIONEN

J Neurosurg Spine 8:271–278, 2008

Does spinal surgery improve the quality of life for those with extradural (spinal) osseous metastases? An international multicenter prospective observational study of 223 patients

AHMED IBRAHIM, M.R.C.S.,[1] ALAN CROCKARD, F.R.C.S.,[1] PIERRE ANTONIETTI, M.D.,[2] STEFANO BORIANI, M.D.,[3] CODY BÜNGER, M.D.,[4] ALESSANDRO GASBARRINI, M.D.,[3] ANDERS GREJS, M.D.,[4] JÜRGEN HARMS, M.D.,[5] NORIO KAWAHARA, M.D.,[6] CHRISTIAN MAZEL, M.D.,[2] ROBERT MELCHER, M.D.,[5] AND KATSURO TOMITA, M.D.[6]

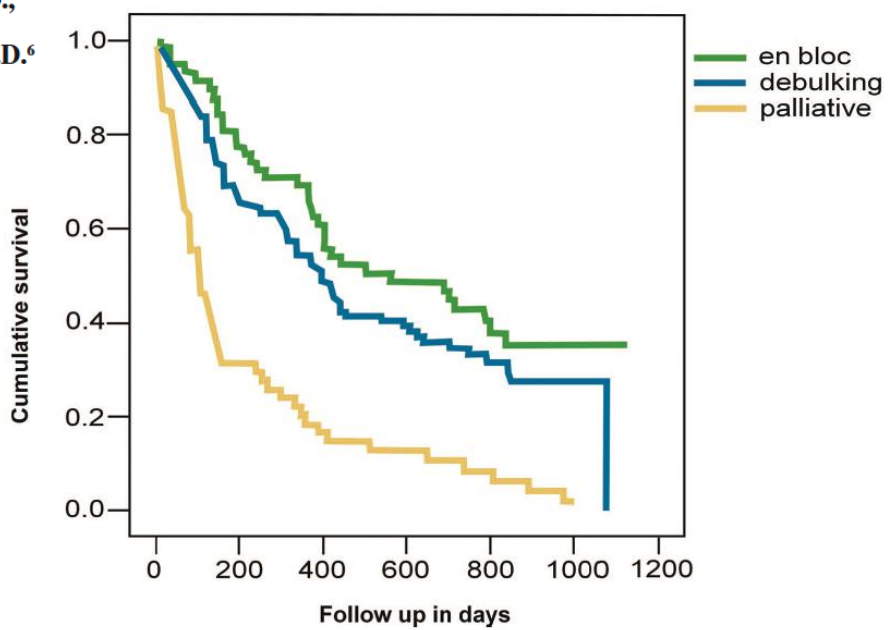
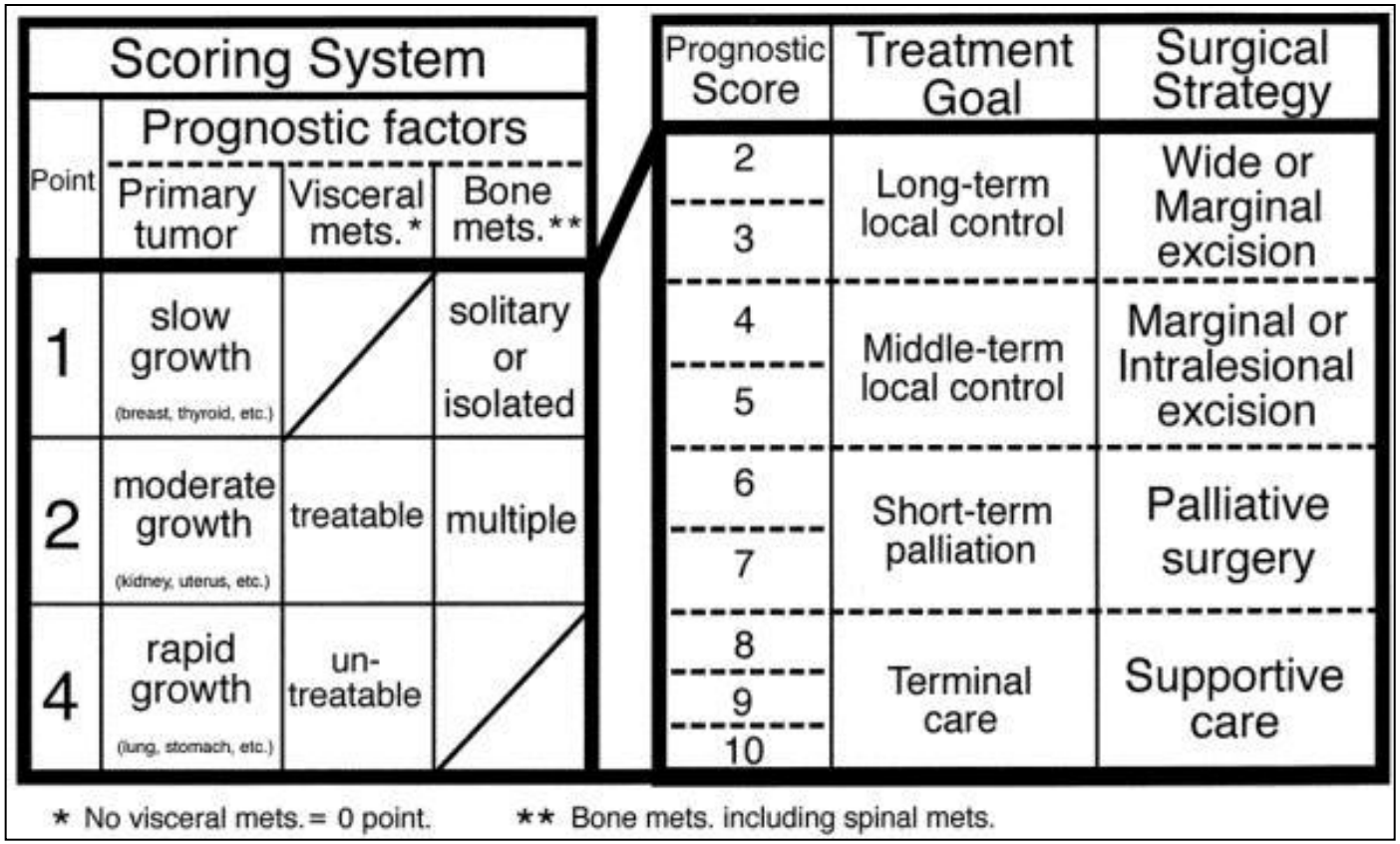


