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Case reports made by Oncothermia

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Case reports made by Oncothermia

In order to provide a comprehensive insight into the indications under which patients are being treated with oncothermia we would like to present a few representative cases. Some of the cases are very new, some of them were treated over a 5-year period, used for follow-up cases and other possibilities. These old treatments are new results for the follow-up, which is the critical issue for the feasibility of future prospective trials.

We would like to demonstrate the efficacy of the oncothermia method in some peculiar cases. These are selected to show the very advanced cases as well as such localizations that are contraindicated by conventional hyperthermia, but where oncothermia is able to handle the case (brain, eye, etc.) We have to add an important safety note however: these cases require great expertise of the oncothermia applications, special care with extreme attention at the treatment always counting the inherent risk of causing harm. The patients senses in these cases give crucial control and have to be regarded as the main feedback mechanism during treatment.

Advanced cervix carcinoma

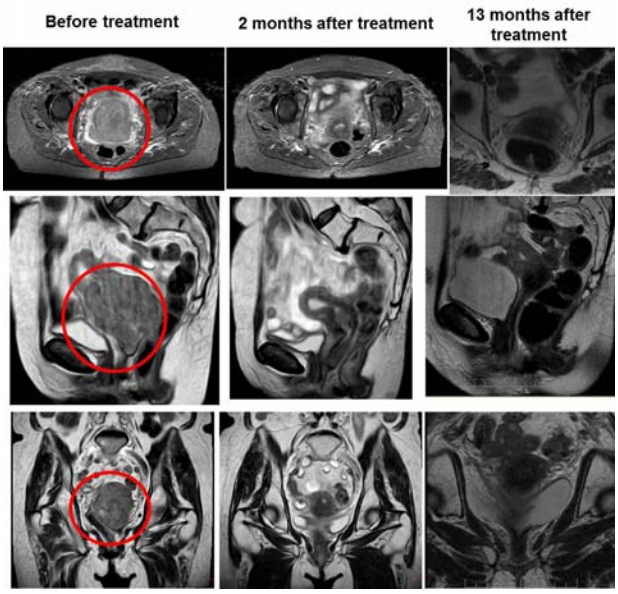


Figure 1. Investigator: Prof. Dr. A. Herzog; Institute: Fachklinik Dr. Herzog, Nidda, (Bad Salzhausen), Germany; Patient: 73 y, female; Diagnosis: Advanced cervix carcinoma; Treatment: Oncothermia & radiotherapy; Results: complete remission, symptoms disappeared, no complains; Follow-up: permanent (presently more than 1 y); Control: MRT-Pelvis

Advanced, recurrent, refractory Gastric cancer

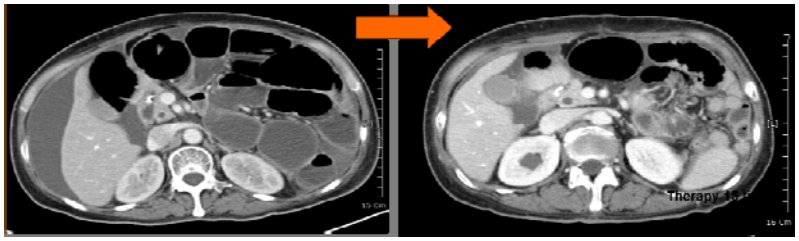


Figure 2. Investigator: Dr. Seong Min Yoon; Institute: SAM Anyang Hospital, Seoul, S.Korea; Patient: 55 y, female; Primer-tumor: Gastric cancer (University Hospital, advanced gastric cancer + peritoneal metastases) ; Treatments - Results: Surgery: Metastases: in sentinel and distant lymph-nodes; Chemotherapy: receives 6x chemotherapy cycles

(DP regimen) ; Result (1): Stable disease; → one year later cancer in oral cavity and two years later found a recurrence in the peritoneum; → bilateral ovarian surgery to remove both ovaries; → receives several chemo anticancer drugs, such as FOLFIRI; Result (2): Stable disease, → Patient had not continued cancer dissemination to the peritoneum continue to respond to change; → rapidly growing multi-metastases Started the multiple puncture; → symptoms increasing: L-tube insertion; Result (3): Status: disease progression, repeated chemotherapy with worsening nutritional status. Refractory disease, resistive for all the therapies; Oncothermia: 3 times a week; Result (4): Good partial remission (PR), Growing appetite, better quality of life

Anaplastic astrocytoma I.

A 47-year-old male patient **[33]** with a prehistory of Anaplastic Astrocytoma. Laboratory evaluation was without pathologic findings. MRI showed a lesion of 8x6x5 cm in the temporal region. Staging classified the tumor as anaplastic astrocytoma grade WHO III. The patient underwent a partial resection. RT (60 Gy total dose) was started with partial overlapping of oncothermia. The neurologic signs being observed before were not completely resolved. A second oncothermia cycle was started in combination with Temodal (Temozolomide). The MRI evaluation showed a complete remission (CT). His complaints disappeared and all the neurologic symptoms completely resolved. He has not required any further treatment from the time the adjuvant therapy was finished to date and appears for regular check-ups. He is in normal health and has a good QoL.

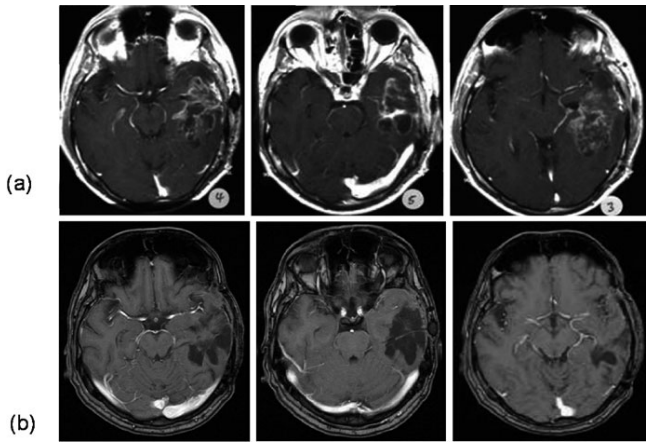


Figure 3. Case of anaplastic astrocytoma, WHO III. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 47 year old, male. 6×8×5 cm lesion in temporal region, (**a**). Treatments partial resection and radio-therapy + oncothermia; 2–3 weekly. Followed by chemotherapy (Temozolomide) and oncothermia was continued. Result: complete remission; CR (**b**)

Anaplastic astrocytoma II.

A 30-year-old female patient **[1]** with Anaplastic Astrocytoma. MRI showed a lesion of 5x4x3 cm in the left central brain region. It is staged as grade WHO III. A metastatic lesion in the contra-lateral central region of 2x1 cm plus edema was observed. The patient underwent a partial resection. Unfortunately, shortly after that procedure the tumor relapsed and RT was started in combination with seed implantation. Oncothermia monotherapy was applied in combination with systemic chemotherapy using Temodal for 21 days at 100 mg/m^2 with 1 week free interval. The MRI images after loco-regional oncothermia showed a partial remission. Her complaints disappeared and the neurologic symptoms decreased.

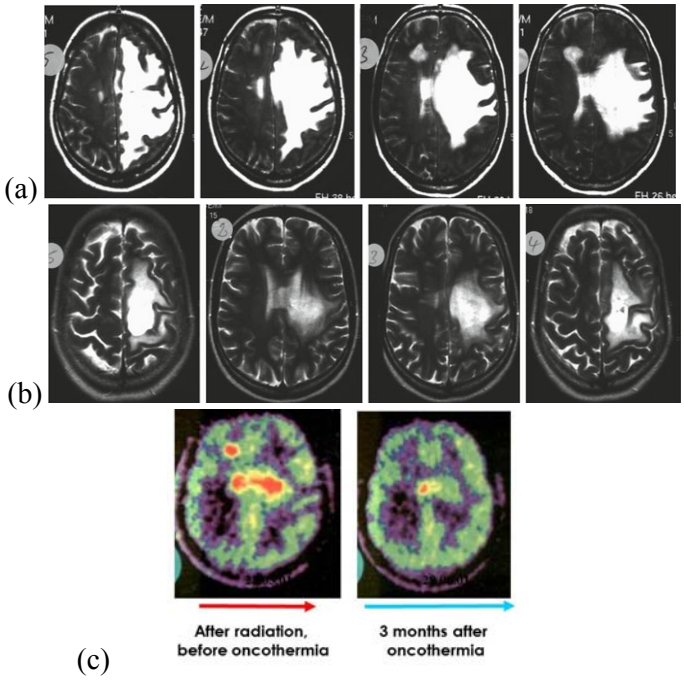


Figure 4. Case of anaplastic astrocytoma WHO III/IV. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 30 year old, female. Stage was WHO I. at the first diagnosis, multi treatments. Bifrontal and central recidivs, (a). Therapies: radio-therapy: seed-implantation (25 Gy)+ 25 Gy external radiation. After it oncothermia + systemic chemotherapy (temozolomide) during 21 days / 1 week; (b). PET images before and after oncothermia treatment (c)

Anaplastic astrocytoma III.

