Neurologische klachten bij gemetastaseerd mamma en long- carcinoom

Dr. Peter Wessels, neuroloog

14 oktober 2025

een santeon ziekenhuis

Klachten

Hersenmetastasen

- Focale uitval
- Insulten
- Tekenen intracraniële drukverhoging

Leptomeningeale metastasen

- Hersenzenuwuitval/ radiculair syndroom
- Verwardheid
- Focale uitval
- Hoofdpijn

Spinale/ epidurale metastasen

- Radiculair syndroom
- Myelopathie
- Sfincter- dysfunctie

Bijwerking therapieën mn immuuntherapie zeer divers

Stollingstoornis

(Paraneoplastische syndromen)

etc

Opbouw

1 Hersenmetastasen

- Focale uitval
- Insulten
- Tekenen intracraniële drukverhoging

(Leptomeningeale metastasen)

- Hersenzenuwuitval/ radiculair syndroom
- Verwardheid
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- Hoofdpijn

2 Spinale/ epidurale metastasen

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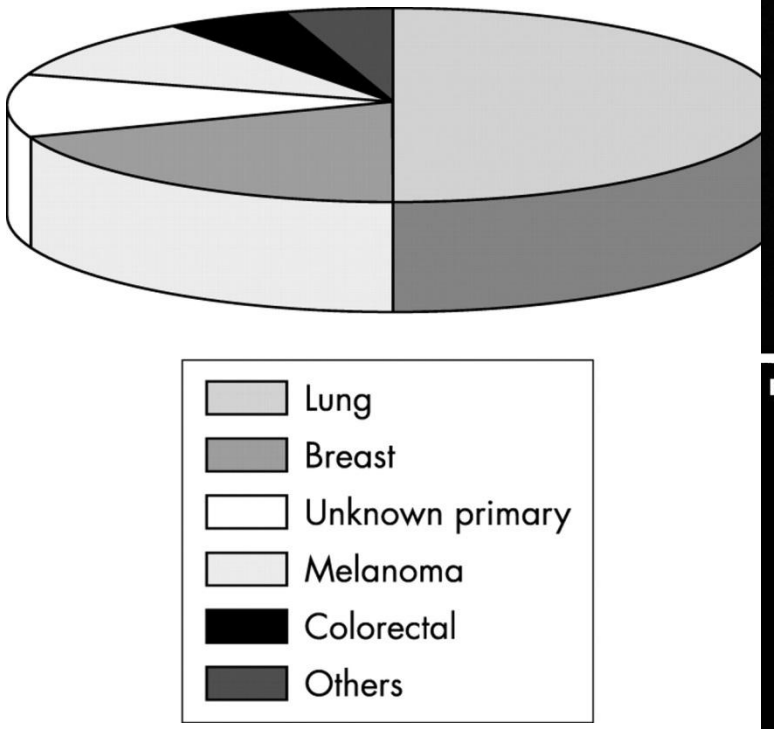
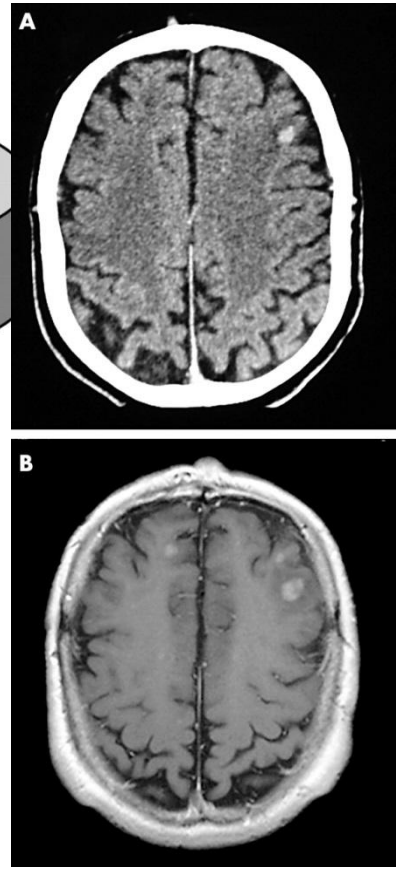
Stollingstoornis

(Paraneoplastische syndromen)

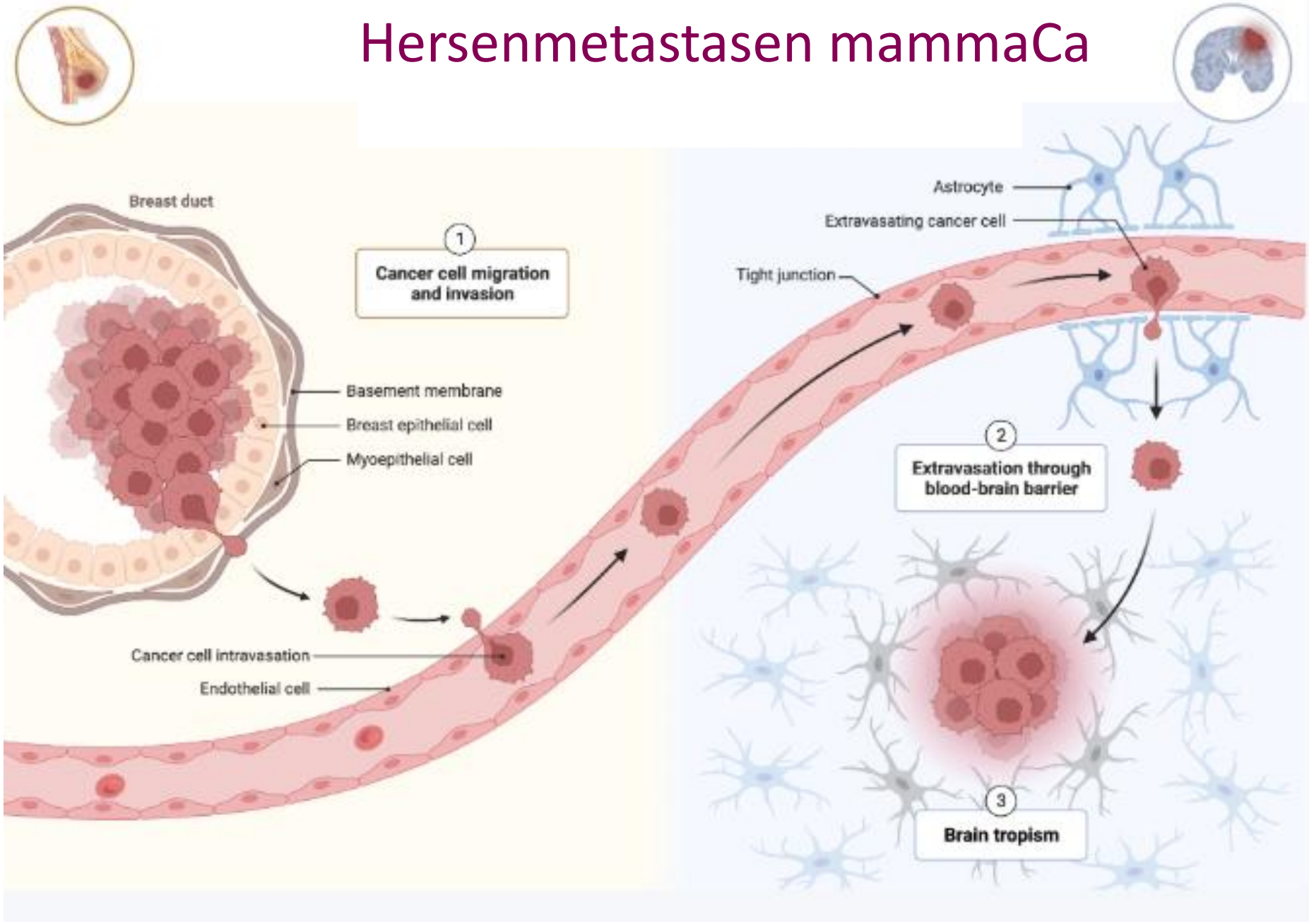
etc

Hersenmetastasen





Hersenmetastasen mammaCa



BBB

Dormancy

Immuunsysteem

Interval primaire tumor vs hersenmetastasen

Site	At risk	BM	Interval between primary tumor and BM			
			< 1 mnth	< 1 yr	1-5 yrs	> 5 yrs
Breast	802	42	3	5	31	3
Colon/rectum	720	10	2	2	5	1
Kidney	114	12	2	4	5	1
Lung	938	156	76	66	14	0
Skin melanoma	150	12	1	5	5	1
Total	2724	232	84	82	60	6

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Behandeling ~ Prognose

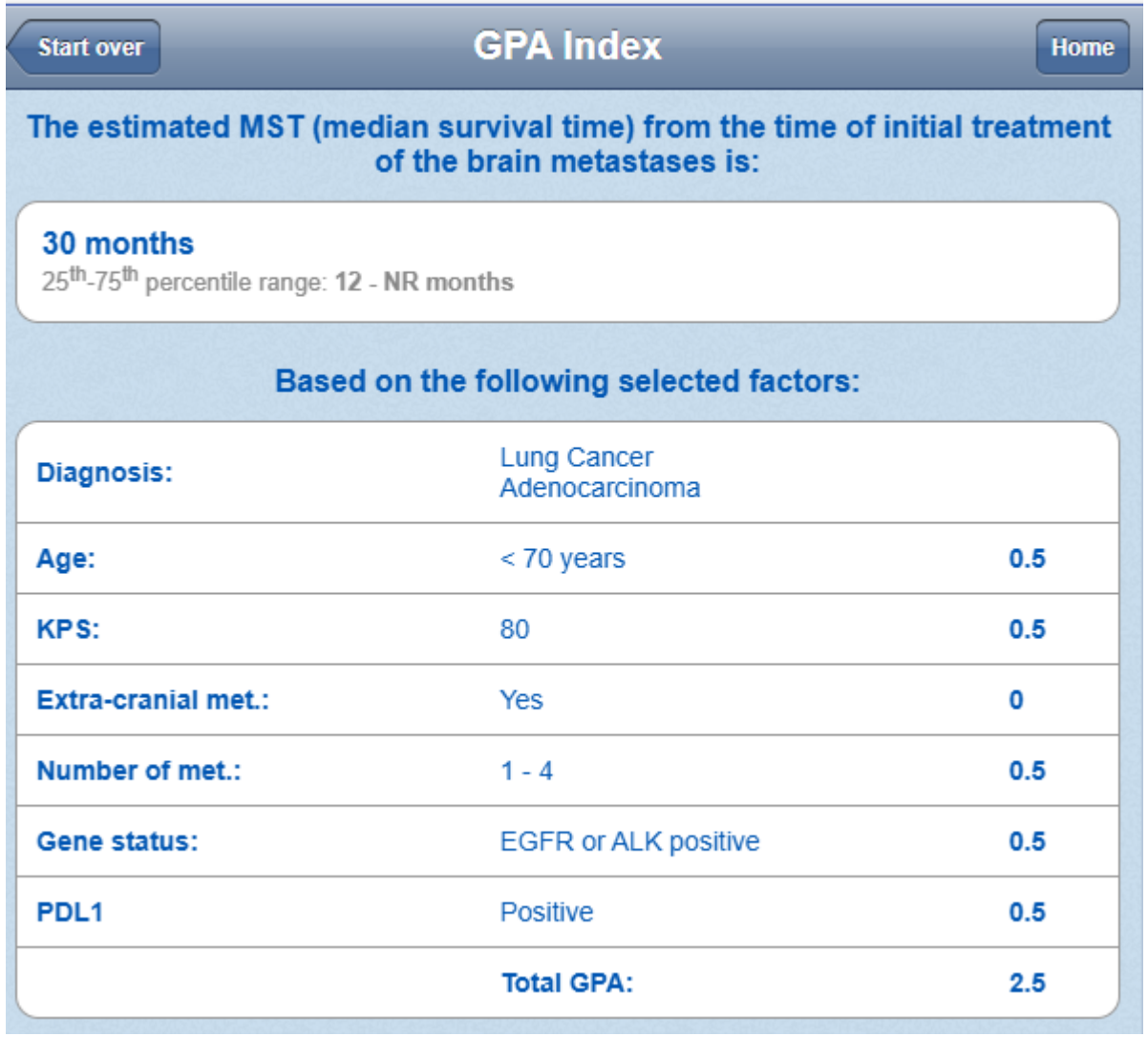
RPA	Definitie	Mediane overleving
1	KPS > 70. Leeftijd < 65 Geen extracraniele ziekteactiviteit	7,1 maanden 1 meta> 13,6 > 2. 6
2	KPS > 70	4,2,maanden
3	KPS < 70	2,3 maanden