FIG. 3. Kaplan–Meier curves of the 3 different types of surgery showing that en bloc and debulking procedures have similar survival ($p = 0.1357$, log-rank test) but both have better survival than palliative surgery over the follow-up period ($p < 0.001$, log-rank test).

OPERATIVE OPTIONEN – Scores



Scoring System			
Point	Prognostic factors		
	Primary tumor	Visceral mets.*	Bone mets.**
1	slow growth (breast, thyroid, etc.)		solitary or isolated
2	moderate growth (kidney, uterus, etc.)	treatable	multiple
4	rapid growth (lung, stomach, etc.)	un-treatable	

Prognostic Score	Treatment Goal	Surgical Strategy
2, 3	Long-term local control	Wide or Marginal excision
4, 5	Middle-term local control	Marginal or Intralesional excision
6, 7	Short-term palliation	Palliative surgery
8, 9, 10	Terminal care	Supportive care

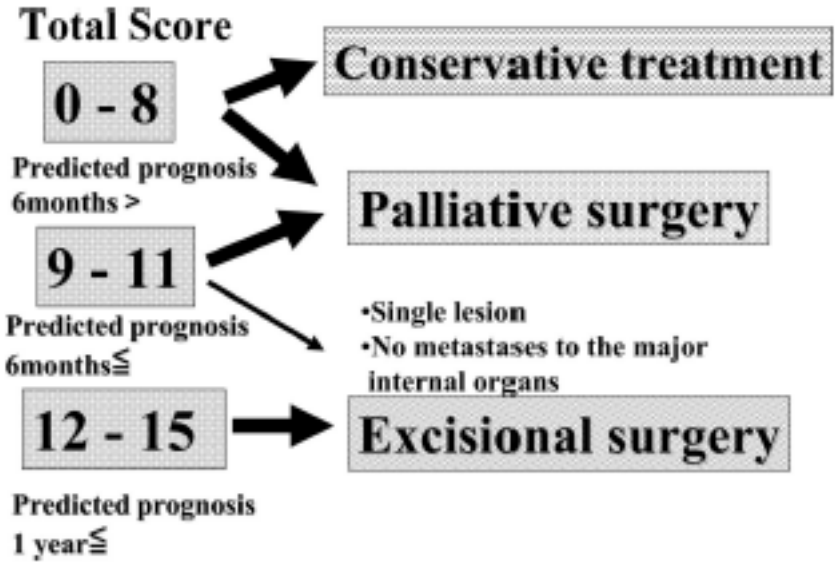
* No visceral mets. = 0 point. ** Bone mets. including spinal mets.

Tomita et al., 2001, SPINE 26, 298–306

OPERATIVE OPTIONEN – Scores

Characteristic	Score
General condition (performance status)	
Poor (PS 10%–40%)	0
Moderate (PS 50%–70%)	1
Good (PS 80%–100%)	2
No. of extraspinal bone metastases foci	
≥3	0
1–2	1
0	2
No. of metastases in the vertebral body	
≥3	0
2	1
1	2
Metastases to the major internal organs	
Unremovable	0
Removable	1
No metastases	2
Primary site of the cancer	
Lung, osteosarcoma, stomach, bladder, esophagus, pancreas	0
Liver, gallbladder, unidentified	1
Others	2
Kidney, uterus	3
Rectum	4
Thyroid, breast, prostate, carcinoid tumor	5
Palsy	
Complete (Frankel A, B)	0
Incomplete (Frankel C, D)	1
None (Frankel E)	2

Criteria of predicted prognosis: Total Score (TS) 0–8 = >6 mo; TS 9–11 = ≤6 mo; TS 12–15 = ≤1 yr.