Another astrocytoma case is shown in the below figure, [1]. The 38-year-old male patient received oncothermia as monotherapy after Fortecotin (4 mg) and fractional radiation (40 Gy [2 Gy/d]). Oncothermia did not induce perifocal edema, which in conventional hyperthermia operating only with temperature would be the case.

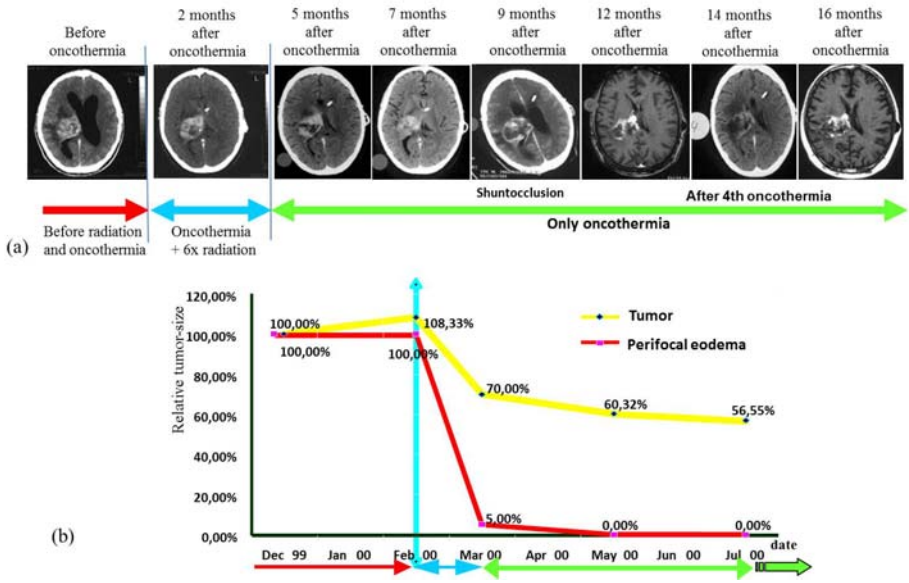


Figure 5. Case of non-operable anaplastic astrocytoma WHO III.; hydrocephalus occlusus, neu- rofibromatosis. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 38 year old, male. Treatment radiation: 40 Gy (2 Gy/d); chemotherapy: Fortecotin 4 mg + oncothermia. Next therapy: oncothermia as monotherapy, (**a**). The important factor, that the perifocal edema considerable decreased (**b**). Follow-up: 10 months

Anaplastic astrocytoma IV.

A 45-year-old female patient suffering anaplastic astrocytoma **[2]** refused the gold standard therapies and was treated by oncothermia as monotherapy. A year later a complete remission (CR) was observed.

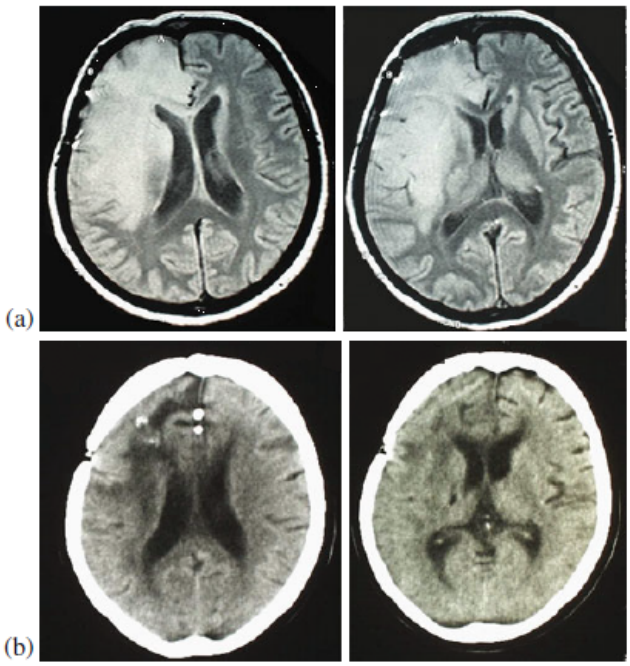


Figure 6. Case of anaplastic astrocytoma; WHO III. Investigator: Dr. A. Varkonyi; HTT-Med Polyclinic, Budapest, Hungary. Patient: 45 year old, female. Before oncothermia (**a**). Treatment: oncothermia as monotherapy. Result: after 2nd session of oncothermia complete remission (**b**)

Anaplastic astrocytoma V.

A patient (49-year-old female) was heavily treated by various standard treatments, which failed. Afterwards oncothermia as monotherapy was applied, **[1].** The treatment was successful.

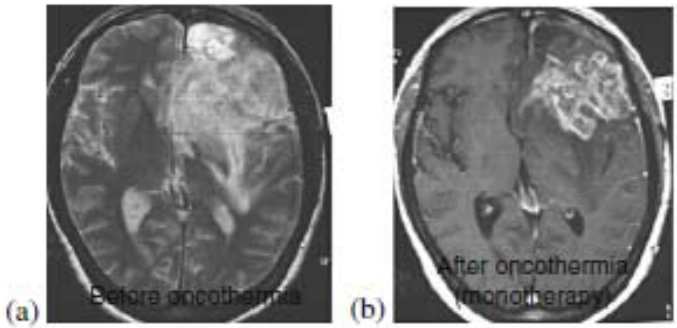


Figure 7. Case of anaplastic astrocytoma WHO II. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 49 year old, female. Treatments: surgery: two times within 10 months; after surgeries radiation: 60 Gy; 2nd. 30 Gy; after this chemotherapy: 12 cycles of Temozolomide. Recurrence (**a)**. After these oncothermia was applied as monotherapy; 8× sessions, 60 min/each. Result: histological tumor-free, only necrotic tissue (**b**)

Anaplastic astrocytoma VI.

A Phase I safety study was performed [2] in the Neurology Clinic of Regensburg University (Regensburg, Germany). (Institute: Neurology Clinic, Regensburg University, Phase I prospective clinical trial. Investigators: Prof. Dr. U. Bogdahn and PD. Dr. P. Hau). Two typical cases for heavily pre-treated advanced tumors could be cited as examples:

1. Case of anaplastic oligoastrocytoma, WHO III. Investigators: Prof. U. Bogdahn & Prof. P. Hau. Department of Neurology, University of Regensburg. Patient: 48 year old, male. 2 resections (partial). 3 relapses. Treatments: radiotherapy, after this PCV (Procarbazine, CCNU and Vincristine); and after Temozolomide. After these Nimustin (ACNU) + Oncothermia. Three cycles of ACNU, with three cycles of oncothermia five times a week 60 min each (60 sessions). Karnofsky score at start: 70, at end: 60. Best performance: stable disease (SD).
2. Case of glioblastoma multiform, WHO IV. Investigators: Prof. U. Bogdahn & Prof. P. Hau. Department of Neurology, University of Regensburg. Patient: 49 year old, male, 2 resections (partial), 3 relapses. Treatments: radiotherapy, after this chemotherapy Temozolomide/PEG-Dox; 2nd: Epothilone; 3rd: Temozolomide/int.; 4th: Nimustin (ACNU) + Oncothermia. Two cycles of ACNU, with three cycles of oncothermia five times a week 60 min each (55 sessions). Karnofsky score at start: 80, at end: 80. Best performance: stable disease (SD).

During the Phase I safety study an inadvertent treatment selection was observed. The oncothermia complementarily with ACNU treated localization (primary lesion) was reacting well, but a distant metastasis (relapse) was not recognized at the beginning of the treatment session, so was not treated. At the end the non-treated relapsed lesion was growing further, while the treated one was drastically shrinking. The ACNU systemic chemotherapy was of course active for both the lesions.

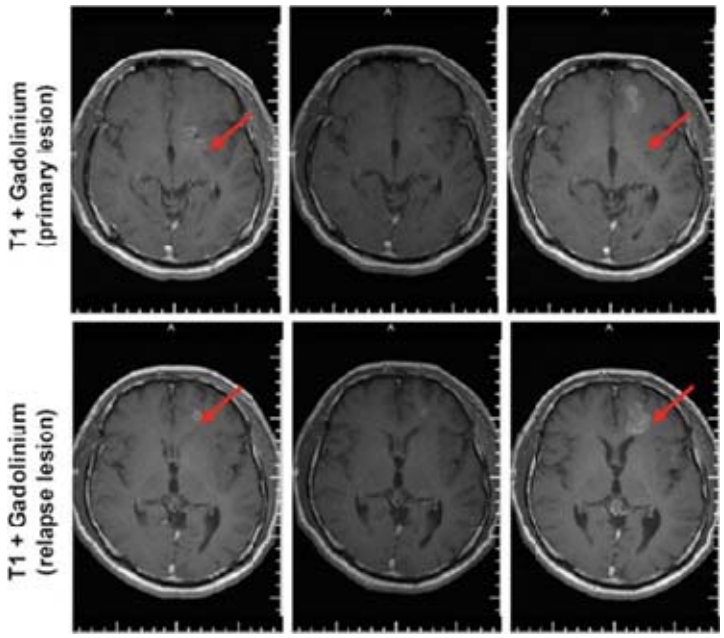


Figure 8. Case of inoperable anaplastic astrocytoma, WHO III. Investigators: Prof. U. Bogdahn & Prof. P. Hau. Department of Neurology, University of Regensburg. Patient: 59 year old, male. Two relapses, Therapies: Temozolomide (/13-cis-RA); 2nd: radiotherapy, 3rd: Nimustin (ACNU) + Oncothermia. Two cycles of ACNU, with three cycles of oncothermia four times a week 60 min each (48 sessions). Karnofsky score at start: 90, at end: 90. Best performance: stable disease (SD). The oncothermia treated primary lesion shrinks, (**a**), while the relapsed, only ACNU treated lesion was in progression (**b**)

An advanced pediatric ependymoma case with low QoL [3]. Oncothermia was applied as monotherapy because all the conventional facilities were no longer available. The treatment was successful, a spectacular improvement was observed.