+ nieuwere factoren

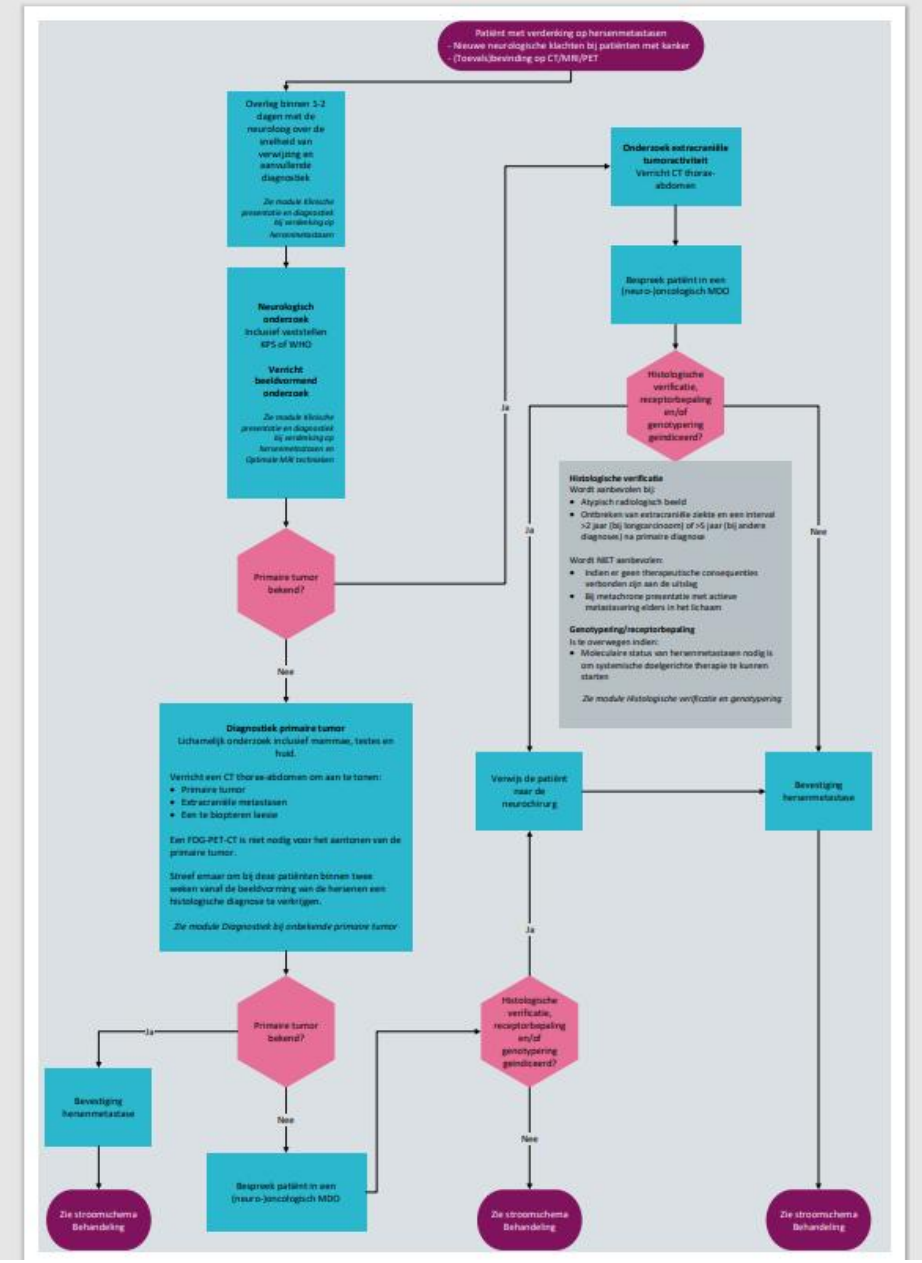
mn EGFR/ ALK, PDL1

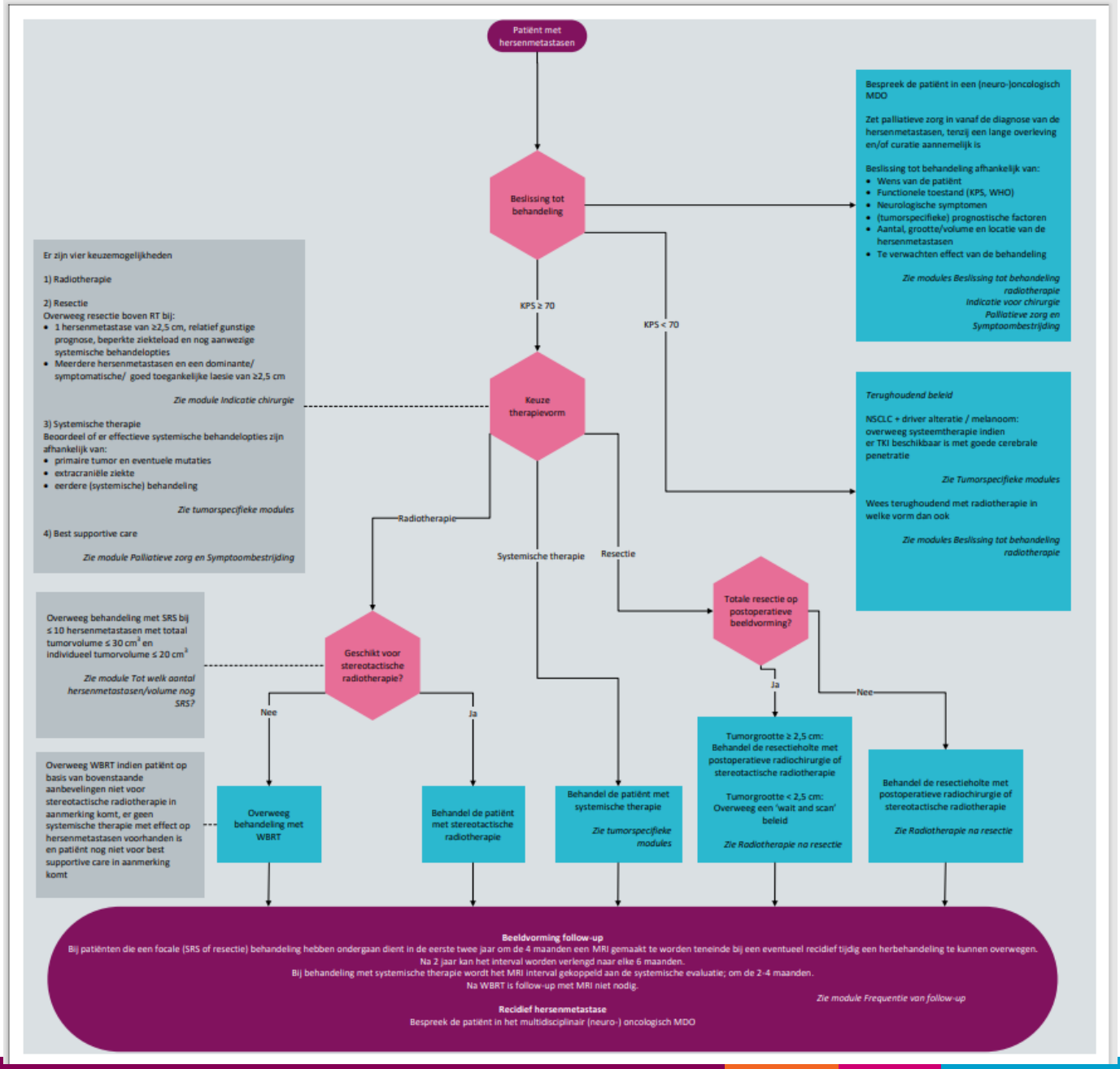
Graded Prognostic Assessment GPA) Index

https://brainmetgpa.com/

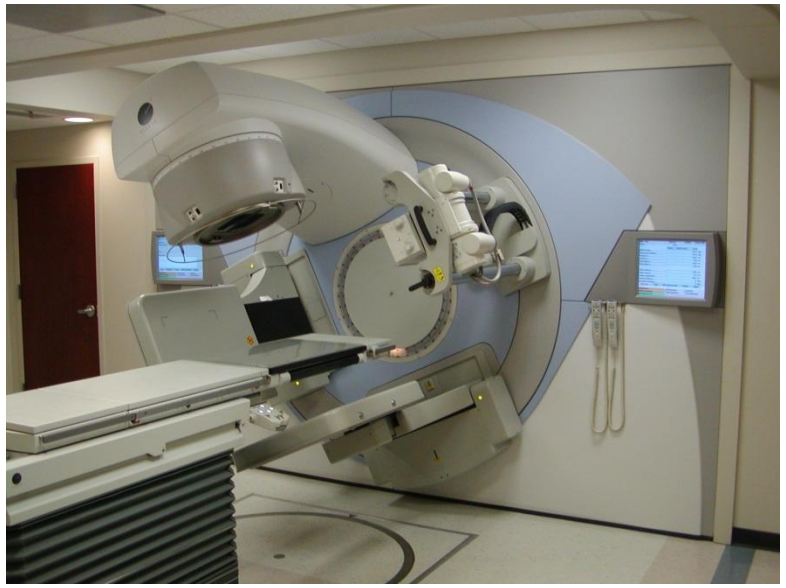


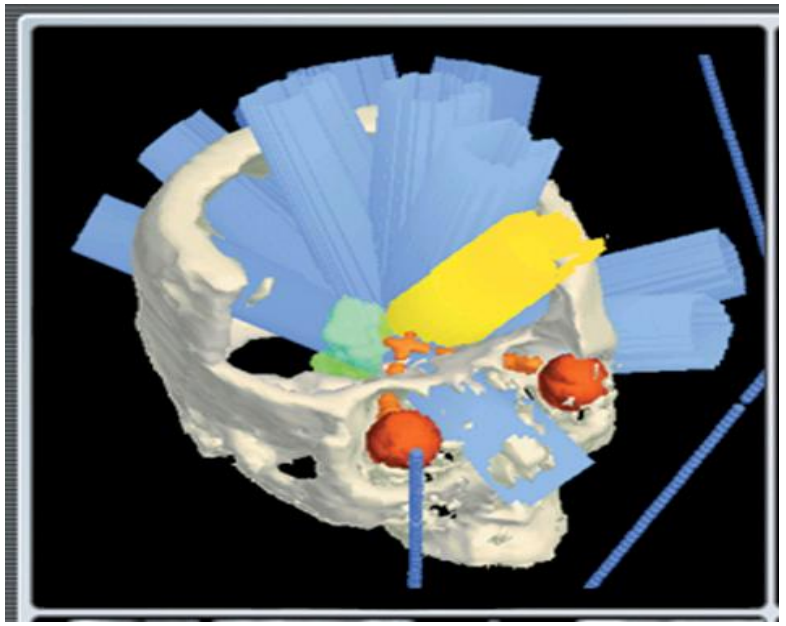
Richtlijn hersenmetastasen 2020





Stereotactische Radiochirurgie





Radiochirurgie indicatie

1-20 metastase(n)

Karnofsky performance score> 70

(=adl zelfredzaam)

Diameter < 3,5 cm (4,0cm)

Geen progressieve systemische ziekte

Regelgeving

stereotactische radiotherapie mag in alle radiotherapeutische centra plaatsvinden,
mits de patiënt vooraf wordt besproken in een multidisciplinair overleg (MDO) met minimaal een neurochirurg, neuroloog, neuroradioloog en radiotherapeut

recent in de Staatscourant gepubliceerde wetwijziging
Regeling bijzondere neurochirurgie - BWBR0051029

Radiatienecrose ‘pseudoprogressie’

Vooral na SRT grotere laesies

Wisselend interval (mediaan na circa 2 jaar)

Diagnose stelling oa MR perfusie/ cerebrale PET

Indien dexamethason-afhankelijk bevacizumab (2-4 kuren)

> effectief dexa afbouw, soms verbetering uitval

Casus ♀ 56 jr

Maart 2019: hersenenmetastasen bronchuscarcinoom IVB

SBRT 4 hersenmetastasen

Mei 2019: cisplatin/pemetrexed/pembrolizumab

Sept 2019- Juni 2020: monotherapie pembrolizumab

Mei 2020: CT stabiel (minimale rest ziekte)

Juni 2020: rechts frontaal radionecrose, dexamethason afhankelijk>

bevacuzimab (4 kuren)

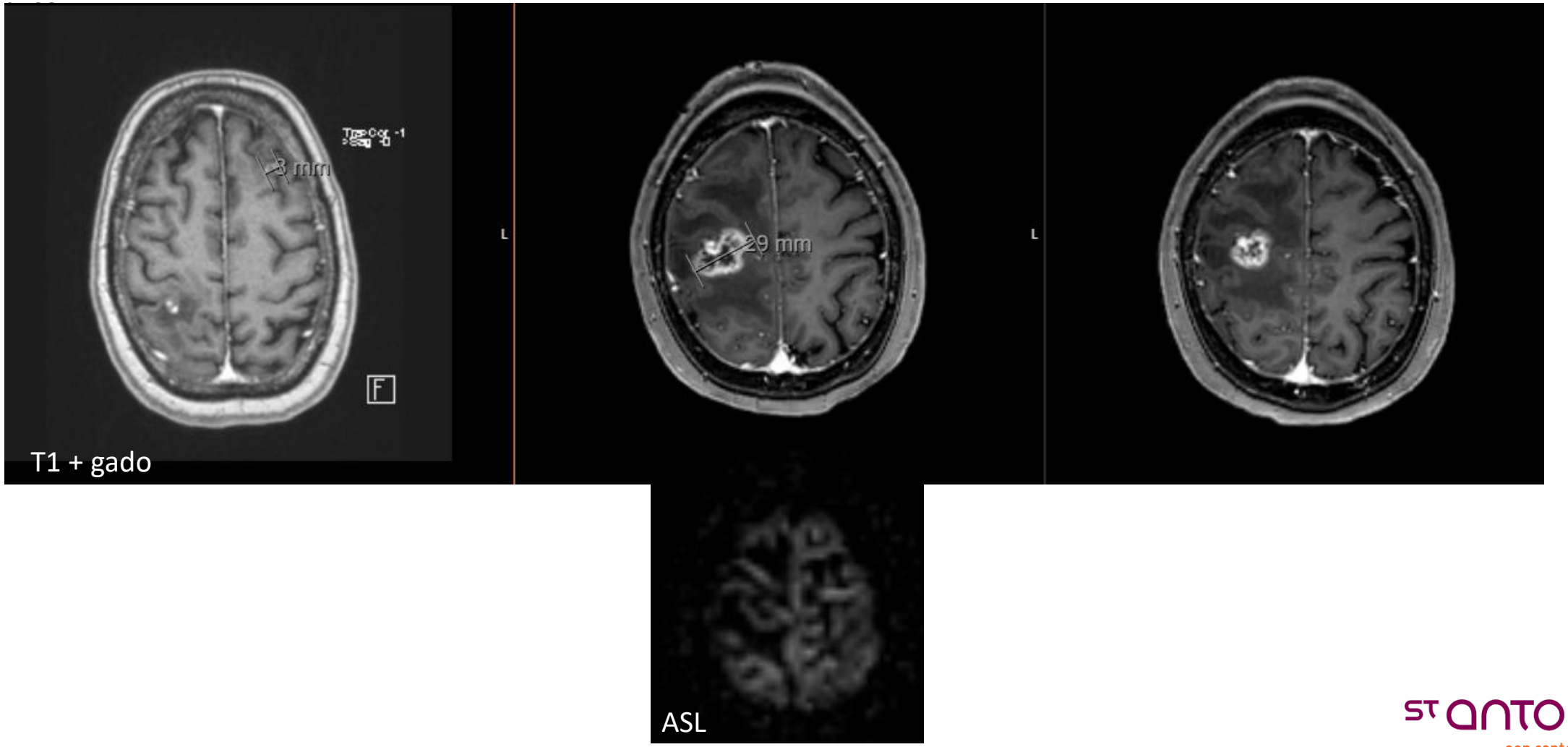
Maart 2021: complete respons na immuuntherapie, geen meetbare targets

Juli 2021 stereotactische RT metastase Li occipitaal

December 2024: geen aanwijzing recidief, geringe functiestoornis Li been

Sept 2020 Juli 2020 Mei 2020

← Bevacizumab



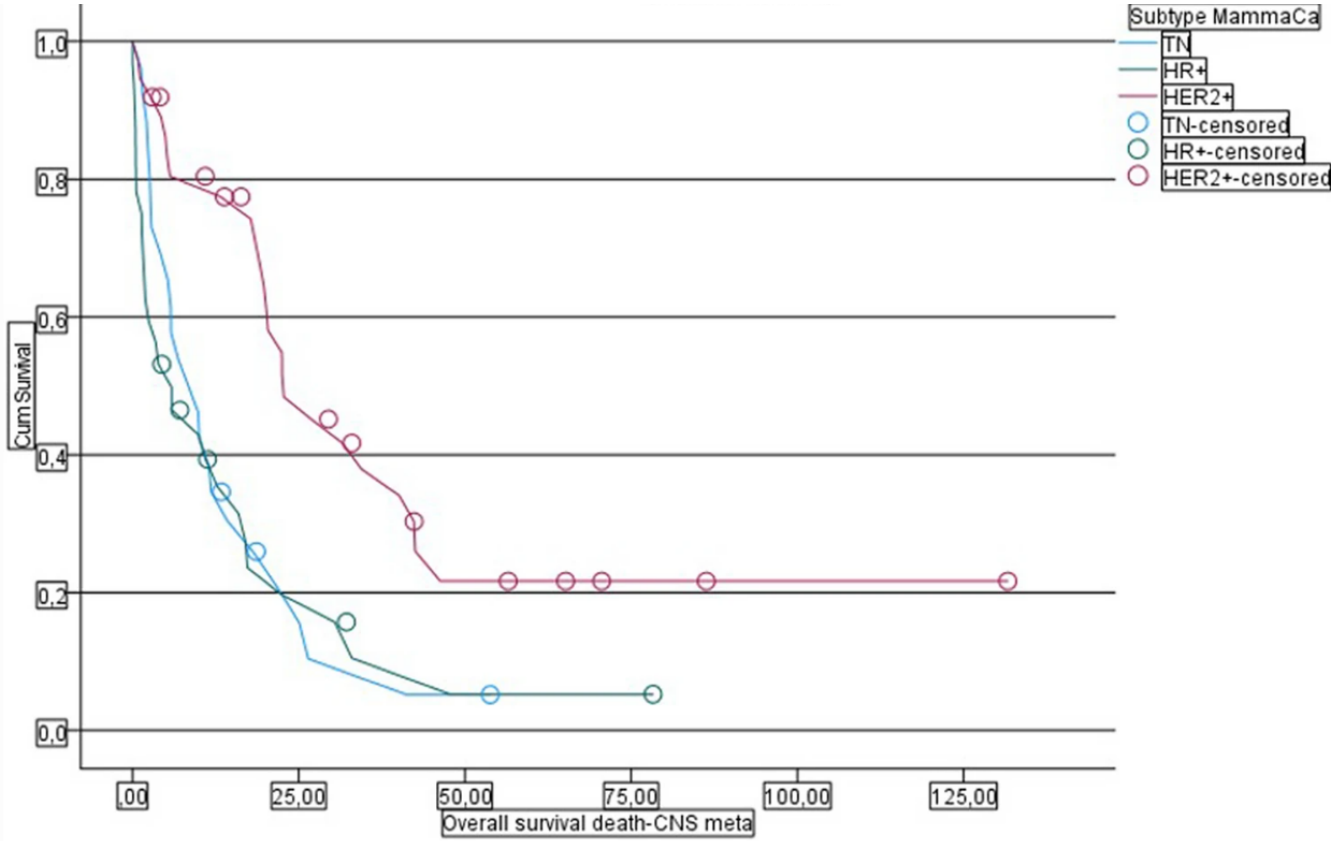
Neurochirurgie indicaties

1 Metastase > 3,5 cm

Geen/ beperkte systemische ziekte-activiteit

Speciale indicaties;

- Veel oedeem, massawerking
- Achterste schedelgroeve
- Hydrocephalus (Drain?)