Tokuhashi et al., 2005, SPINE 30, 2186–2191

ZUSAMMENFASSUNG

Operative Therapie sekundärer Wirbelsäulentumore

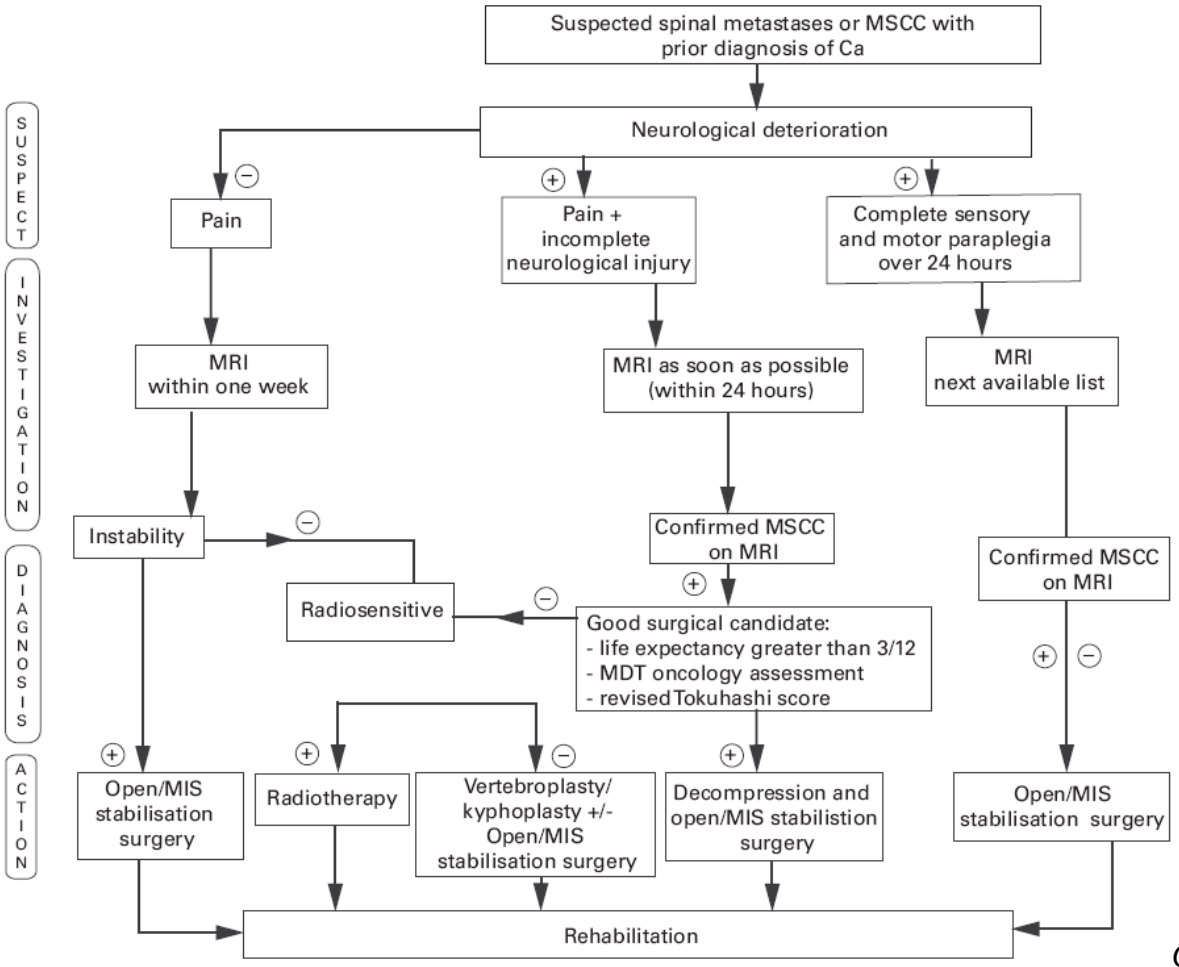
- Chirurgie plus Radiotherapie sind Standard
- Fortschritt in chirurgischen Techniken (reine Dekompression selten)
- Scores helfen orientierend; interdisziplinäre Entscheidung

Grenzen der Dekompression:

Prognose + Alter in Relation zur Größe des Eingriffs

Zeitdauer des Defizits

THERAPIEALGORITHMUS



Quraishi et al. 2010

Vielen Dank
für Ihre Aufmerksamkeit!

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