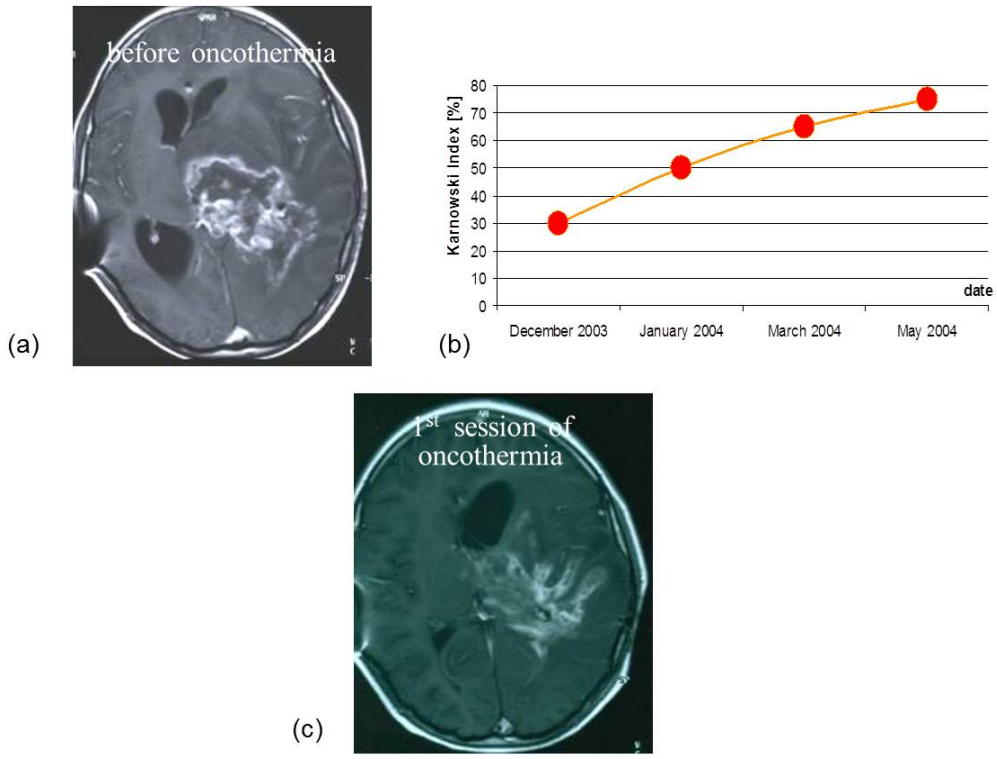


Figure 9. Case of advanced, progressive pediatric ependymoma, bithalamic; stage: WHO III. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient 10 years old, male. Conventional treatments (surgery, chemotherapy, radiotherapy) fail (**a**). Karnofsky score at start of oncothermia 30 (**b**). Oncothermia was applied as monotherapy. (60 min, 2–3 times weekly). During half a year the quality of life was drastically improved, the tumor-progression was blocked, partial remission was achieved (**c**)

Astrocytoma, WHO Grade III

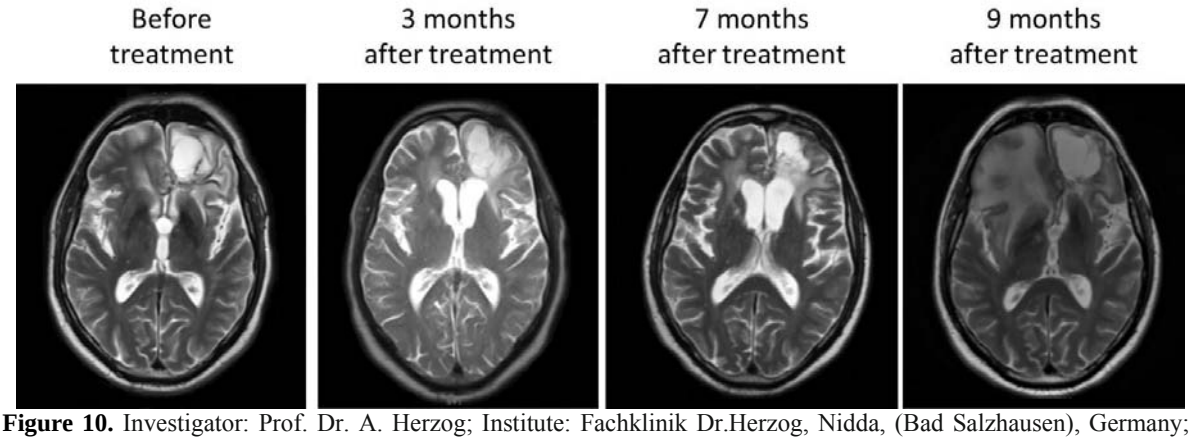


Figure 10. Investigator: Prof. Dr. A. Herzog; Institute: Fachklinik Dr.Herzog, Nidda, (Bad Salzhausen), Germany; Patient: 64 y, male, Diagnosis: Astrocytoma WHO grade III; Prior therapy: Tumor-resection + radiotherapy + chemotherapy (Temodal): progress of disease (PD), Irinotecan + Avastin (Progress of disease, PD); Treatment: Regional chemo-perfusion ACNU 100 mg; (Prof. Vogl, Frankfurt), accompanied by several sessions of oncothermia.; Control: MRT-Brain; Result: good tumor control on the left side, new activity stated on right side

Biliary carcinoma

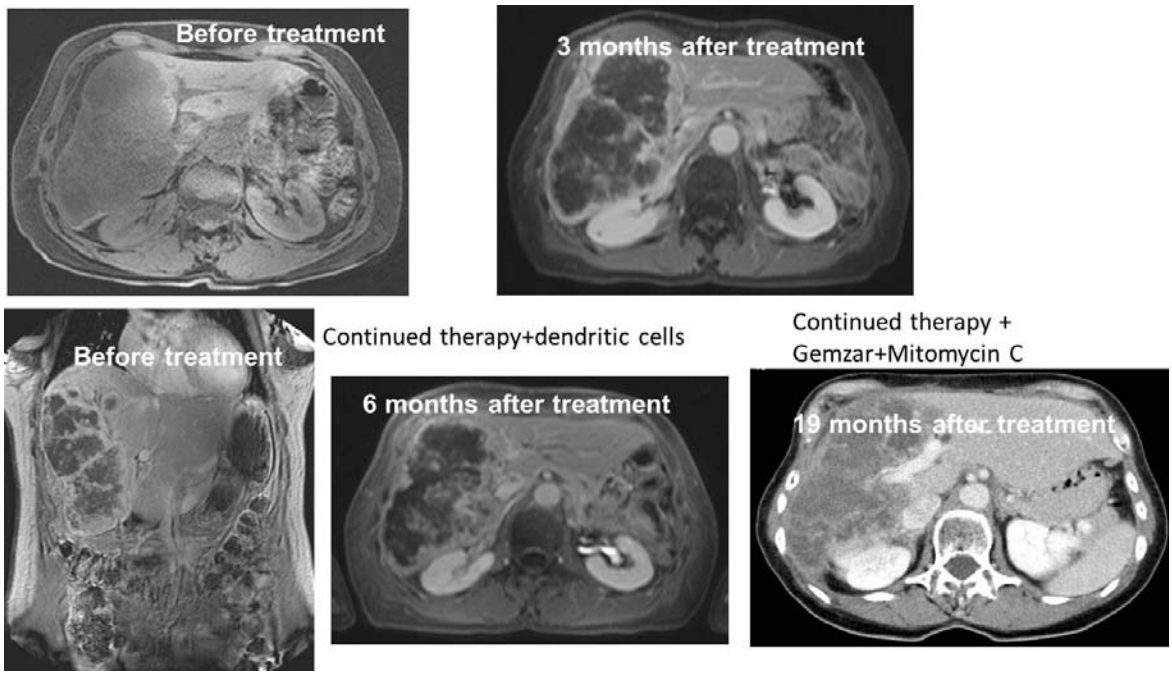


Figure 11. Investigators: Dr. W-P. Brockmann; Institute: Dr. W-P. Brockmann Institute OncoLight, Hamburg, Germany; Patient: 55y, female; Primer-tumor: Billiary-Ca; Treatment: Radio-therapy + Mitomycin C + oncothermia; Result: Partial remission, stabile status for long time