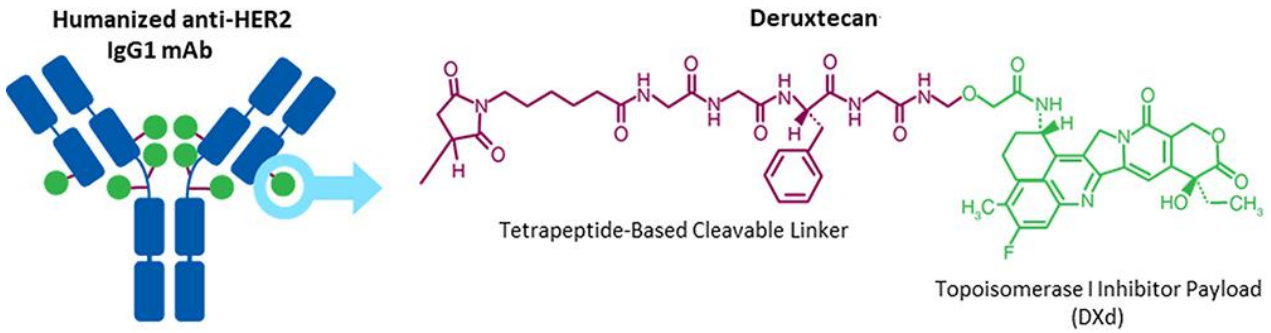
Kaplan Meier curves for OS in months by breast cancer subtype of BM

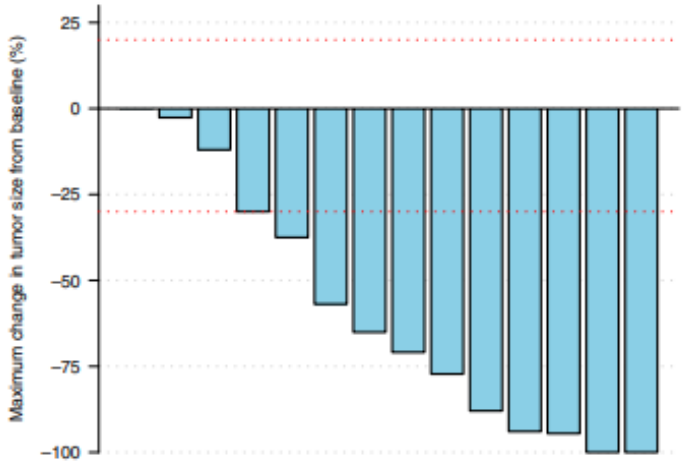
CNS metastasen=
HER2Neu prognose>>
Hormoon Receptor +
Triple negatief

Opties oa
Capecitabine
anti-HER blokkade
TDM-1

Wellerdieck et al. Breast Can Res and Treatment

Tuxedo 1- T-Dxd bij actieve hersenmetasen HER2neu+





73% intracraniele response

Bartsch et al Nat Med 2022

Casus ♀ 44 jr

2017 nov mammacarcinoom re cT1N0 inf duct carc BR gr 3, ER+(80%), PR+(50%), Her2neu pos; neo adjuvante 12 x paclitaxel en trastuzumab

2018 maart tumorexcisie en sentinel node (neg)

2018 apr start tamoxifen, trastuzumab voortgezet tot nov 2018

2021 aug gemetastaseerd mammacarcinoom met lever-, long-, bot- en lymfekliermeta's; gezien forse leverf stoornissen start capecitabine/trastuzumab en zoledroninezuur, waarop goede respons

2023 jan hersenmetastasen > start TDM-1

2023 aug progressie cerebrale lesies wv paclitaxel trastuzumab

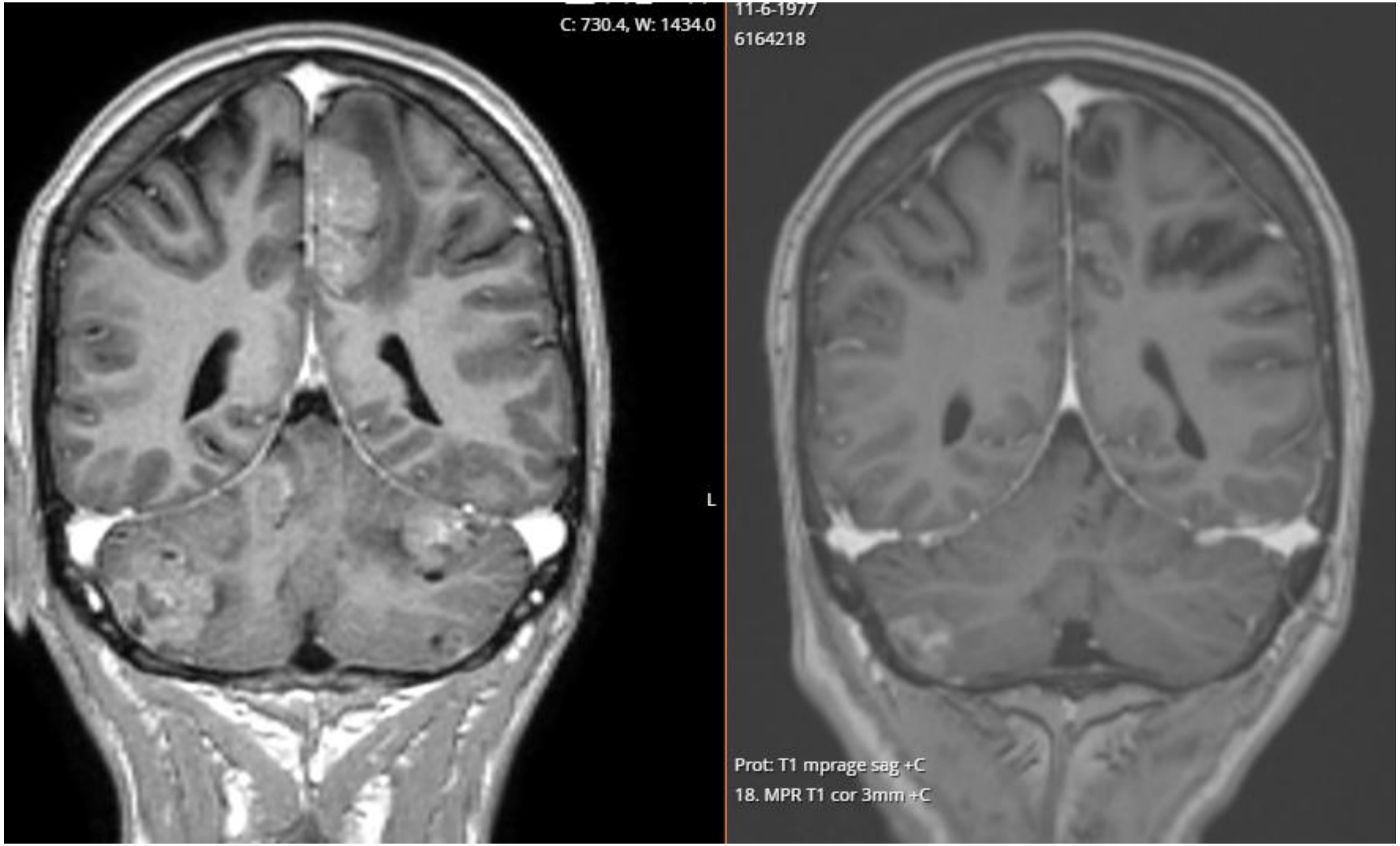
2024 febr capecitabine tucatinib trastuzumab

2024 juni progressie. trastuzumab deruxtecan>> respons

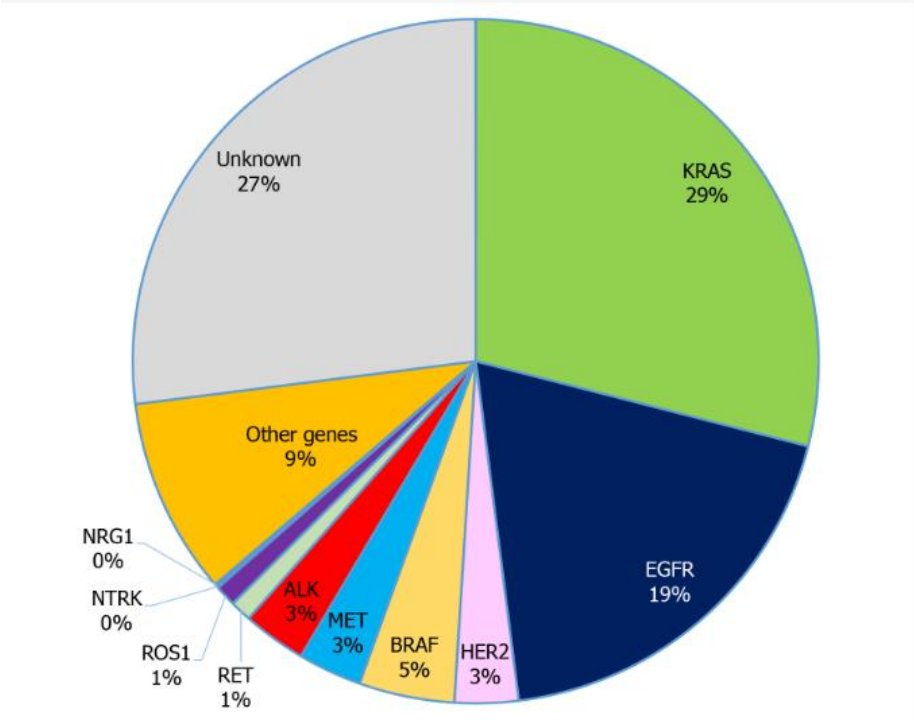
2025 mei progressie onder TdxD. Start AC

Juni 2024 start Txd

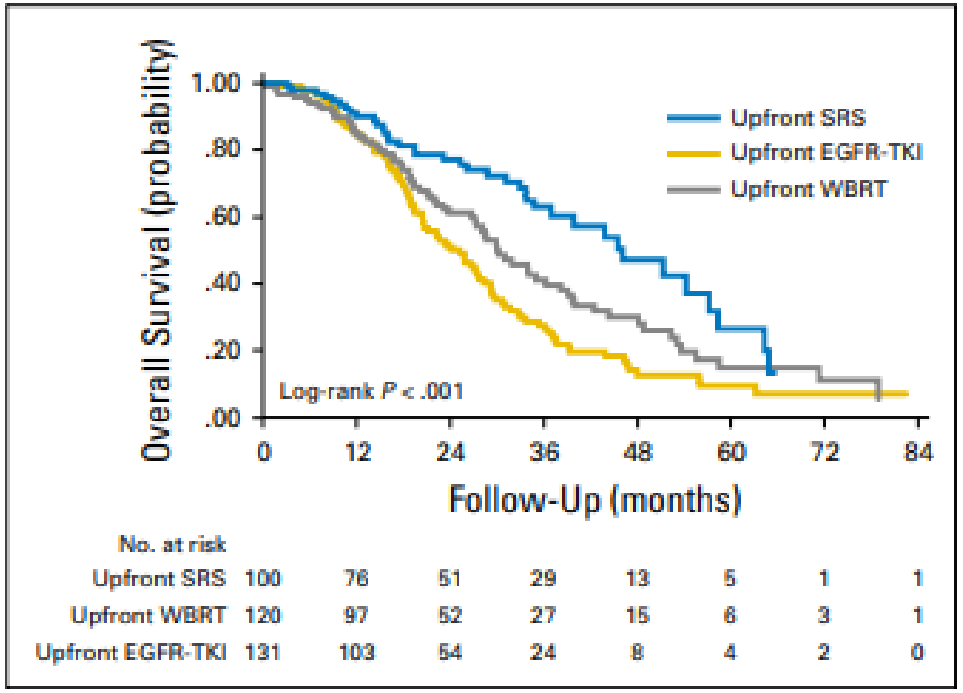
Febr 2025



Longcarcinoom: Oncogene drivers NSCLC
> ↑targeted therapieen met ↑intracraniele respons



Volgorde behandeling HM EGFR gemuteerd longCa
TKI > SRS of SRS> TKI ?



Magnuson et al JCO 2017

Immuuntherapie

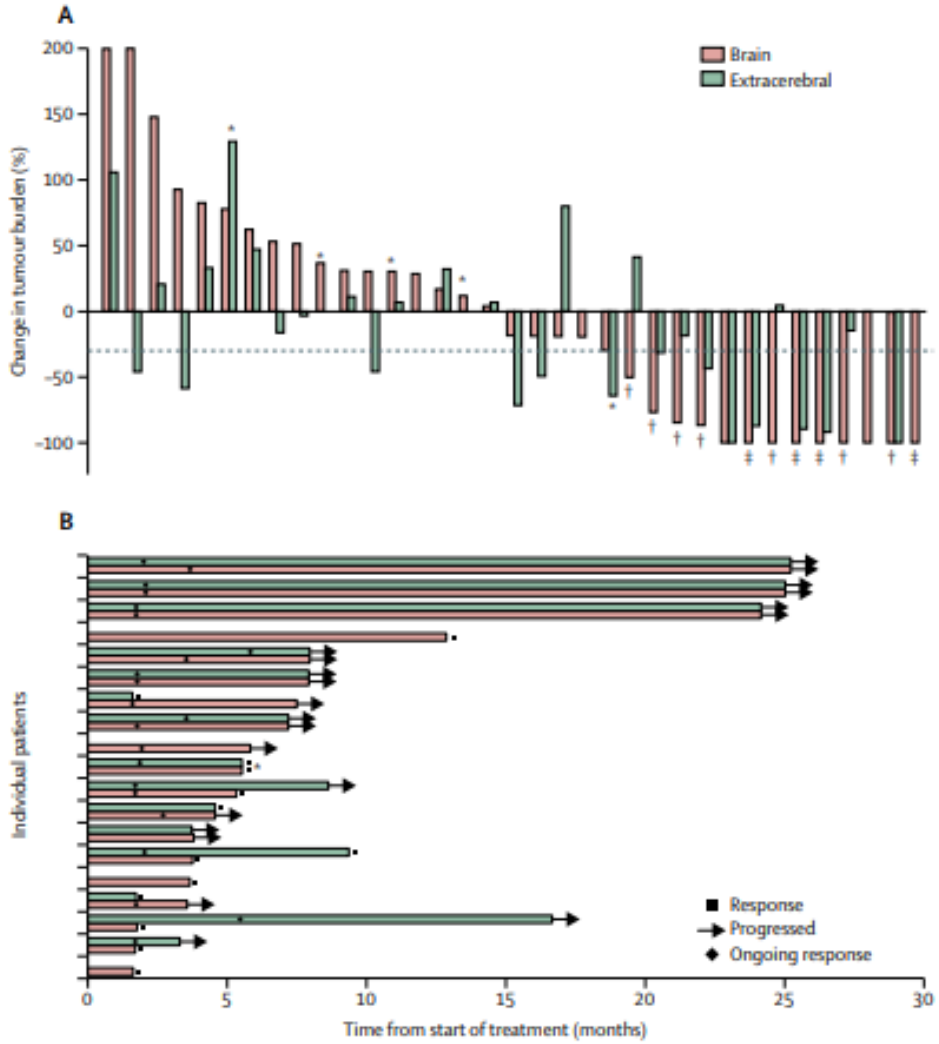
PDL-1 positief circa 30% response rate (10/34)

Vaak verschil response hersenen vs systemisch

PDL-1 negatief geen intra-craniele response (0/5)

B

Belang dexamethason zo laag mogelijk?



Goldberg et al. Lancet Oncol 2020

Micro-environment: STAT 3

Metastastische cellen>

Selectieve druk micro-milieu en immuunsysteem omzeilen

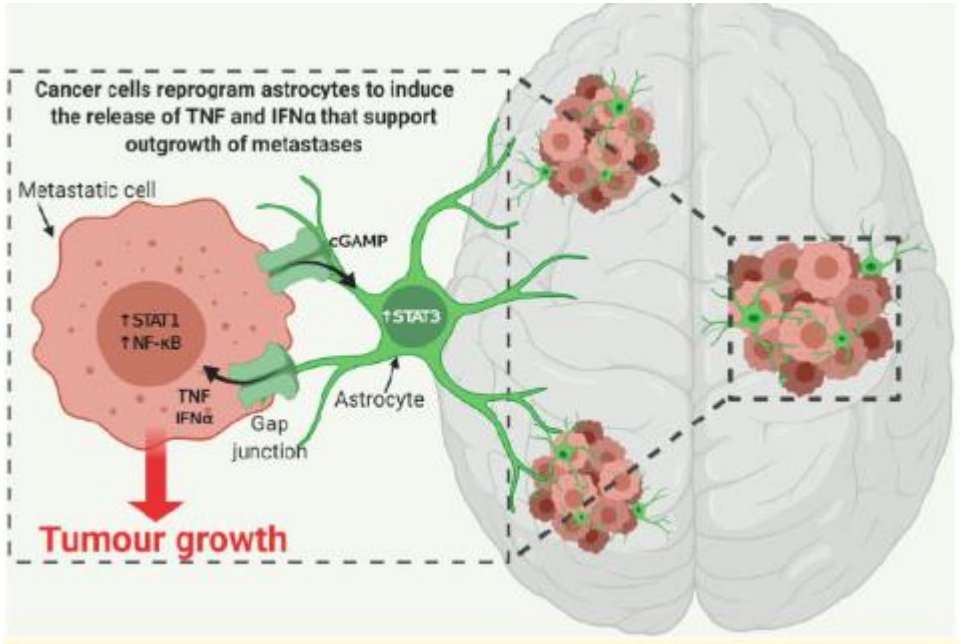
>

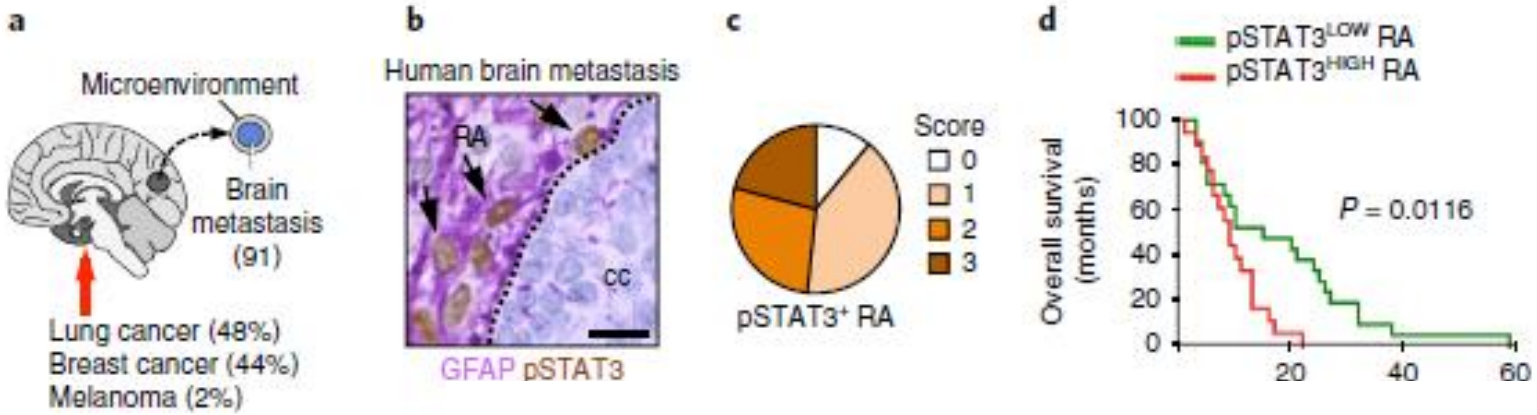
Activatie signal transducer and activator of transcription 3 (STAT3)

In omgevende reactieve astrocyten hiervoor noodzakelijk

Volgende stap

Inhibitie STAT3 in klinische trials





Priego et al Nat Med 2018

WRAP UP: Hersenmetastasen

Vroeger HM exclusie voor trial participatie- nu juist specifieke trials

Nieuwe ontwikkelingen mn ADCs en targeted therapieen

Vervolgonderzoeken oa tav timing met locale therapie/ immuuntherapie

Toekomst: specifiek beïnvloeden micro-environment bij hersenmetastasen

Bijv inhibitie STAT3


12th Edition
SEPTEMBER
24th-26th
2025
BRAIN & SPINE METASTASES
RESEARCH
AND EMERGING THERAPY
CONFERENCE

Echter ook andere interesses…….

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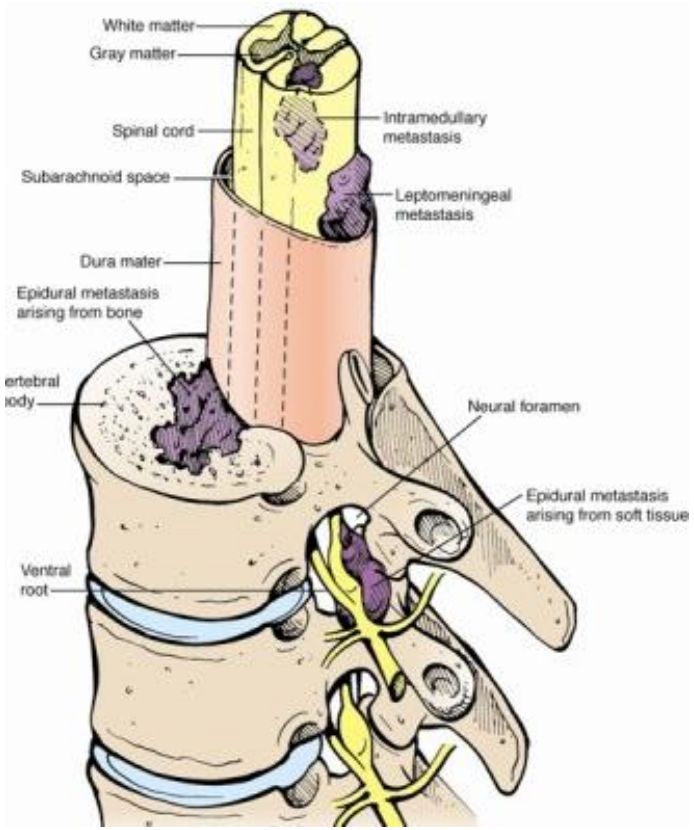
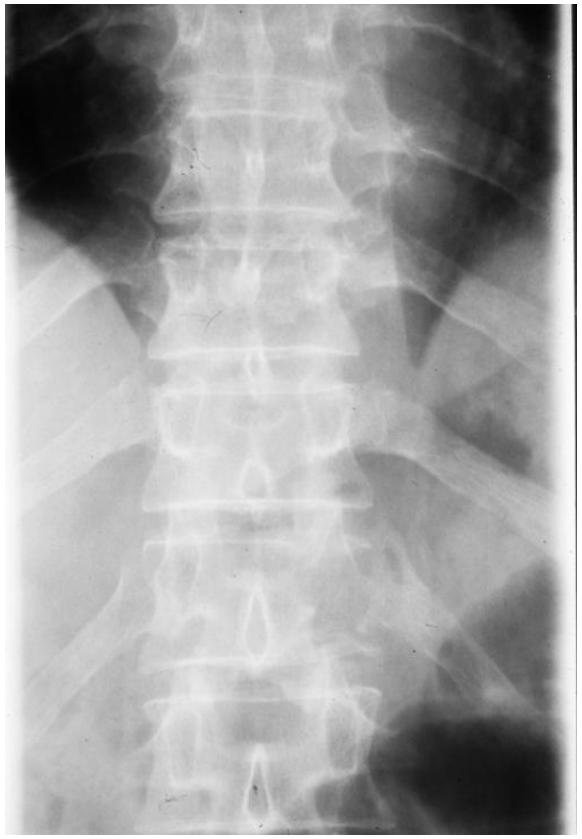
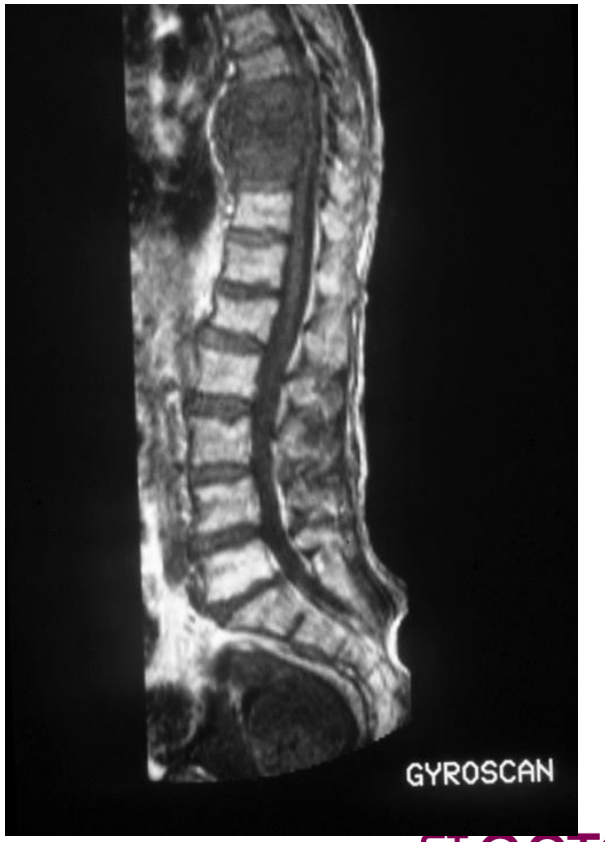
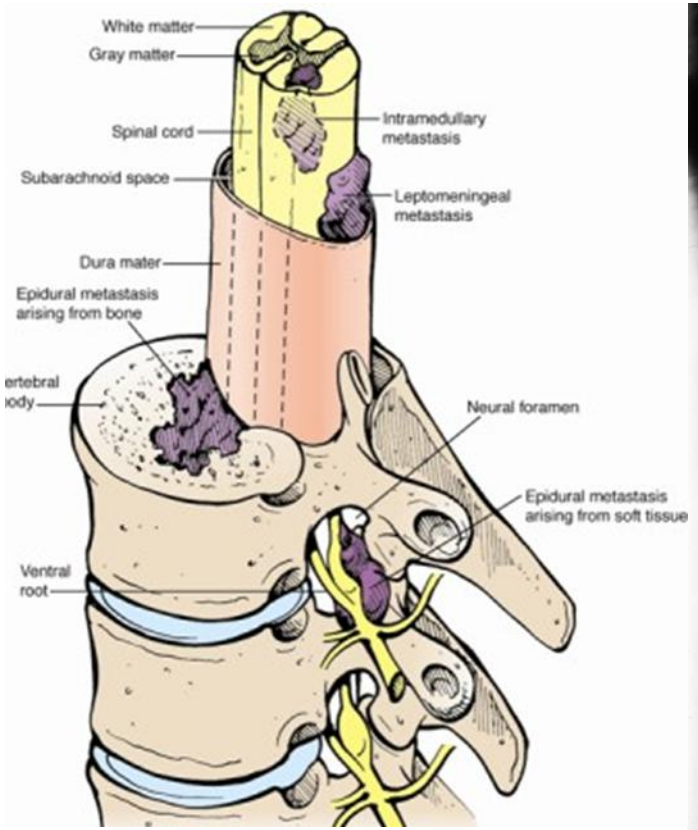
Epidurale metastasen

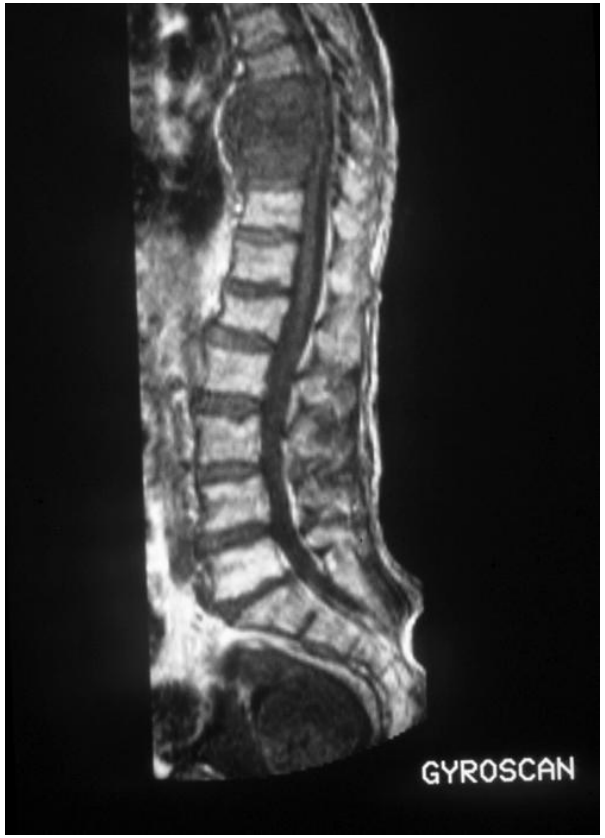






Diagnose





Behandeling

(tot 2005)

Dexamethason 10mg IV
Daarna 2x8 mg

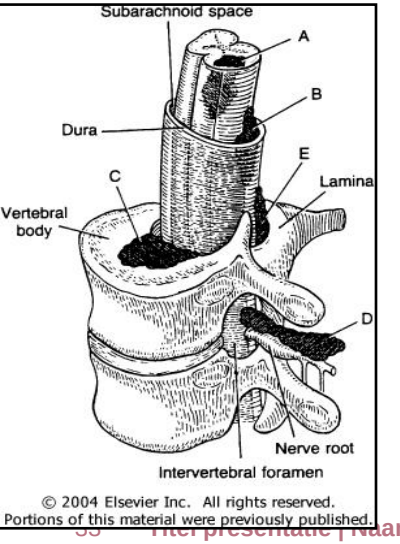
Radiotherapie:
Bij myelumcompressie start binnen 24 uur

Direct decompressive surgical resection in the treatment of spinal cord compression caused by metastatic cancer: a randomized trial
Patchell et al, Lancet 2005

Achtergrond

na standaard behandeling> 50% ambulant
kleine kans niet-ambulant> niet-ambulant

vroeger NC behandeling laminectomie



Trial

Chirurgie vs Radiotherapie alleen

\+ radiotherapie

Contra-indicaties

Comorbiditeit (eg hersenmetastasen)

prognose < 3 maanden

radiosensitieve tumoren (mn hematologisch)

> 1 wervellichaam

	operatie		controle	
	Voor	Na	Before	After
Ambulant	**34**	**32** **mediaan** **122 dagen**	**35**	**26** **13 dagen**
Niet-ambulant	**16**	**6**	**16**	**13**

60% herstel

20% herstel

Behandeling

Chirurgie: decompresssie en stabilisatie; selecte groep!

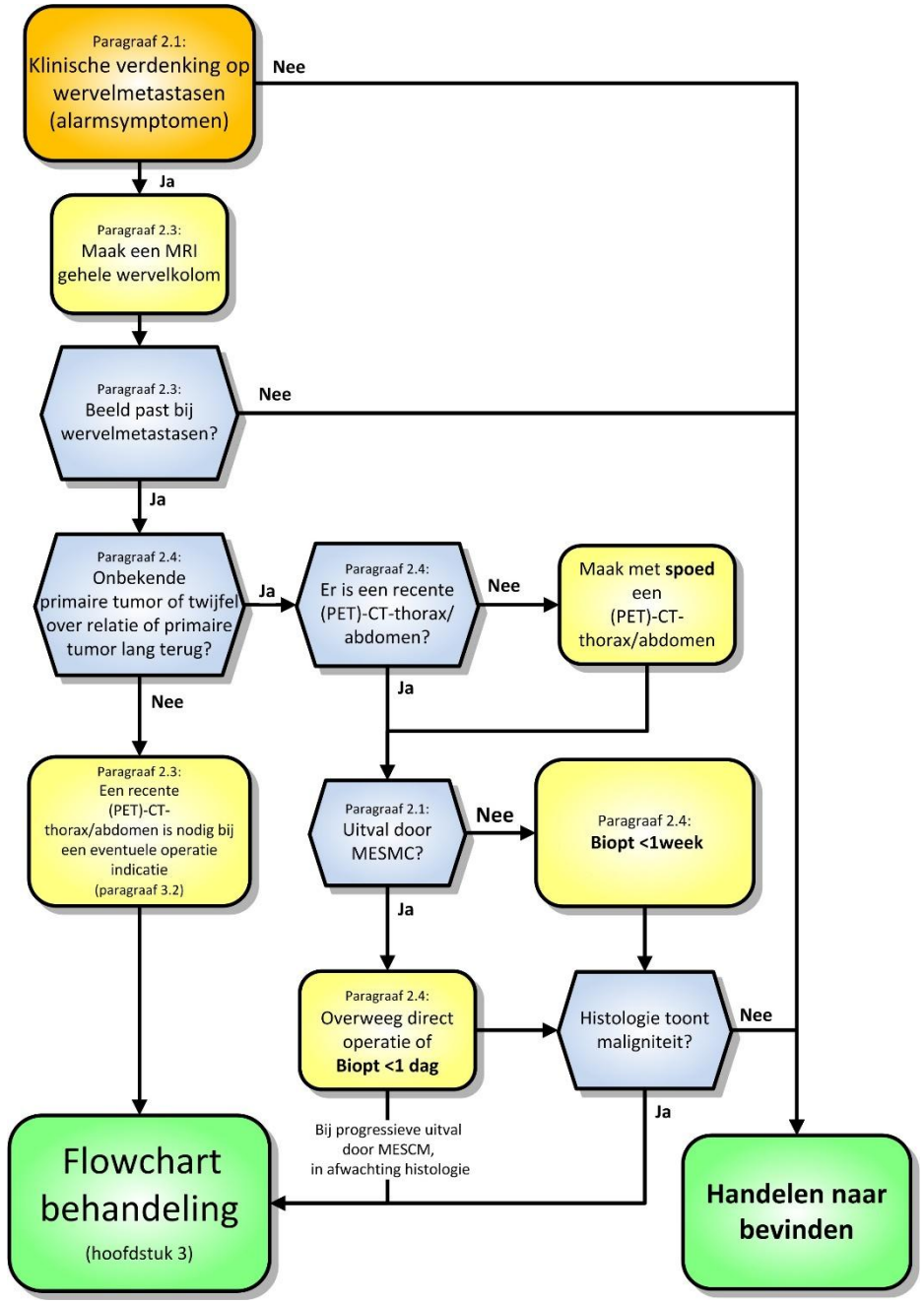
+ Radiotherapie bijv 30 Gy in 10 fracties, 20 Gy in 5 fracties

(Kyfo/vertebroplastiek)