Bladder carcinoma

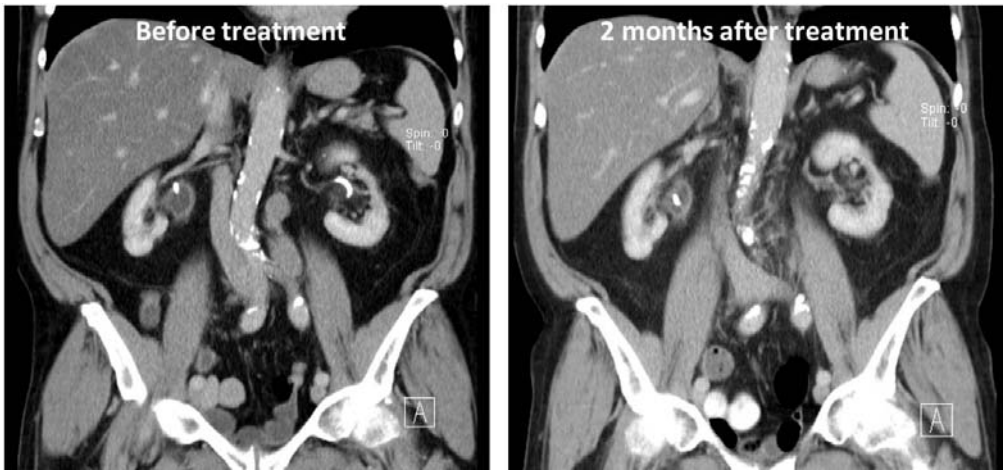


Figure 12. Investigators: Dr. W-P. Brockmann Institute: Dr. W-P. Brockmann Institute OncoLight, Hamburg, Germany. Patient: 69 y, male, Primer-tumor: Bladder carcinoma with mediastinal metastasis; Treatment: fractional radiotherapy 2x/day + oncothermia + local dendritic cell therapy+ whole-body hyperthermia Result: Complete remission, NED

Bone metastases

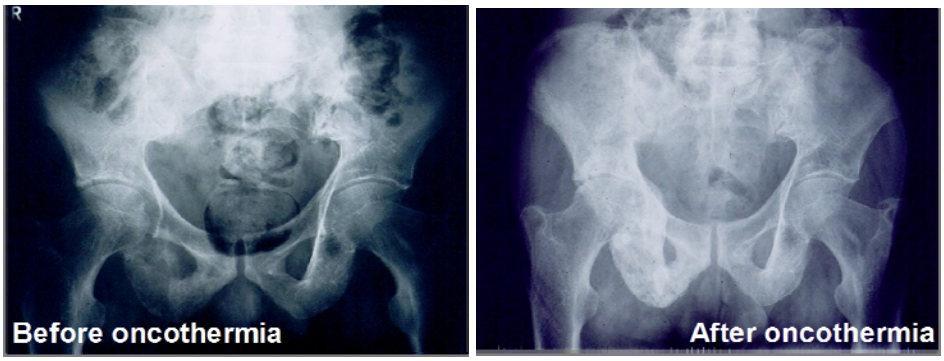


Figure 13. Investigator: Prof. H. Aydin; Institute: Clinic & Insitute of Radio-Oncology, Zentralkrankenhaus Reinkenheide, Bremerhaven, Germany; Published: Aydin H, et al: Strahlen-Hyperthermie bei Lebermetastasen und bei therapieresistenten Knochenmetastasen; Hyperthermia Symposium, Cologne, Germany, 25-26. October, 2003; Oncothermia: 2x/week; Concomitant radiotherapy: 10MV, 1.5-1.8 Gy, fractal radiation 5x/week, overall dose: 21-24 Gy

Brain metastasis

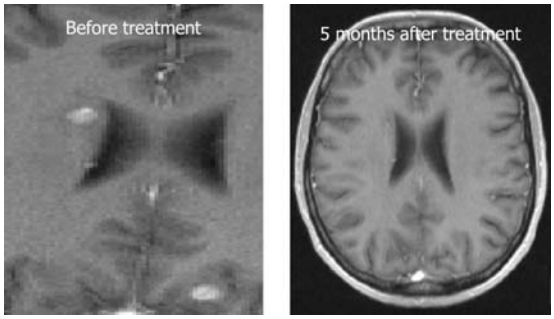


Figure 14. Investigator: Dr. W-P. Brockmann; Institute: Institute OncoLight Hamburg, Germany; Patient: 56 y, female; Diagnosis: Cradiac-carcinoma with liver and brain metastases; Therapy: Radiation hyper-fractional + oncothermia + Mitomycine C + carboplatine + dendritic cell treatment; Result: Partial remission

Brain metastasis (breast primary)

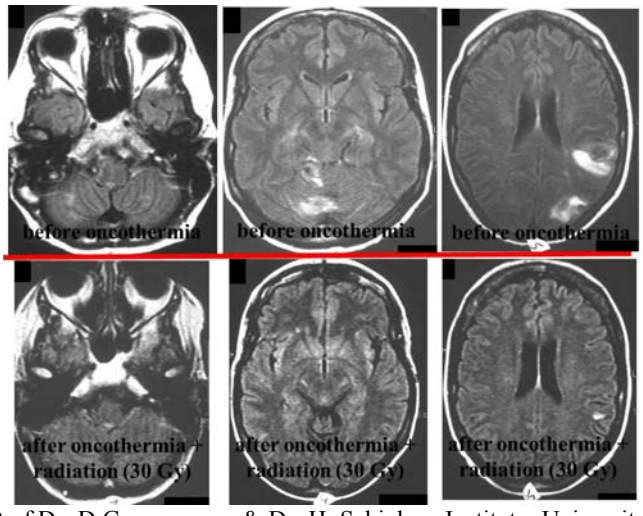


Figure 15. Investigators: Prof.Dr. D.Gronemeyer, & Dr. H. Sahinbas; Institute: University Witten-Herdecke, Institute of Microtherapy, Bochum, Germany; Patient: B.M., female; Diagnoses: Mamma carcinoma, Hepatic metastases,; Cerebral Metastases (>9); Treatments: Radiatiation. 10. - 30 Gy; + oncothermia; 60 min, 2-3 weekly; Result: Complete remission; CR

Brain metastasis from breast cancer

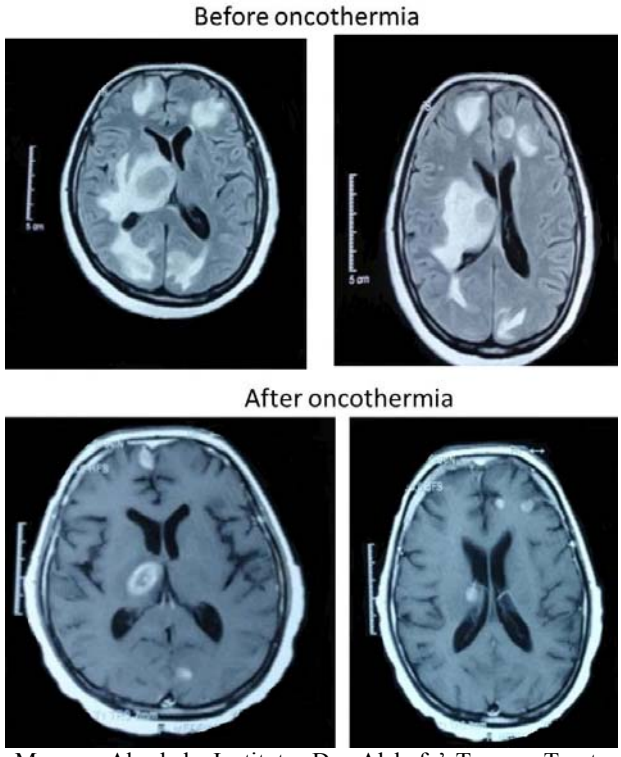


Figure 16. Investigator: Dr. Marwan Akasheh; Institute: Dar Alshefa' Tumors Treatment Center, Amman, Jordan, Patient: female 53 y

Breast cancer with metastases (thoracic-wall and intrapulmonal)

Metastatic lung tumors are also treatable by oncothermia. A case of a breast primary is shown in the below figure.

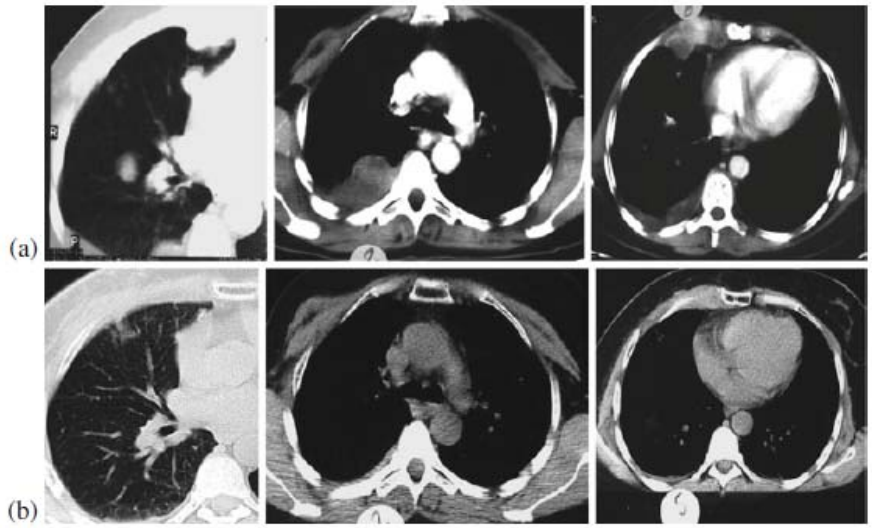


Figure 17. Case of breast cancer with metastases (thoracic-wall and intrapulmonal). Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 48 year old, female. Therapy: chemotherapy, Tamoxifen. Progression (**a**). Complementary oncothermia (16 sessions). Result: complete remission (**b**). For preventive purposes two more oncothermia cycles were performed

Breast carcinoma (male)

Metastasis was not observed for 5+ years. When it was diagnosed, regular oncothermia decreased it in the first year of metastasis. Termination of oncothermia stopped the regression. Renewed oncothermia gave regression and complete remission at the end of the second year. After termination of oncothermia relapsed metastasis was observed.