Flow Chart

Diagnostiek

wervelmetastasen



Uit richtlijn
wervelmetastasen IKNL

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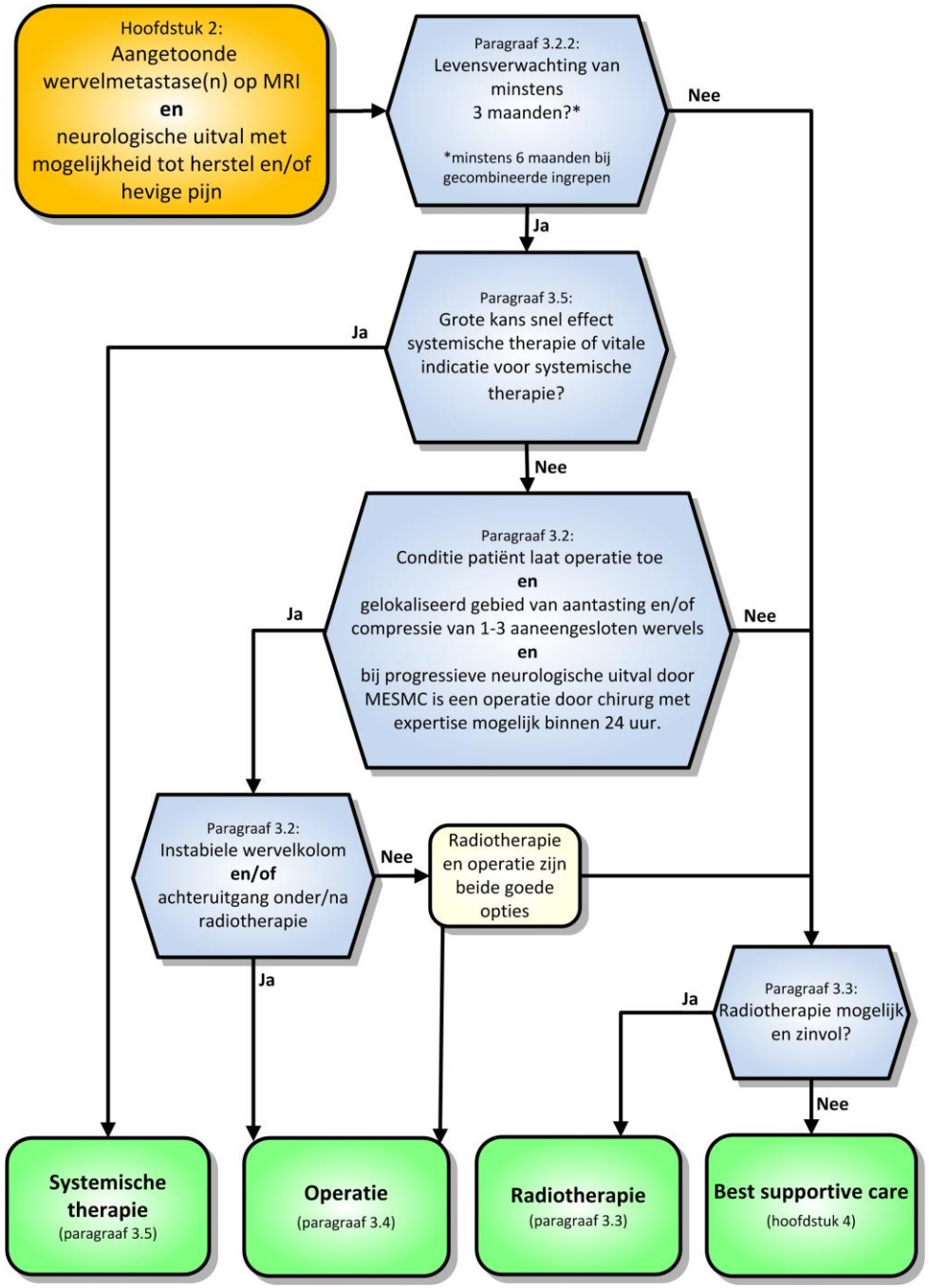
Flow Chart

Therapie

Wervelmetastasen



Uit richtlijn
wervelmetastasen IKNL

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Always on a Friday? Time Pattern of Referral for Spinal Cord Compression

Philip Poortmans, Ans Vulto and Esther Raaijmakers

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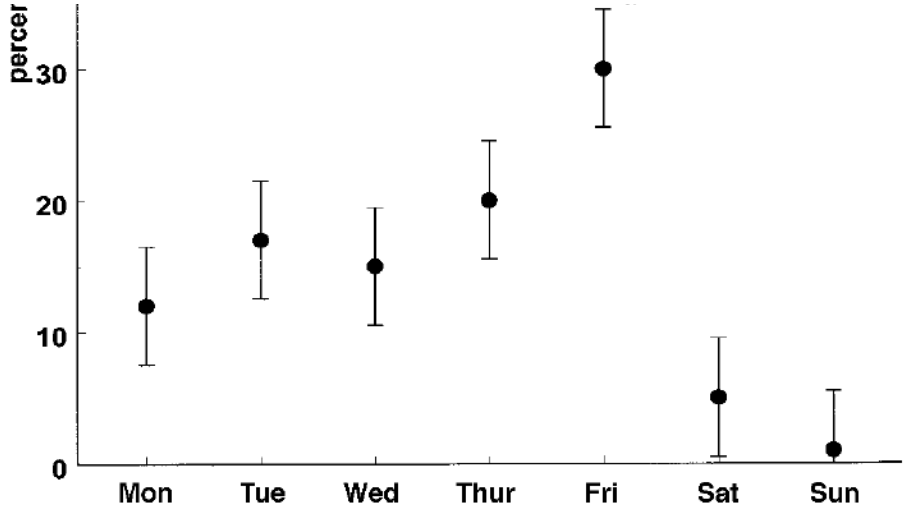
Acta Oncologica Vol. 40, No. 1, pp. 88–91, 2001

For patients with spinal cord compression, radiotherapy should be initiated as soon as possible to optimize the chances for restoration of neurological function. The speed of referral in the region of our radiotherapy institution with nine general hospitals was analysed based on a tumour and treatment-related registry. From January 1987 to December 1997, 443 patients were treated. All patients were seen and treated on the day of referral. Significantly more referrals took place on Friday, 30%, compared with 12% on Monday, 17% on Tuesday, 15% on Wednesday, 20% on Thursday, 5% on Saturday and 1% on Sunday ($p < 0.002$). This difference was the same for patients whether they were formerly treated in our institution ($n = 242$) or not ($n = 201$). No significant difference was found between different categories of patients ($p = 0.28$). These data are discussed with the referring physicians to encourage speed of diagnosis and referral.



Predictie overleving?!

1/ geslacht: v+ vs m -

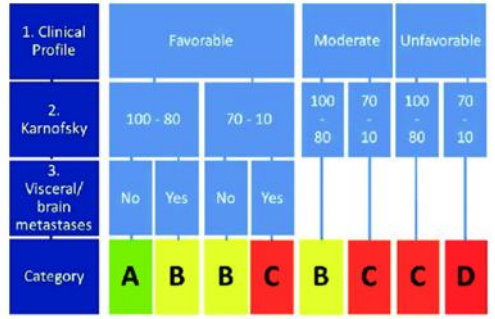
2/ histologie: prostaat borst +, vs ander, - nier -, long --

3/ KPS

4/ cervicale localisatie

5/ primaire tumor in opzet curatief behandeld

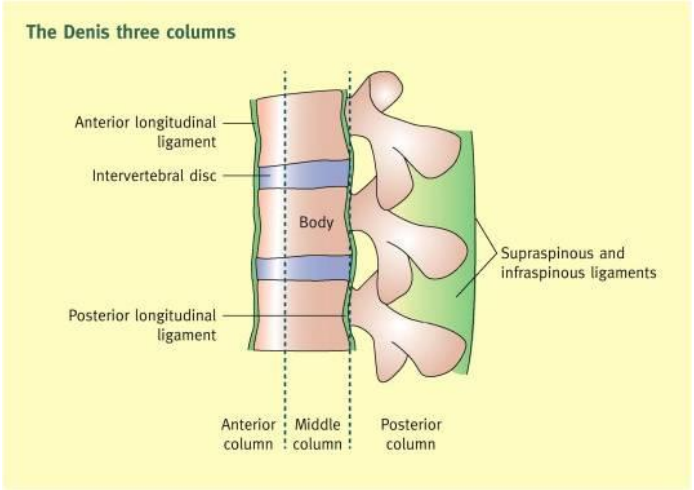
>>Bartels et al, Cancer 2007 Calculator op www.nccn.nl



Bollen et al. Neurooncol 2014

Spinale Instabiliteit Neoplastische Score (SINS)

- SOSG Spine Oncology Study Group
- Drie-pijler model niet geschikt voor oncologische patiënten
- 6 individuele componenten optellen: score van 0-18



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Spinale Instabiliteits Neoplastische Score (SINS)

Component	Score
Location	
Junctional (O-C2; C7-T2; T11-L1; L5-S1)	3
Mobile spine (C3-6; L2-4)	2
Semirigid (T3-10)	1
Rigid (S2-S5)	0
Mechanical pain	
Yes	3
No	2
Pain free lesion	1
Bone lesion	
Lytic	2
Mixed (lytic/blastic)	1
Blastic	0
Radiographic spinal alignment	
Subluxation/translation present	4
Deformity (kyphosis/scoliosis)	2
Normal	0
Vertebral body collapse	
>50% collapse	3
<50% collapse	2
No collapse with >50% body involved	1
None of the above	0
Posterolateral involvement	
Bilateral	3
Unilateral	1
None of the above	0

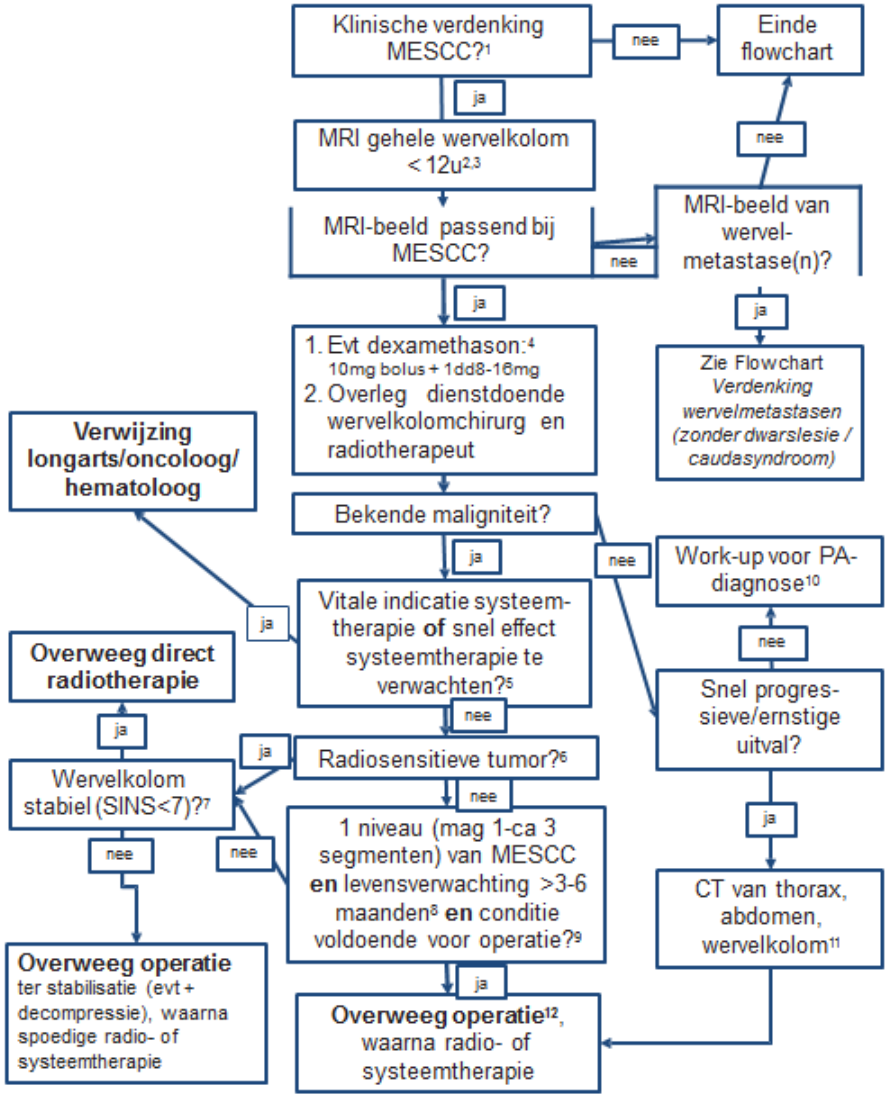
Consensus bespreking

Orthopeden/Neurochirurgen

>6 potentieel instabiel

>12 instabiel

Verdenking myelum- cauda-compressie



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Locaal behandelprototocol SAZ (iom UMCU)

Taakverdeling

1. Neurologische uitval/ radiologisch cauda/myelum compressie >>> Icc **Neurologie**

2. Spinale instabiliteit >>> Icc **Orthopedie**

3. Systemische work-up, prognose, systemische behandelopties >>> Icc **Oncologie**

SINS>=7 altijd consultatie Wervelkolomchirurg SAZ >>> Als niet aanwezig>>> **Spine team UMCU**

UMC Utrecht

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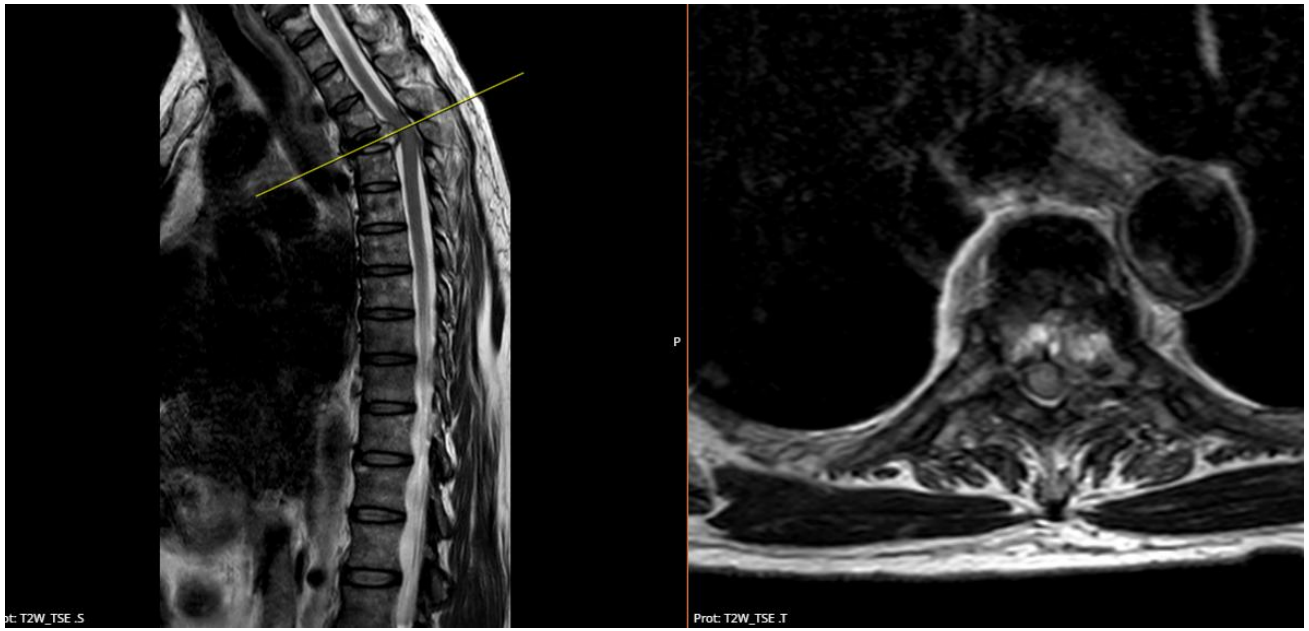
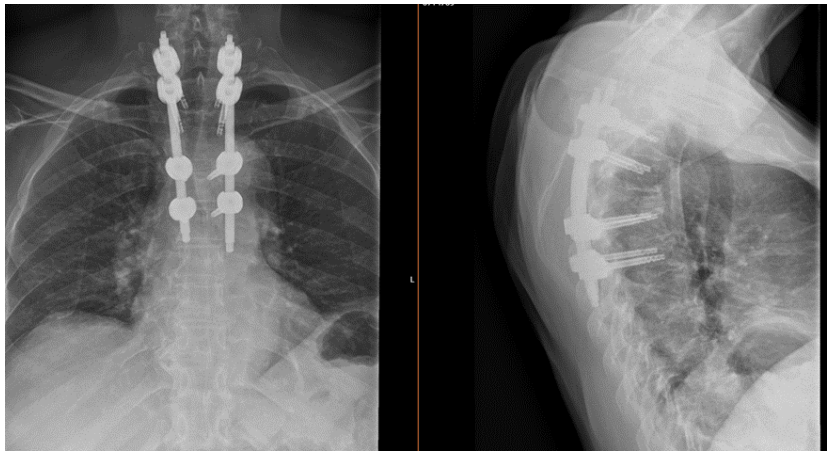
Casus ♀ 68 jr ,

pijn schouderbladen sinds 3 maanden, sinds één week progressieve, opstijgende, niet objectiveerbare hypesthesie van de onderste extremiteiten vanaf Th4. Krachtsverlies proximaal rechts van de iliopsoas MRC4+. Gnostische en vitale sensibiliteit intact.
Reflexen symmetrisch.
SINS 14



Casus ♀ 68 jr ,

CT th/abdomen Beeld van pulmonale, mediastinale lymfogene en ossale metastasen. Geen aantoonbare primaire tumor DD long-, mamma-, oesofaguscarcinoom, melanoom.
Bilaterale bijnier nodi



OK SAZ neurochirurgie icm orthopedie

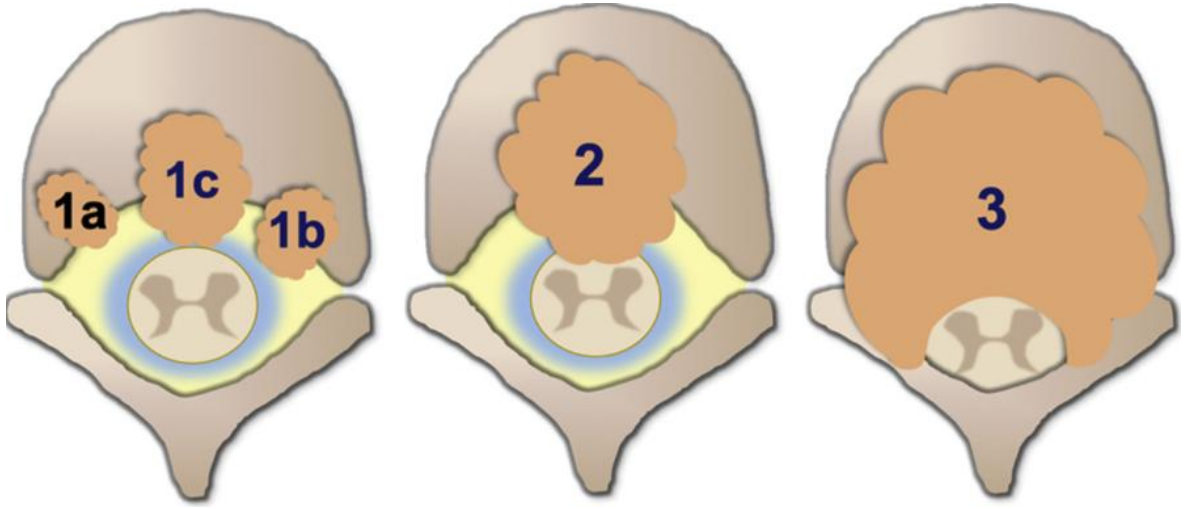
Laminectomie, nadien pedikelschroeven

PA Excisie weke delen T4: metastase adenocarcinoom, waarvan het beeld past bij metastase longcarcinoom
PDL-1 negatief, geen targetable mutaties

Postoperatieve RT 5 x 4 Gy op TH2 t/m TH6.

Nadien chemo-immuuntherapie>> recent lichte progressie

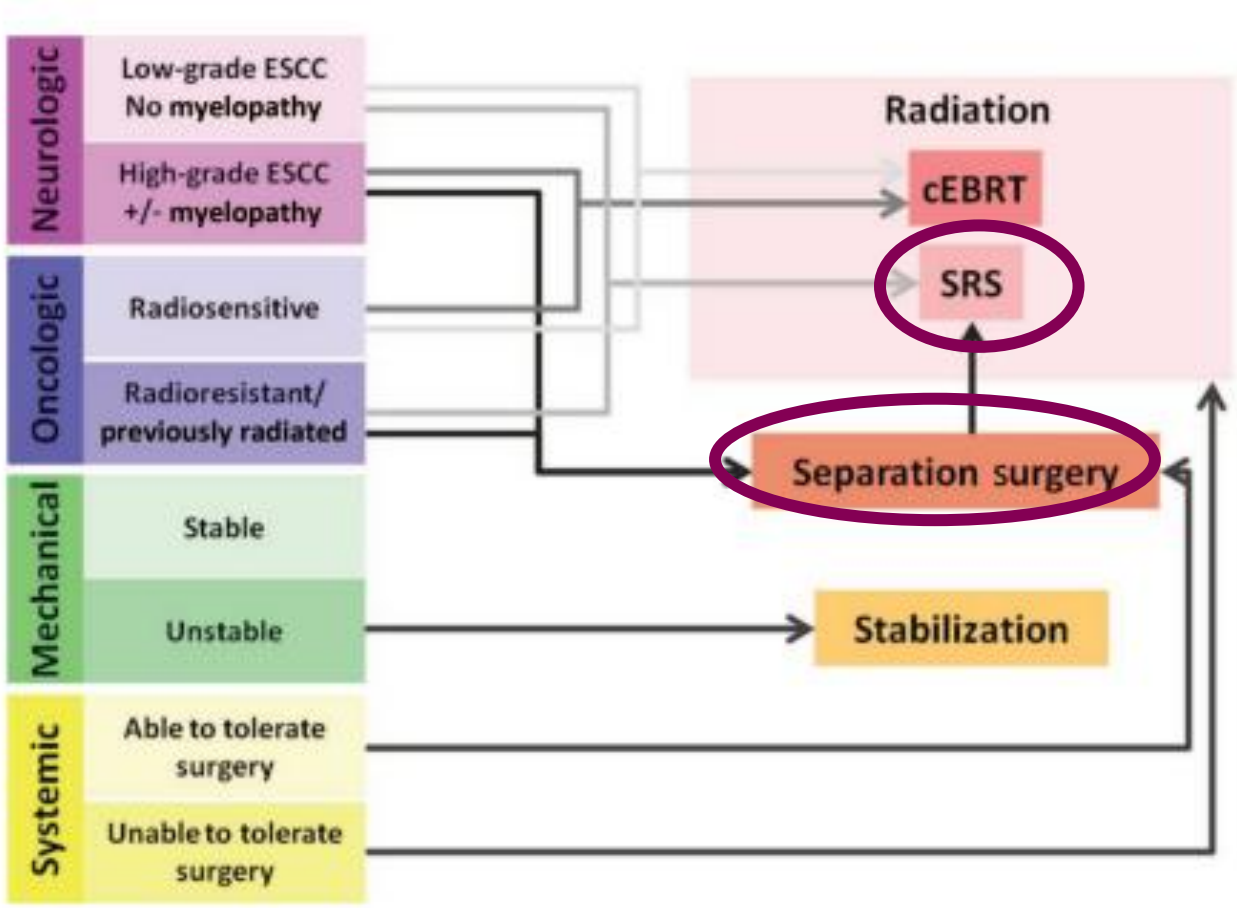
Bilsky grading



ASIA IMPAIRMENT SCALE

A	B	C	D	E
COMPLETE	SENSORY INCOMPLETE	MOTOR INCOMPLETE	MOTOR INCOMPLETE	NORMAL
No sensory or motor function preserved at S4-5	Sensory preserved below neurologic level including S4-5 AND No motor function ≤ 3 levels below motor level on either side of body	Motor preserved below neurologic level AND ≥ 1/2 of muscle groups below level of injury strength grade < 3	Motor preserved below neurologic level AND ≥ 1/2 of muscle groups below level strength grade ≥ 3	Normal motor and sensory in patient with prior deficits

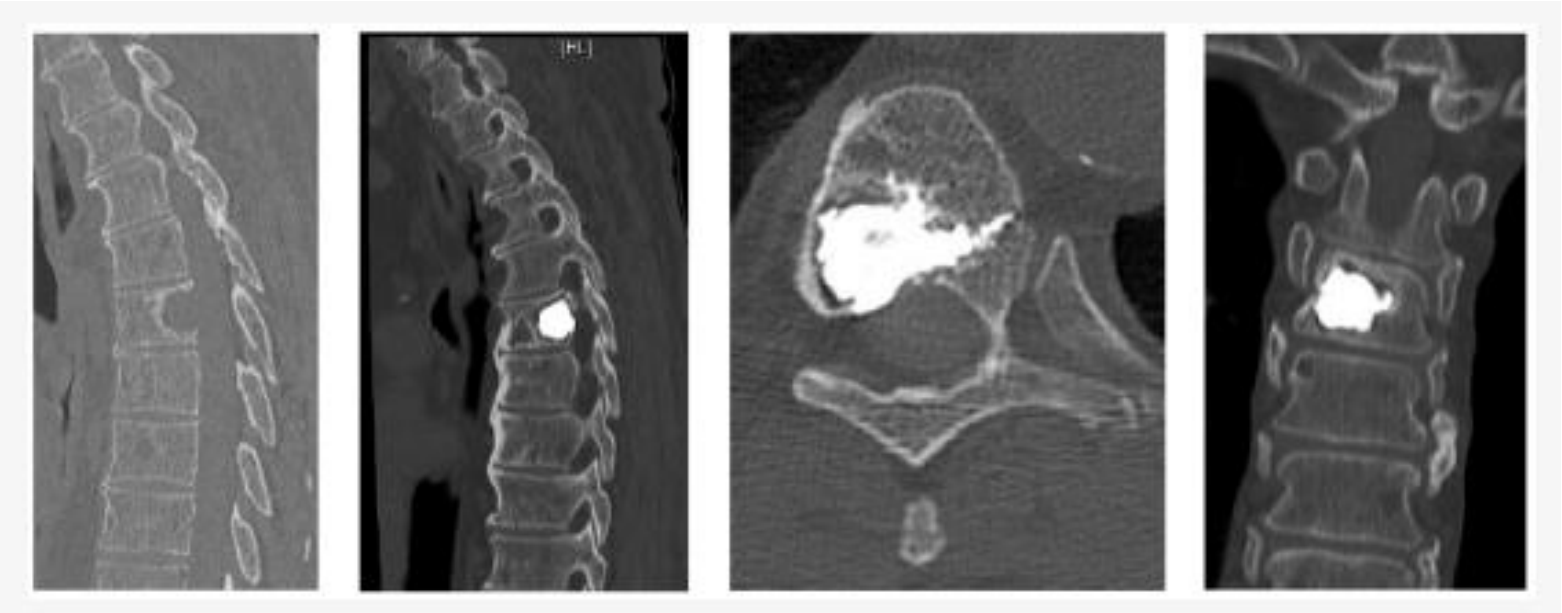
NOMS framework



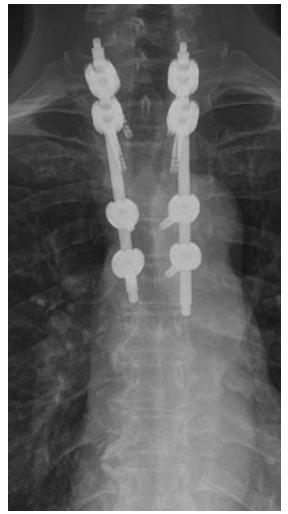
Nieuwe paradigma shift!

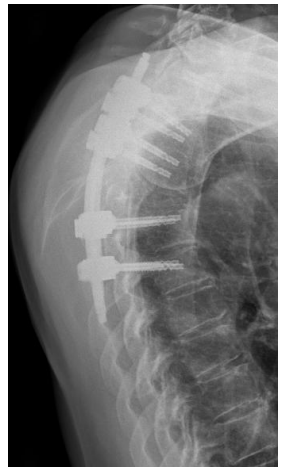
Abbreviations: cEBRT, conventional external beam radiation; SRS, stereotactic radiosurgery

Vertebroplastiek



WRAP UP: spinale/ epidurale metastasen





Hoge verdenking bij patienten met Ca waarbij pijn en uitval

Altijd MR bij voorkeur gehele spinale as

Multidiscplinair mn Oncoloog tav prognose/ systeemopties, Neuroloog bij uitval

Wervelkolomchirurg tav instabiliteit, Radiotherapeut, Revalidatiearts etc

Mn als overweging wel geen WK chirurgie

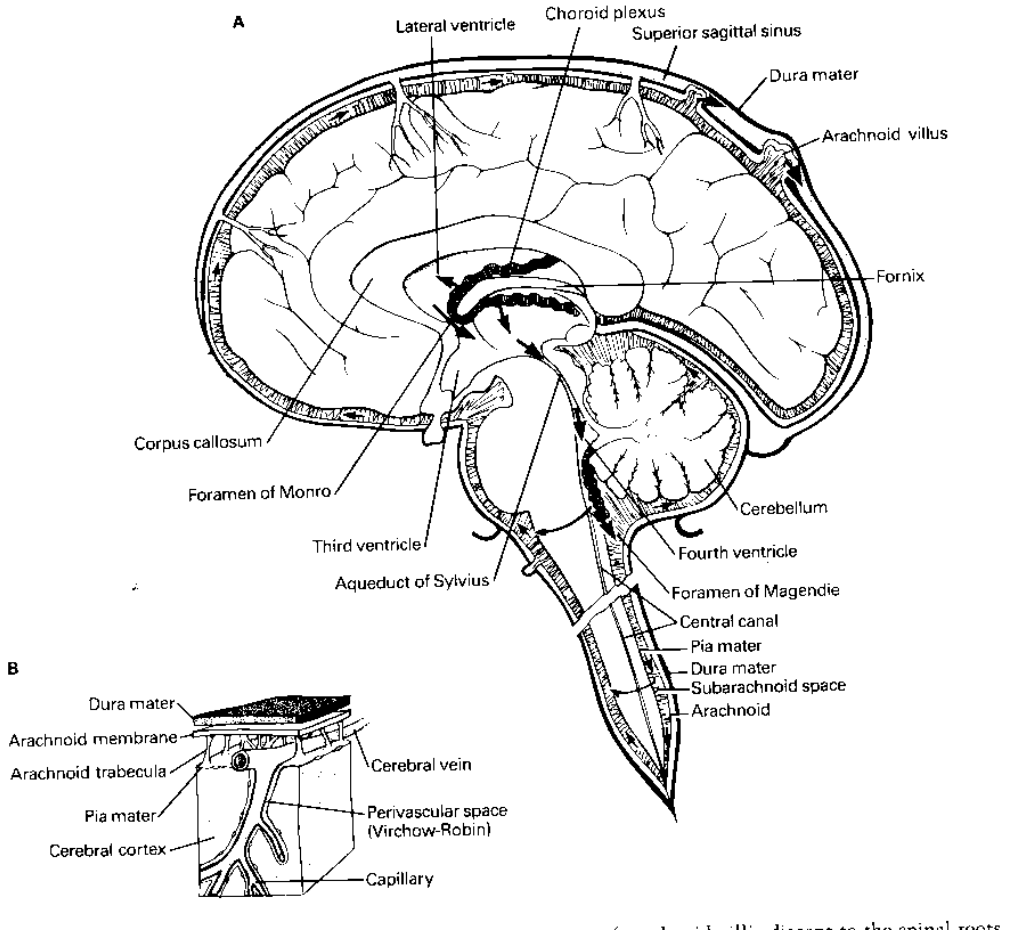
zelfde taal spreken! NOMS (mechanische pijn, ASIA, Bilsky, SINS)

Toenemend opties middels minimaal invasieve chirurgie, ‘separation surgery’, stereotactische RT

Semi-acuut; overweeg verwijzing WK spreekuur UMCU (woensdag)

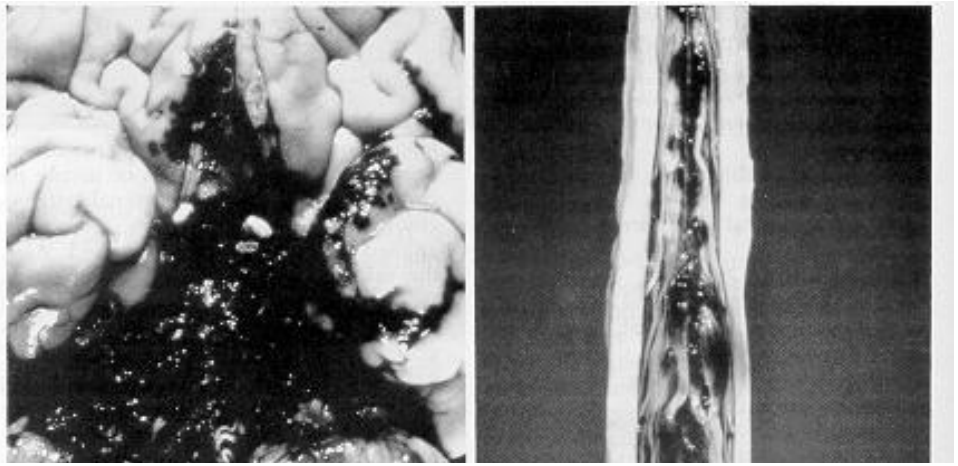
Vragen/ Discussie

Leptomeningeale metastasen



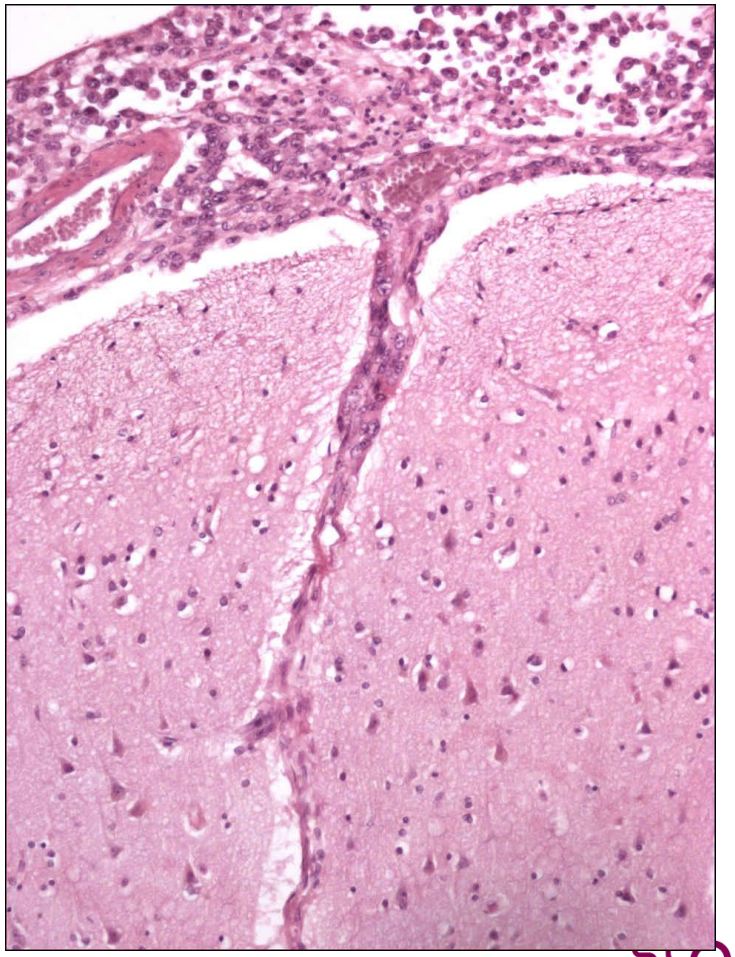
tumorcellen in de subarachnoïdale ruimte

leptomeningeale metastasen (LM)