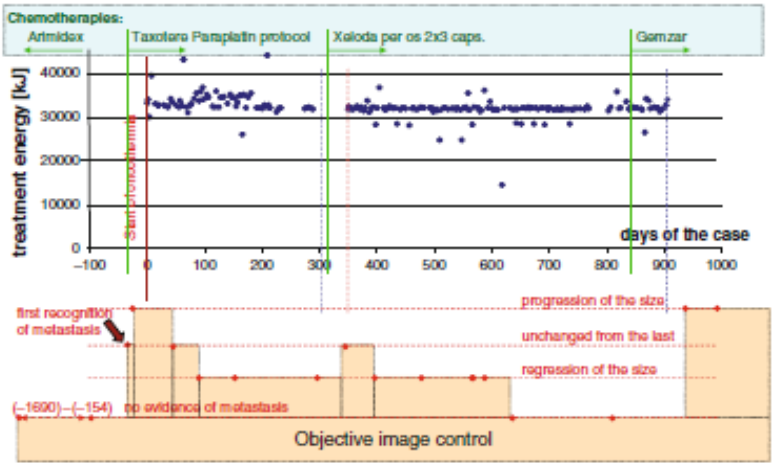


Figure 18. Case of hepatic metastases of breast cancer (male). Investigator: Dr. A. Csejtey. Markusovsky Hospital, Szombathely, Hungary. Patient: 46 year old, male. Therapy for primary: Arimidex. Metastases appear more than five years later in liver, rapid progression. Therapy for liver: Taxotere + oncothermia; followed by Xeloda + oncothermia; and Gemzar + oncothermia. (Notes: green points indicate the chemotherapies, the blue points are the individual oncothermia treatments showing its treatment energy in kJ, the red points show the objective image control by MRI.)

Breast carcinoma with chest-wall recurrence

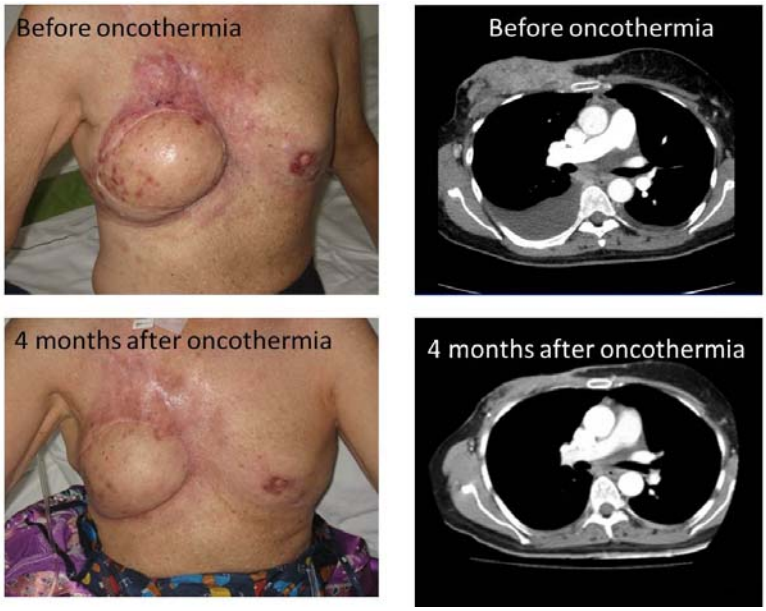


Figure 19. Investigator: Prof. Dr. A. Herzog¸Institute: Fachklinik Dr. Herzog, Nidda (Bad Salzhausen), Germany; Patient: 58 y, female; Diagnosis: Breast carcinoma, with chest wall recurrence, pleural metastasis; Symptoms: dyspnea, pain; Prior therapy: mastectomy + reconstruction, alternative therapies; Treatment: vinorelbine/mitomycin plus whole-body hyperthermia accompanied by several sessions for oncothermia of the chess-wall; Result: partial remission (PR) of cutaneous metastases, pleural effusion of CR freedom from symptoms, absence of pain

Breast carcinoma with chest-wall recurrence II.

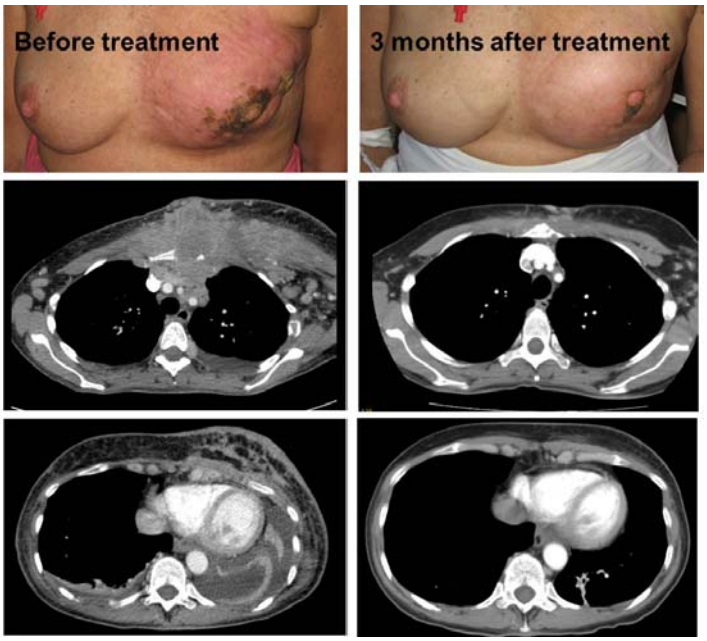


Figure 20. Investigator: Prof. Dr. A. Herzog; Institute: Fachklinik Dr. Herzog, Nidda (Bad Salzhausen), Germany; Patient: 61 y, female; Diagnosis: Breast carcinoma; HR-positive, HER-2-positive; Symptoms: pain; Prior therapy: herbal infusions, vitamins, specialized diet, TCM, mediation (no success); Treatment: chemotherapy plus whole-body hyperthermia accompanied by several sessions of oncothermia of the breast and chess-wall; Result: partial remission (PR) freedom from symptoms, absence of pain

Bronchial carcinoma left-lower-lobe

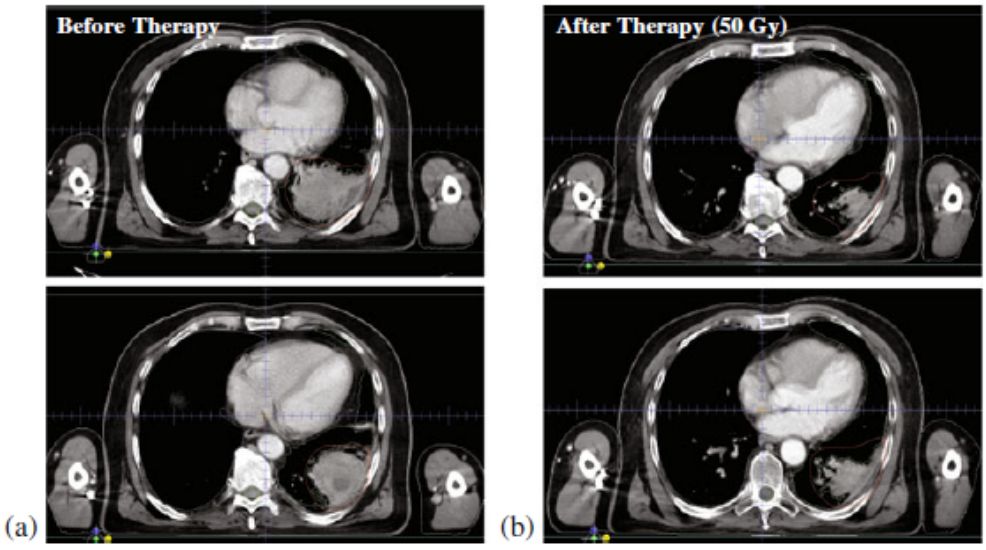


Figure 21. Case of bronchial carcinoma left-lower-lobe. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 68 year old, male. Tumor-classification: cT3 cN2 M0 G3 R2. Histology: squamous cell carcinoma; (**a**). Therapy: radiotherapy 60 Gy, chemotherapy Cisplatin 1×/week 5×, + oncothermia (10 sessions). Results: after 8 weeks of treatments (**b**). Surgery: lung-lower-lobe-resection, R0. Histology: no tumor was observable in the resected tissue

Bronchial carcinoma linked to main-bronchus

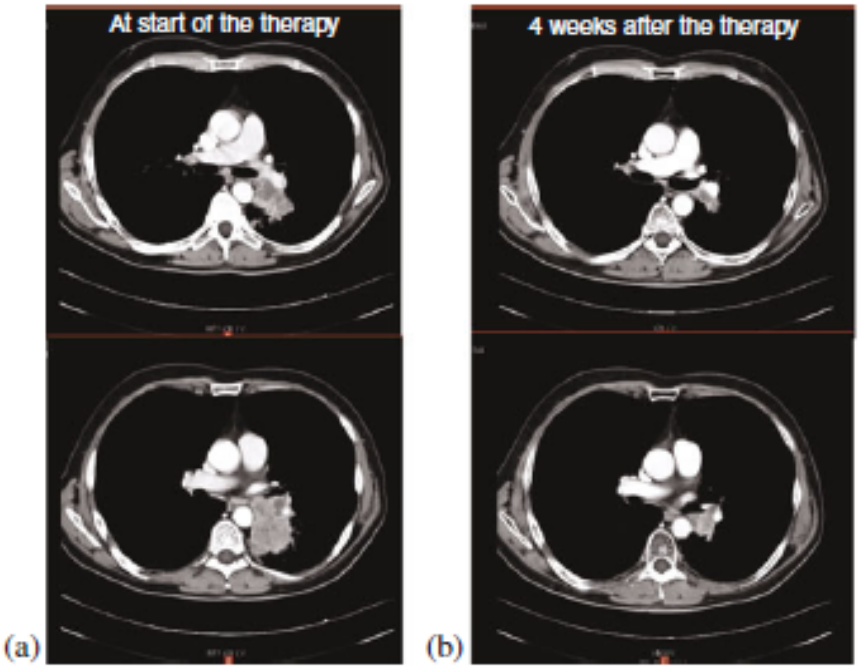


Figure 22. Case of bronchial carcinoma linked to main-bronchus. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 61 year old, male. Tumor classification: cT4 cN0 M0 Gx R2. Histology: Squamous cell carcinoma, (**a**). Comorbities: multiple sclerosis, diabetes (type II.). Therapies: radiotherapy: 72 Gy, Chemotherapy: Cisplatin, 1xweeks, 4 weeks, + oncothermia: 8 sessions. Result: partial remission (PR)(**b**)

Bronchial carcinoma right upper-lobe

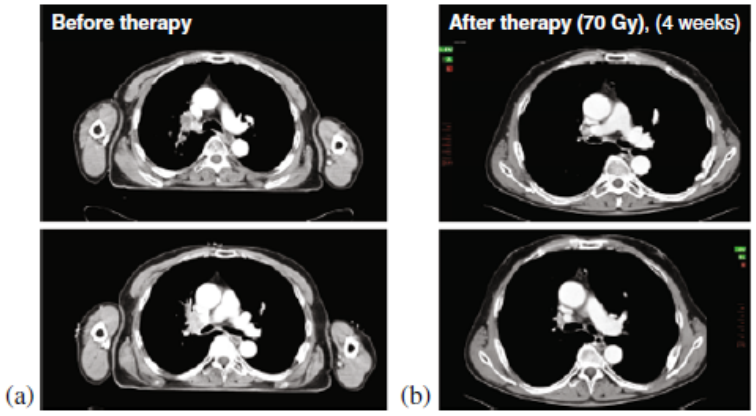


Figure 23. Case of bronchial carcinoma right upper-lobe. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient 58 year old, male. Tumor-classification: cT3 cN0 M0 Gx R2. Histology: squamous cell carcinoma. (**a**). Therapy: radiotherapy 70 Gy; Mitomycin C 1×/week 3×; + oncothermia (10 sessions); Result: partial remission (PR), (**b**)

Bronchial-carcinoma left-lobe with multiple brain metastases

The parallel brain metastasis is also well controllable by oncothermia.

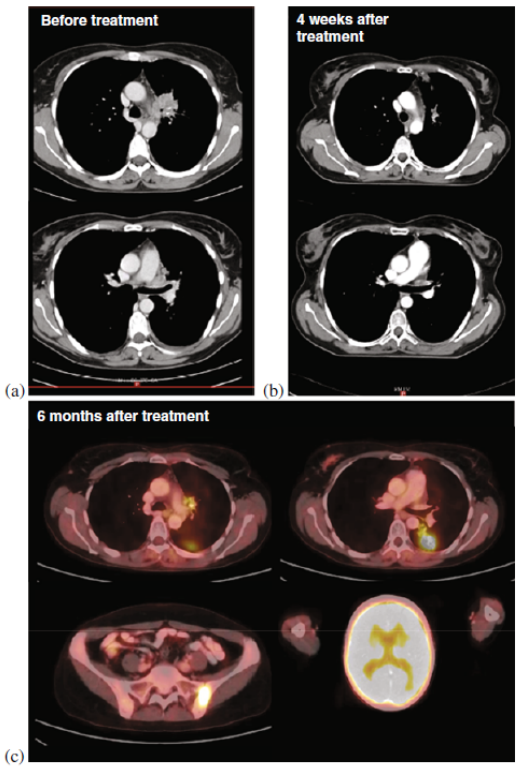


Figure 24. Case of bronchial-carcinoma left-lobe with multiple brain metastases. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 47 year old, female. Histology: adeno-carcinoma; classification: cT3 cN2 M1 G3 R2, (**a**). Therapy: palliative brain- radiation, connected palliative chemotherapy for 6 month, ineffective. Local-tumor therapy: 72 Gy, without chemo-therapy + oncothermia (23 sessions). Result: complete remission (**b**). Follow-up: 6 months, free of disease (**c**)

Cervix uterus I.

The pelvic gynecology cases are classical applications for hyperthermia treatments. Oncothermia is also applicable in this important field of treatments. The treatments obviously start with gold standards, and when those are unsuccessful, oncothermia begins to be applied. In consequence most of the cases are advanced, heavily pretreated. In most cases drastic improvement of QoL was observed.

One of the most common lesions is the cervix of uterus. Three case report are shown for this in the below figures.

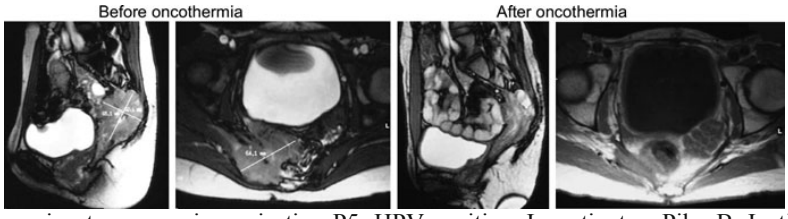


Figure 25. Case of cervix uterus, cervix conisation P5, HPV positive. Investigator: Piko B, Institute: Department of Clinical Oncology, Hospital K. Pandy, Gyula, Hungary. Patient: 28 year old, female. Treatments: total uterus extirpation with bilateral adnexectomy. Observation: planocellular undifferentiated cancer with vascular tumor cell invasion, pT1 N0 M0. 18 month later strong pain; incontinence. Locally recurrent tumor 6.5×5.5 cm (**a**). CT-guided biopsy: locoregional recurrence of the original carcinoma epidermoid non-cornescens. Treatments: combined radio-chemo-thermo therapy (trimodality). Radiation: pelvic, paraaortic and bilateral parailiacal irregular large field technique: 20×2 Gy. Chemotherapy: Carboplatin, Ftorafur plus oncothermia once a week. After this further radio-chemo-thermo therapy: pelvic and parailiacal CT-planned radiotherapy with craniocaudally adjusted fields: 8×1.8 Gy, Carboplatin/Ftorafur chemotherapy + oncothermia. Results: no more incontinentia, no more pain. MRI: considerable regression (**b**). Further improvement: the patient is able to work again

Cervix uterus II.

Figure 26. Case of carcinoma of cervix uterus; cT4 cN0 M0 G3. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 61 year old, female. Histology: squamous cell carcinoma (**a**). Therapy: bimodal, radiotherapy: 50.4 Gy; (5×1.8 Gy/weeks); oncothermia: 6 sessions. Control: 3 months later, hysterectomy (Wertheim). Result: pathologically complete remission ypT0ypN0 (**b**)

Cervix uterus III.

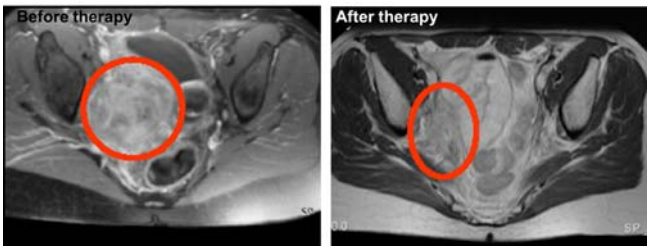


Figure 27. Case of carcinoma of cervix uterus. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 38 year old, female. Histology: squamous cell carcinoma; local recurrence (**a**). Therapy: local curative trimodal therapy (radio-chemo-thermo). Radio therapy: 45 Gy preoperative and 16 Gy postoperative. Chemotherapy: 2 + 1 cycles Carboplatin/5-FU Oncothermia: 12 + 4 sessions Duration: 5 + 2 weeks 9 month pause, Result: complete remission 100% Histology – negative (**b**)

Cervix uterus IV.