basale cisternen

cauda equina

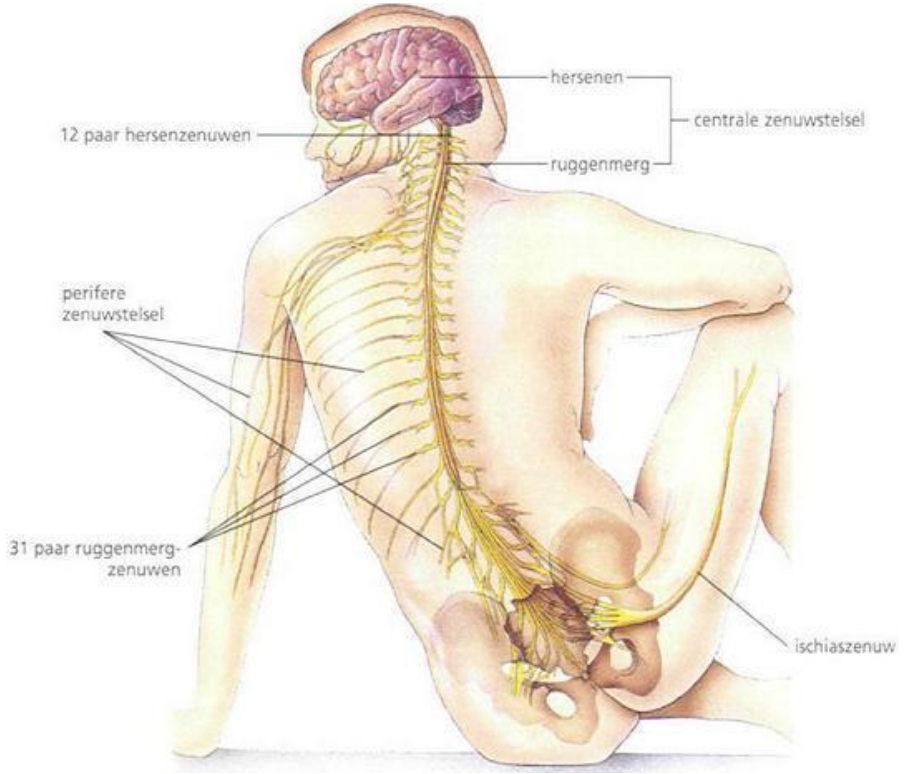


incidentie LM solide tumoren

systemische solide tumoren	
mammacarcinoom	10%- mn TN en HR+
kleincellig longcarcinoom	10%
niet-kleincellig longcarcinoom	10%
melanoom	5%

symptomatologie LM

- cerebraal
- craniale zenuwen
- spinaal



neurologische verschijnselen bij LM

hoofdpijn	40%
verwardheid	30%
ataxie	25%
hersenzenuwuitval (nII-VIII)	25%
radiculaire pijn/uitval	25%
misselijkheid/braken	15%
epileptische aanvallen	15%
meningeale prikkeling	15%

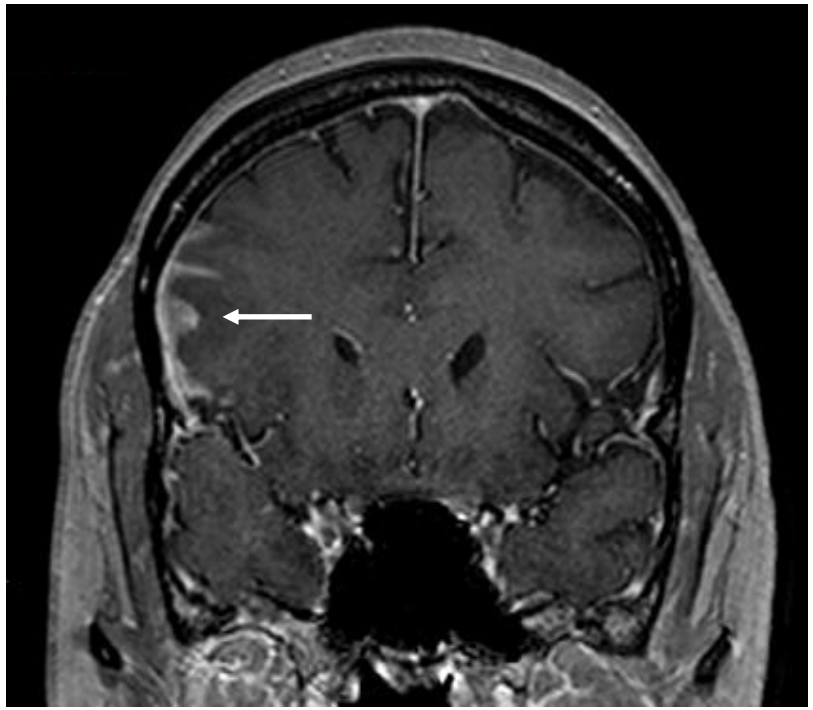
differentiaal diagnose
bij patiënt met bekende maligniteit

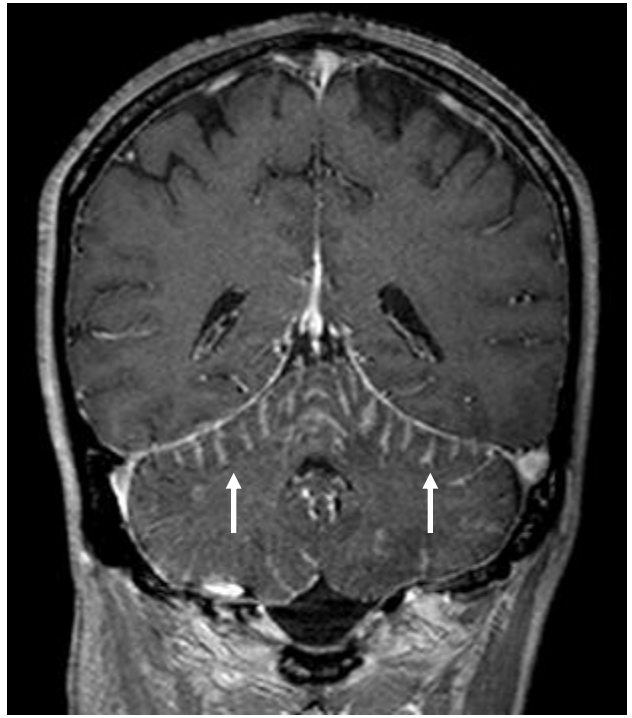
- hersenmetastasen
- epidurale metastasen
- ossale schedelbasismetastasen
- metabole afwijkingen
- bijwerkingen medicatie of systeem-/ radiotherapie