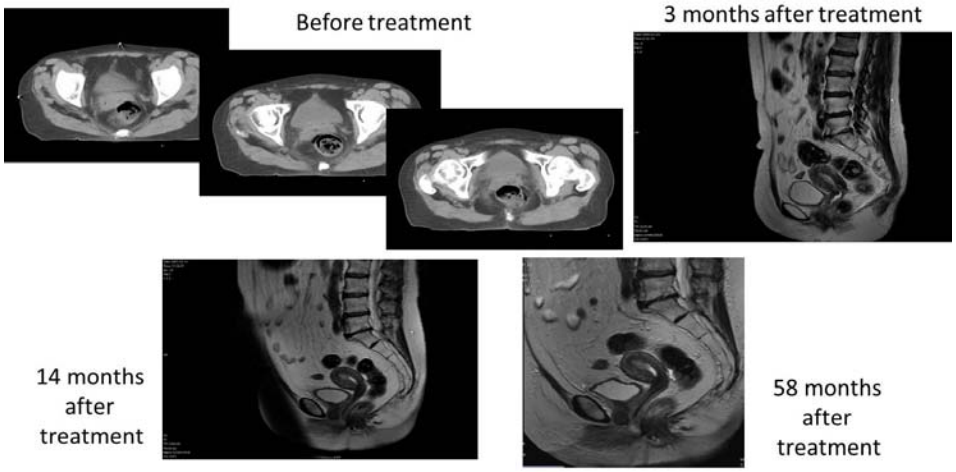


Figure 28. Investigator: Dr. Csejtei A.; Institute: Department of Oncoradiology, Markusovszky Hospital, Vas County, Szombathely, Hungary. Patient: 57 y, female; Diagnosis: uterine cervix CA, Anamnesis: G2, P2, hypertonia for 15 years, stroke at age 54, vaginal bleeding, emergency hospitalization; Neopl.cerv.ut.std IIIB-IV, Histology: carcinoma planocellulare kerat. Therapies: Teletherapy treatment; external irradiation 2 Gy/day fractions, with 50 Gy complete dose. Brachytherapy (after loading treatments): Block of bleeding, after loading, 8 Gy: After loading, 5 Gy; After loading 4.5 Gy; targeting the residual tumor. Chemotherapy: 40 mg/m2/week Cisplatin complementary to external radiation. Oncothermia treatments: 6 sessions; 4 sessions, Last pelvic control by MRI: NO EVIDENCE OF DISEASE (NED). Published: Pesti L., Dankovics Zs., Lorencz P., Csejtei A.; Complex treatment of advanced uterine cervix Chemo-radio-thermotherapy case report, ICHS, Budapest Hungary, 2012

Cholangio-cellular carcinoma

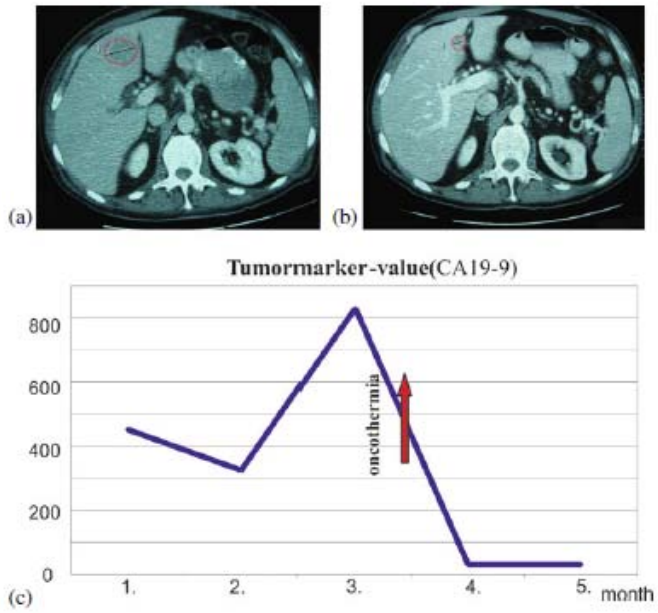


Figure 29. Case of Cholangio-cellular carcinoma. Investigator: Prof. H. Kirchner. Medical Department III. (Hematology & Oncology), Hospital Hannover-Siloah, Hannover, Germany. Severe Cholangitis; (**a**). Therapy: 4-week antibiotic no result. Chemotherapy: Gemcitabine/ Oxalyplatine. Result: progress; Therapy: Erbitux, Capecitabine + oncothermia on liver. Result: good partial remission (PR) tumor (**b**) and tumor marker regression, good QoL; (**c**)

Colon transversum carcinoma

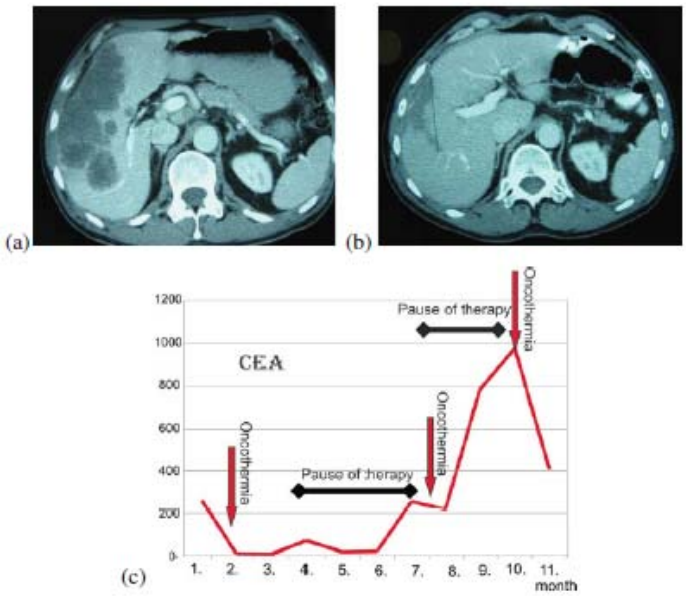


Figure 30. Case of hepatic metastasis of colon transversum carcinoma. Investigator: Prof. H. Kirchner, Medical Department III. (Hematology & Oncology), Hospital Hannover-Siloah, Hannover, Germany. Patient: 61 year old, male. Tumor classification: pT4, pN2, M1 (Liver). Treatments: surgery hemicolektomie (**a**). Therapy: Oxalyplatine, Leukovorine, 5-FU + oncothermia on liver. Result: good partial remission (PR). Therapy-pause consequently progressive disease (PD). Erbitux, Campto + oncothermia on liver. Result (3): good partial remission (PR) tumor (**b**) and tumor marker regression, became normal (**c**)

Colo-rectal carcinoma, second-line treatment with oncothermia

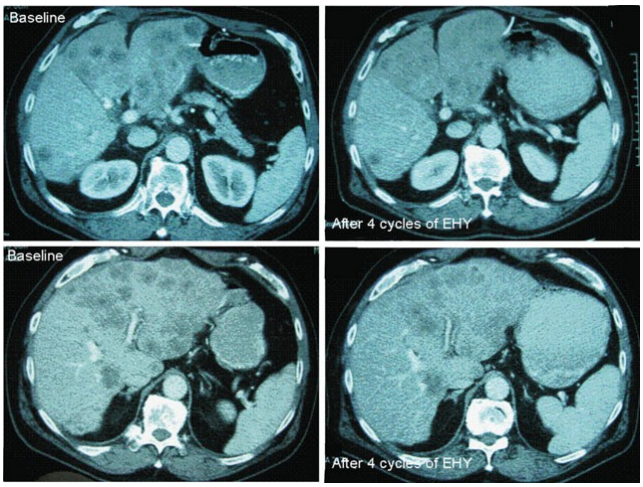


Figure 31. Case of liver metastasis of colo-rectal carcinoma. Investigator: Prof. H. Kirchner. Medical Department III. (Hematology & Oncology), Hospital Hannover-Siloah, Hannover, Germany. Therapy: Oxalyplatine + 5-FU + folic-acid (a), progression. Further therapy: Irinotecan and Capecitabine + oncothermia on liver. Result: good partial remission (PR) of the tumor (b) and tumor marker regression after 4 cycles of oncothermia (c). Follow up: 26 months

Colorectal metastases

Metstasis was not observed for 1 year. After its detection, a relatively rarely applied regular oncothermia led to no change in the liver metastasis in the first year. Tumor progression was observed after termination of oncothermia. Reapplied oncothermia gave regression, but after termination of oncothermia progression of the metastasis was observed again. Other colo-rectal metastasis was not observed for 1+ year. After its detection regular oncothermia achieved a stable condition, the tumor did not grow further. This situation persisted for 2 years. After termination of oncothermia tumor progression in the liver was observed again.