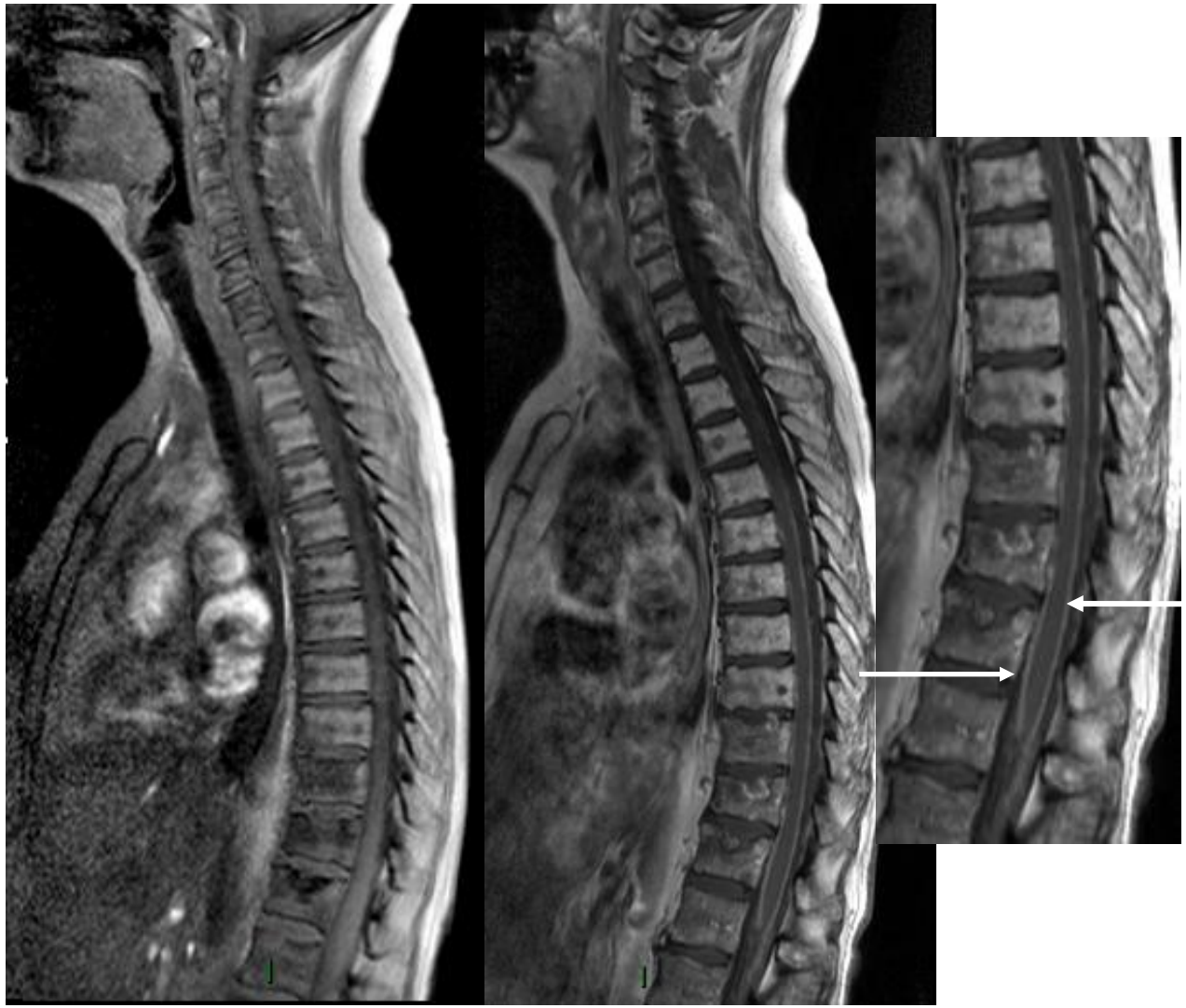
MRI kenmerken voor LM

Direct: leptomeningeale aankleuring

(Indirect: hydrocephalus, oppervlakkige ischemie), tc

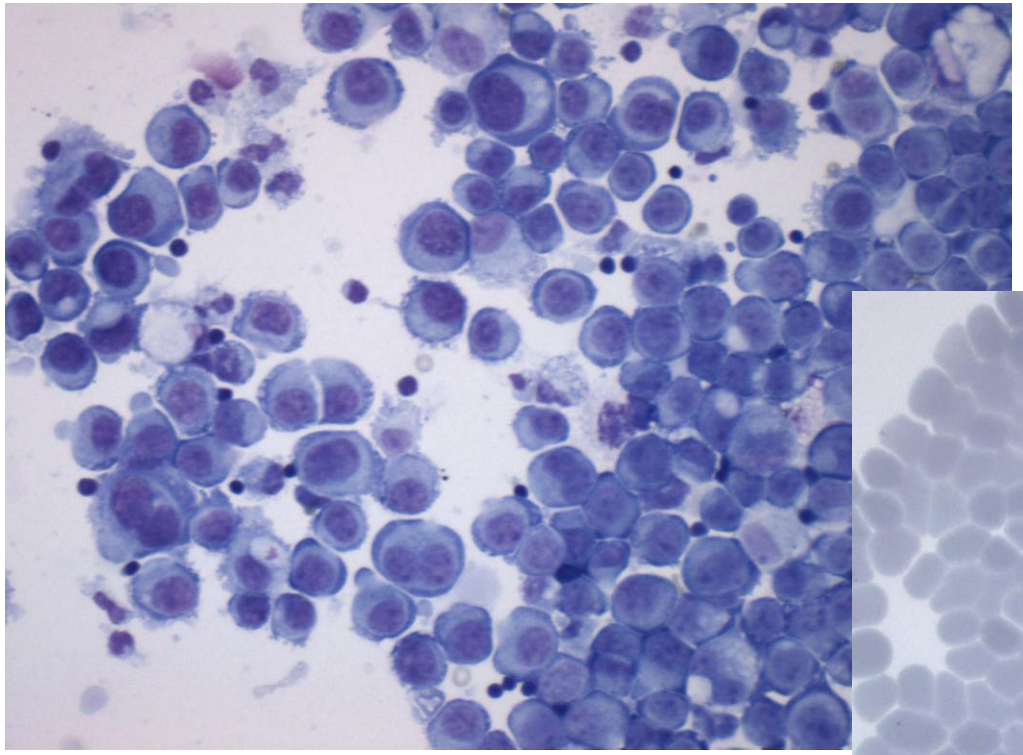


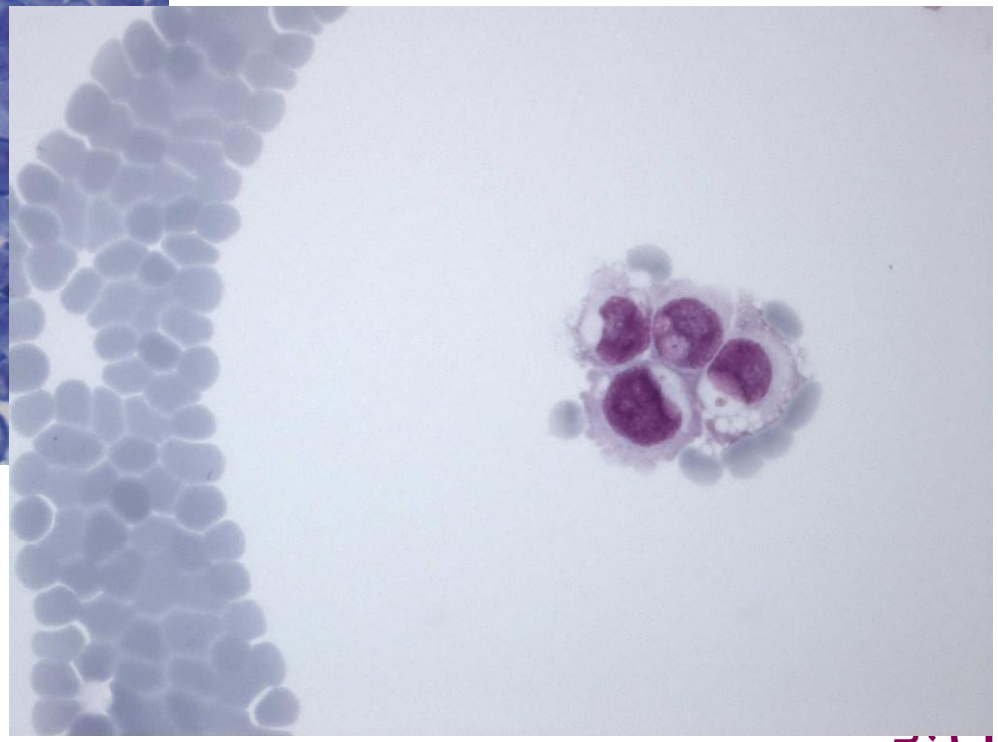




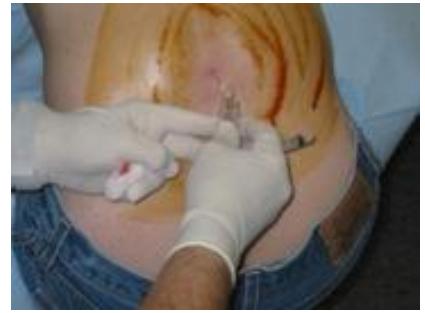
MRI bij leptomeningeale metastasen

symptomatische deel CZS:
sensitiviteit 60-75%
specificiteit 70%

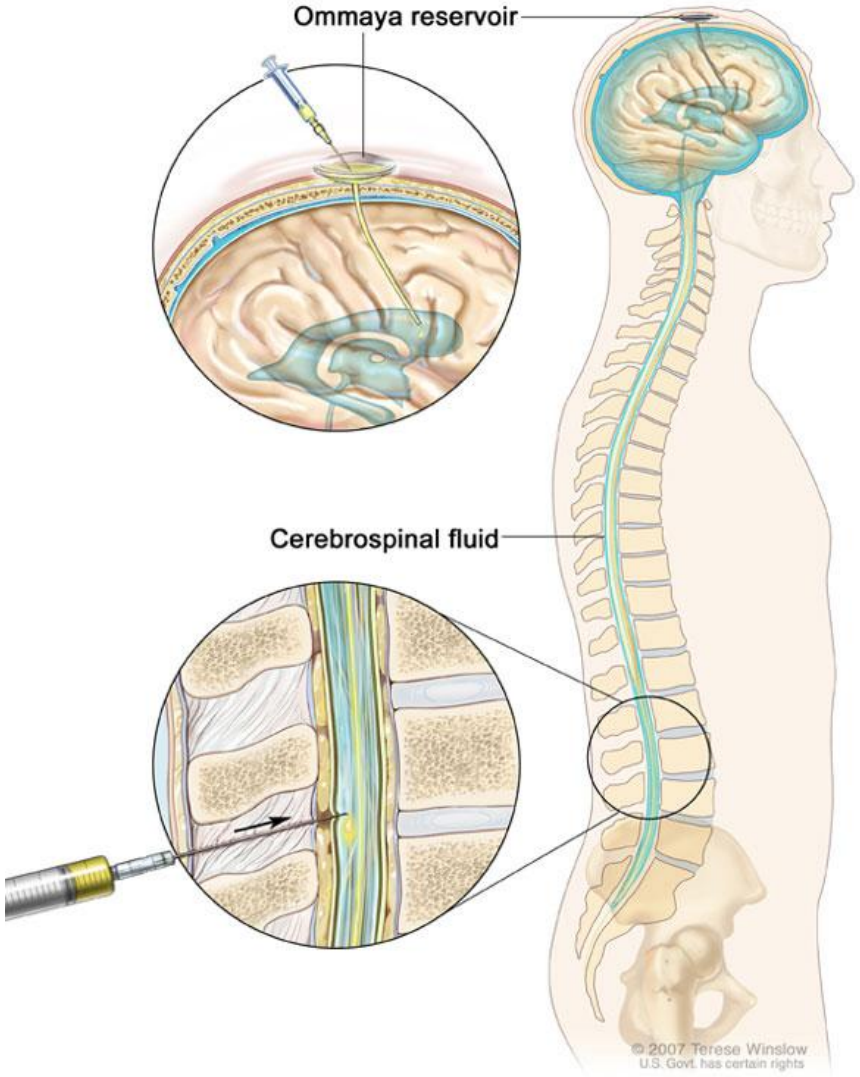


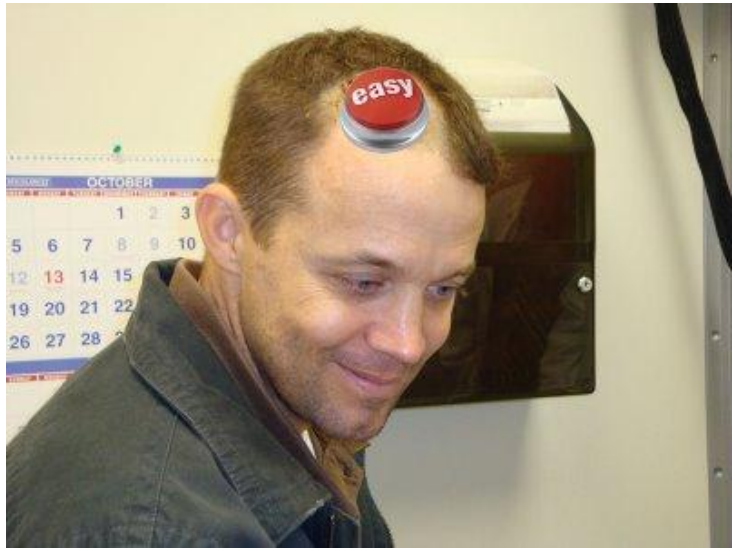


liquorcytologie



- nog steeds gouden standaard
- maligne cellen bij eerste punctie: 55%; bij tweede punctie 80-90%
- >90% afwijkend standaardliquoronderzoek (celaantal, glucose, eiwit, LDH)
- Opkomende technieken
  cf-DNA (cel-vrij DNA], CTCs [circulerende tumorcellen]


Ommaya reservoir
Cerebrospinal fluid
© 2007 Terese Winslow
U.S. Govt. has certain rights


easy
OCTOBER

The relevance of intraventricular chemotherapy for leptomeningeal metastasis in breast cancer: a randomised study

W Boogerd et al[Eur J Cancer 2004

I. systemisch + RT (n=18):

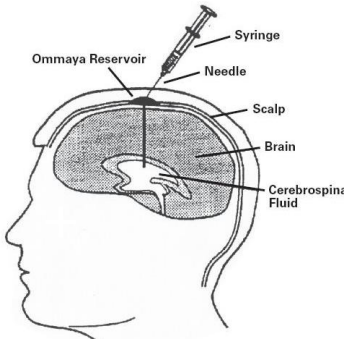
- diverse soorten chemotherapie

of hormonale therapie

II. systemisch + RT met intrathecaal

MTX via Ommaya

reservoir (n=17)



solide tumoren

- systemische chemotherapie
  - type afhankelijk van gevoeligheid tumor en eerder gegeven chemotherapie

- mammacarcinomen:
  - capecitabine: remissies > 6 maanden [2]
  - hormonale therapie: respons > 12 maanden [3]

Osimertinib in Patients With Epidermal Growth Factor Receptor Mutation–Positive Non–Small-Cell Lung Cancer and Leptomeningeal Metastases: The BLOOM Study

James C.H. Yang, MD, PhD[1]; Sang-We Kim, MD, PhD[2]; Dong-Wan Kim, MD, PhD[3]; Jong-Seok Lee, MD, PhD[4]; Byoung Chul Cho, MD, PhD[5]; Jin-Seok Ahn, MD, PhD[6]; Dae H. Lee, MD, PhD[2]; Tae Min Kim, MD[3]; Jonathan W. Goldman, MD[7]; Ronald B. Natale, MD[8]; Andrew P. Brown, MSc, MPhil[9]; Barbara Collins, PhD[9]; Juliann Chmielecki, PhD[10]; Karthick Vishwanathan, PhD[1,10]; Ariadna Mendoza-Naranjo, PhD[9]; and Myung-Ju Ahn, MD, PhD[6]

PURPOSE In this phase I study (BLOOM), osimertinib, a third-generation epidermal growth factor receptor (EGFR) tyrosine kinase inhibitor (TKI), was evaluated in patients with leptomeningeal metastases (LMs) from EGFR-mutated (EGFRm) advanced non–small-cell lung cancer (NSCLC) whose disease had progressed on previous EGFR-TKI therapy.

PATIENTS AND METHODS Patients with cytologically confirmed LM received osimertinib 160 mg once daily. Objectives were to assess confirmed objective response rate (ORR), duration of response (DoR), progression-free survival (PFS), overall survival (OS), pharmacokinetics (PK), and safety. Additional efficacy evaluations included changes from baseline in CSF cytology and neurologic examination. Measurable lesions were assessed by investigator according to RECIST version 1.1. LMs were assessed by neuroradiologic blinded central independent review (BICR) according to Response Assessment in Neuro-Oncology LM radiologic criteria and by investigator.

RESULTS Forty-one patients were enrolled. LM ORR and DoR by neuroradiologic BICR were 62% (95% CI, 45% to 78%) and 15.2 months (95% CI, 7.5 to 17.5 months), respectively. Overall, ORR by investigator was 41% (95% CI, 26% to 58%), and median DoR was 8.3 months (95% CI, 5.6 to 16.5 months). Median investigator-assessed PFS was 8.6 months (95% CI, 5.4 to 13.7 months) with 78% maturity; median OS was 11.0 months (95% CI, 8.0 to 18.0 months) with 68% maturity. CSF tumor cell clearance was confirmed in 11 (28%; 95% CI, 15% to 44%) of 40 patients. Neurologic function was improved in 12 (57%) of 21 patients with an abnormal assessment at baseline. The adverse event and PK profiles were consistent with previous reports for osimertinib.

CONCLUSION Osimertinib showed meaningful therapeutic efficacy in the CNS and a manageable safety profile at 160 mg once daily in patients with EGFRm NSCLC and LM.

J Clin Oncol 38:538-547. © 2019 by American Society of Clinical Oncology

Casus ♀ 68 jr

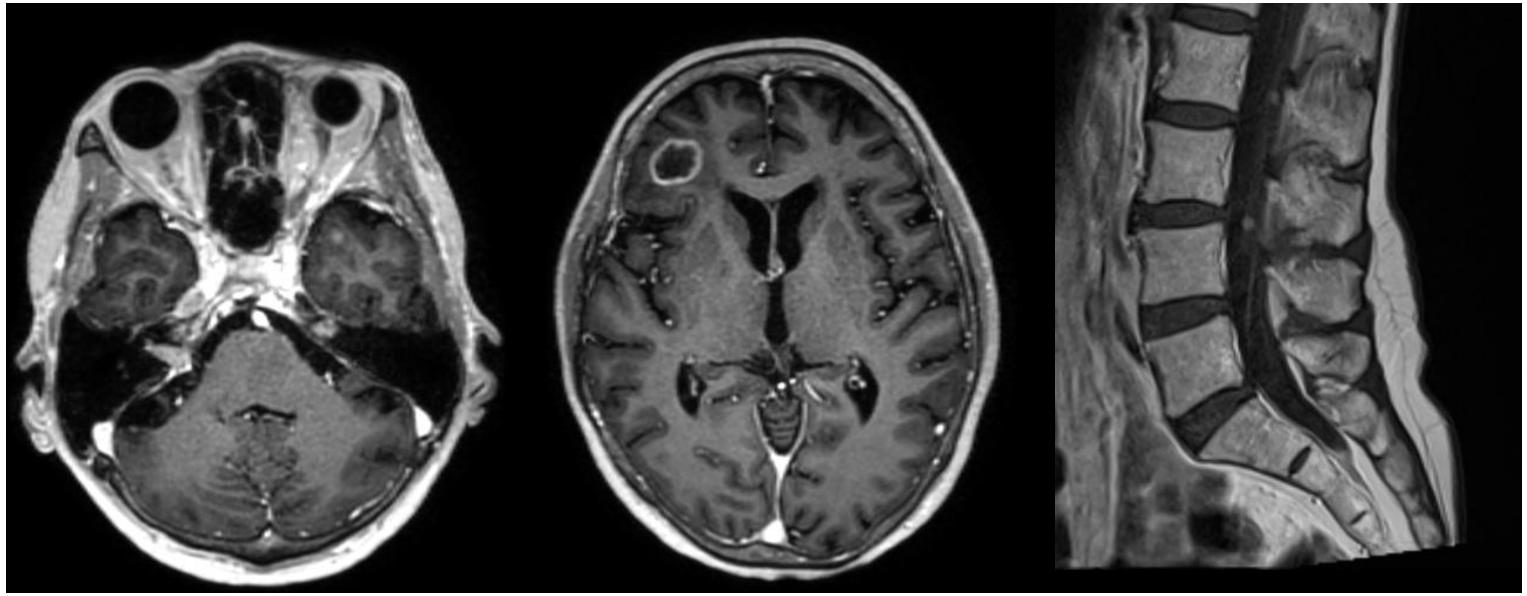
2020 jan sinds 1 maand progressieve perifere aangezichtsverlamming Re,

Ook gehoor Re lijkt minder en pijn Li bil/ Li kuit

Bij NO forse uitval Li gelaat, aanwijzing perceptiedoofheid Re en afwezige APR Li

DD: neuroborreliose, varicellazostervirus infectie, sarcoïdose

DD: Ramsay Hunt syndroom Li met (niet gerelateerd) HNP L5 S1



Casus ♀ 68 jr

CT thorax/abdomen
Primair proces Re long. WK geen evidente afwijkingen mn geen ossale metatsasen

Afgezien liquordiagnostiek

PA halsklier histologie metastase papillair adenocarcinoom. TTF-1 positief, PDL1 25%-50%

Moleculair biologisch onderzoek (oorspronkelijk PA nummer: C20-102909)
Next generation sequencing: In het weefsel is een activerende in-frame deletie aangetoond in EGFR exon 19 (c.2235_2249del (p.Glu746_Ala750del)).

Start osimertinib (circa 4-5 weken na MR brughoek),
PR gedurende circa 2 jaar, tussentijds geen herstel neurologie

2316 Neuro-Oncology

26(12), 2316–2327, 2024 | https://doi.org/10.1093/neuonc/noae138 | Advance Access date 7 August 2024

Osimertinib-induced DNA resistance mutations in cerebrospinal fluid of epidermal growth factor receptor-mutated non-small-cell lung carcinoma patients developing leptomeningeal metastases: Osimertinib Resistance Analysis-leptomeningeal metastases study

J. W. Tijmen van der Wel, Mirjam C. Boelens, Merel Jebbink, Sietske A. Smulders, Klaartje W. Maas, Merel J. A. Luitse, Annette Compter, Robin P. B. Boltjes, Nik Sol, Kim Monkhorst, Daan van den Broek, Egbert F. Smit, Adrianus J. de Langen, and Dieta Brandsma

Abstract

Background. Diagnosis and treatment of leptomeningeal metastases (LM) in epidermal growth factor receptor mutation-positive (*EGFR*m +) non-small-cell lung carcinoma (NSCLC) is challenging. We aimed to identify resistance mechanisms (RM) to osimertinib in cerebrospinal fluid (CSF) and plasma.

Methods. *EGFR*m + patients with new or progressive LM during osimertinib were enrolled. NGS Ampliseq was performed on DNA isolated from CSF. Patients were prescribed osimertinib dose escalation (DE, 160 mg QD) following lumbar puncture. Clinical and radiological response was evaluated 4 weeks after osimertinib DE.

Results. Twenty-eight patients were included. The driver mutation was identified in 93% of CSF samples ($n = 26$). Seven (27%) harbored ≥1 RM. Twenty-five patients (89%) were prescribed osimertinib DE. Four weeks afterwards, symptoms improved in 5 patients, stabilized in 9 and worsened in 11 patients. Twenty-one (84%) patients underwent MR imaging. Four showed radiological improvement, 14 stabilization, and 3 worsening.

Conclusions. In 27% of patients, an RM was found in CSF ctDNA, none of which are targetable at the time of writing, and the clinical efficacy of osimertinib DE seems limited. There is much to gain in diagnostic as well as therapeutic strategies in *EGFR*m + NSCLC LM.

npj | breast cancer

www.nature.com/npjbcancer

BRIEF COMMUNICATION OPEN

Check for updates

Durable responses in patients with HER2+ breast cancer and leptomeningeal metastases treated with trastuzumab deruxtecan

Laura Alder[1,8], Dario Trapani[2,3,4,8], Claire Bradbury[5], Amanda E. D. Van Swearingen[1], Sara M. Tolaney[2,3,4], Mustafa Khasraw[1], Carey K. Anders[1], Christopher D. Lascola[6], Liangge Hsu[4,7], Nancy U. Lin[2,3,4] and Sarah Sammons[1,2,3,4]✉

Leptomeningeal metastases (LM) are a devastating complication of HER2 + metastatic breast cancer (MBC), with no effective treatments. In a case series of 8 patients with heavily pretreated HER2 + MBC and progressing LM, all 8 patients (100%) derived clinical benefit from Trastuzumab deruxtecan (TDXd), and 4 patients (50%) had an objective partial response based on formal neuroradiology MRI reads using the EORTC/RANO-LM Revised-Scorecard. T-DXd warrants further study in LM in HER2 + MBC and solid tumors where T-DXd may be active.

npj Breast Cancer (2023)9:19; https://doi.org/10.1038/s41523-023-00519-0

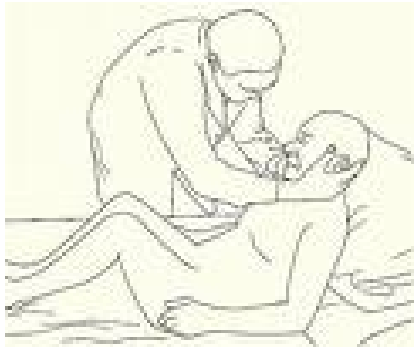
Prognose leptomeningeale metastasen

Categorie	Karakteristieken	Prognose
1	Karnofsky ≥ 70, geen ernstige encefalopathie of neurologische uitval, extra-CZS niet bedreigend, tumor niet resistent tegen chemotherapie of hormonale therapie	niet ongunstig
2	Overige	ongunstig
3	KI<70, extra-CZS progressieve niet-behandelbare ziekte	zeer ongunstig

Landelijke richtlijn leptomeningeale metastasen bij solide tumoren 2020

symptomatische therapie

- meningeale prikkeling
  - Dexamethason 2x3mg

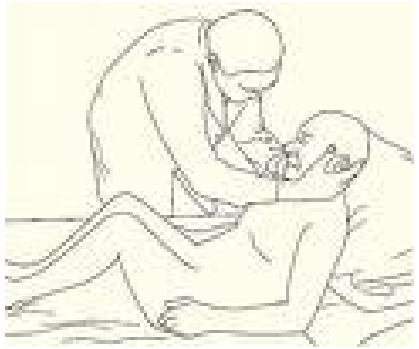


- hoofdpijn en braken
  - medicamenteus
  - liquordrainage met lumbaalpunctie(s)
  - radiotherapie fossa posterior bij excessief braken

- verwardheid
  - haloperidol
  - lorazepam

symptomatische therapie

- meningeale prikkeling
  - Dexamethason 2x3mg



- hoofdpijn en braken
  - medicamenteus
  - liquordrainage met lumbaalpunctie(s)
  - radiotherapie fossa posterior bij excessief braken

- verwardheid
  - haloperidol
  - lorazepam

WRAP UP: leptomeningeale metastasen

Zeldzamer dan HM, slechtere prognose, presentatie zeer variabel en vaak snel progressief

Diagnosestelling zowel MRI (hersenen en/ of spinaal) als liquor –cytologie beperkte sensitiviteit

Intrathecale behandeling onvoldoende bewijs voor,

Indien klinische toestand redelijk systeemtherapie vaak enige optie

Bij targetable mutaties longCa soms langdurige respons,

bij mammaCa kans langdurig effect HER2 gerichte therapie of ADCs