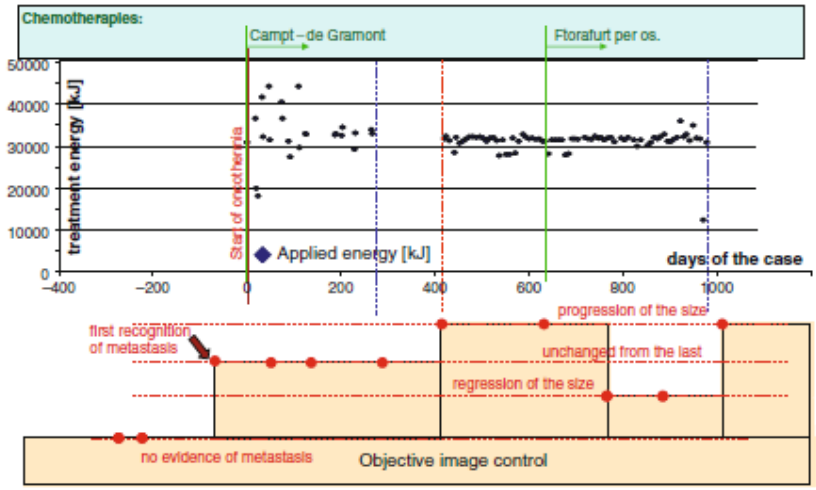


Figure 32. Case of hepatic metastases of primary colorectal tumor. Investigator: Dr. A. Csejtey. Markusovsky Hospital, Szombathely, Hungary. Patient: 62 year old, male. One year after the treatment of the primary tumor, metastases appeared in the liver. Therapy: Campto [deGramont] + oncothermia; followed by Ftorafurt per os + oncothermia. (Notes: green points indicate the chemotherapies, the blue points are the individual oncothermia treatments showing its treatment energy in kJ, the red points show the objective image control by MRI.)

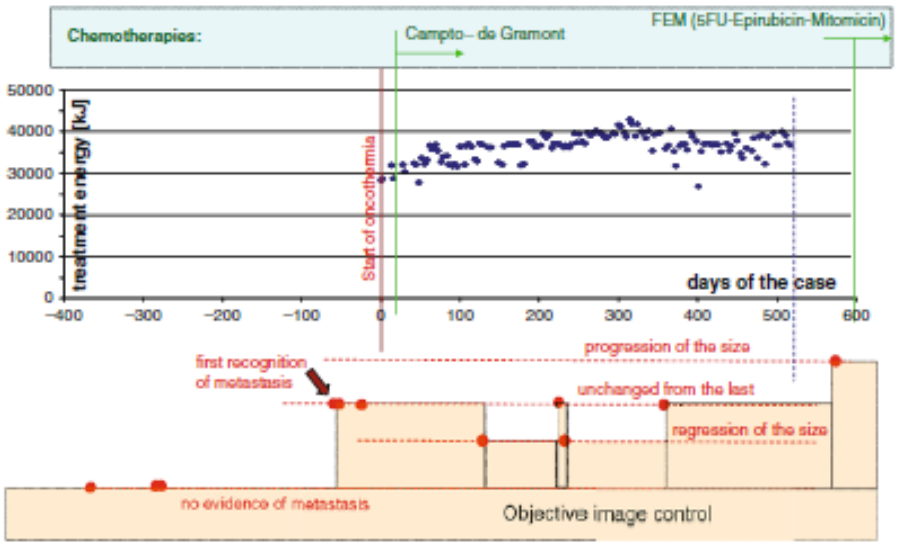


Figure 33. Case of hepatic metastases of primary colorectal tumor. Investigator: Dr. A. Csejtey. Markusovsky Hospital, Szombathely, Hungary, Patient: 53 year old, male. 13 months after the treatment of the primary tumor, metastases appeared in the liver. Therapy for liver: Campto [deGramont] + oncothermia; FEM + oncothermia. (Notes: green points indicate the chemotherapies, the blue points are the individual oncothermia treatments showing its treatment energy in kJ, the red points show the objective image control by MRI.)

Ductal breast cancer

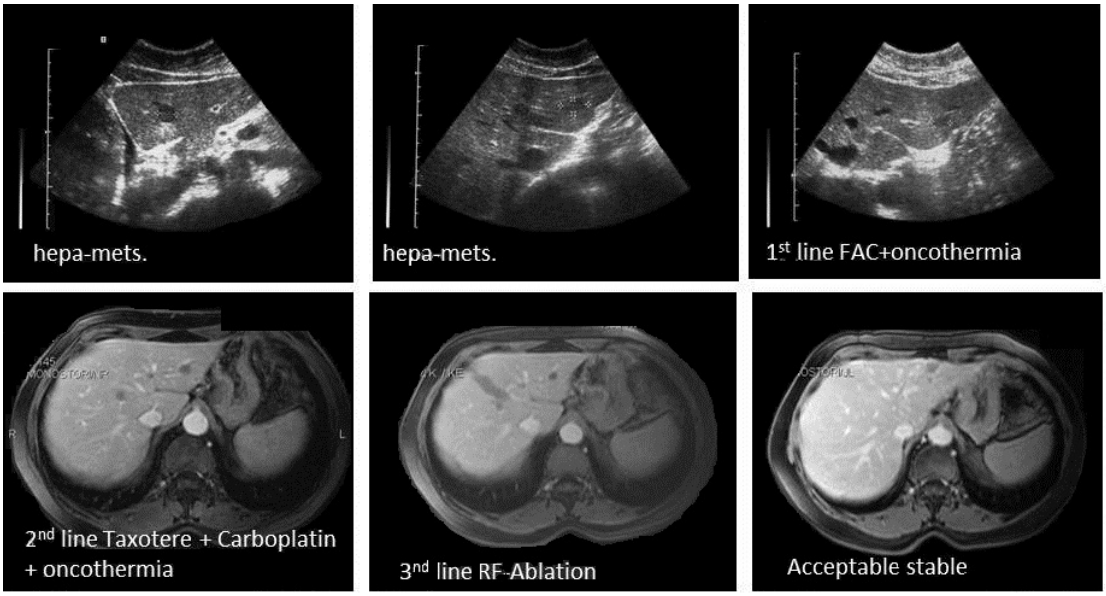


Figure 34. Investigator: Prof. Dr. I. Lang; Institution: National Institute of Oncology, Budapest, Hungary; Patient: 49 y, female¸ Diagnosis: Invasive ductal breast cancer, 20 mm; Therapy (1): Quadrantectomy and ABD; Result (1): Complete resection (R0); Follow up (1): Lymphatic tumour cell invasion, HGII, MAI 12; Treatment (2): Adjuvant treatment 3x CMF → Radiotherapy → 3x CMF; Result (2): Complete remission (CR); Follow up (2): For the next 6 yr symptom- and complaint-free. Hepatic metastases; Therapy (3): 1st line FAC+oncothermia → SD; 2nd line Taxotere-Carboplatin+oncothermia; 3rd treatment: RF-Ablation, → new liver meta.; 4th treatment: surgical metastasectomy; 5th treatment: intraarterial chemotherapy (FAM); Result(3): ever since the patient has been in good general state with acceptable hepatic function, censored; Published: Lang I, Piko B, Juhos E, Hitre E, Szucs M, Zsalek J, Csejtey A: A case report on heavily pretreated advanced breast tumor, Symposium Cologne, 2005

Ductal mamma carcinoma

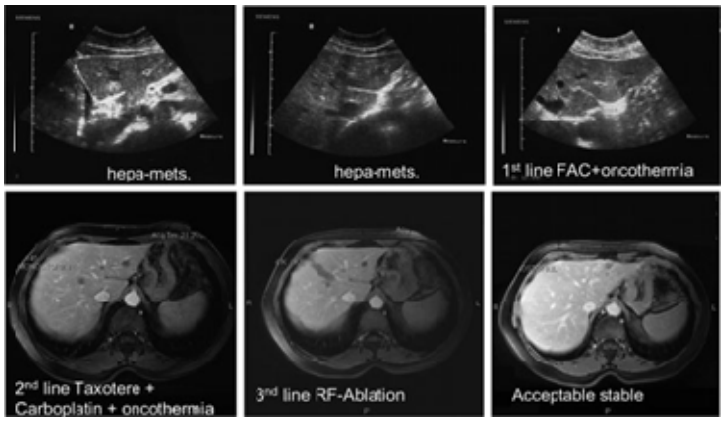


Figure 35. Case of hepatic metastases of invasive ductal mammary carcinoma. Investigator: Prof. Dr. I. Lang; National Institute of Oncology, Budapest, Hungary. Patient: 49 year old, female. Therapies: Quadrantectomy and ABD. Result: complete resection (R0). Follow up: lymphatic tumor cell invasion. Treatment: adjuvant treatment: 3x CMF → Radiotherapy → 3x CMF; Result: complete remission (CR). Follow up: for the next 6 years symptom- and complaint-free. Afterwards: hepatic metastases. Therapy: FAC + oncothermia → SD; followed by Taxotere – Carboplatin + oncothermia; followed by RF-Ablation. New liver metastasis appeared. Treatment: surgical metastasectomy + intra-arterial chemotherapy (FAM). Result: patient has been in good general state with acceptable hepatic function

Esophagus carcinoma I.

Typical esophagus cases are shown in the below figures.

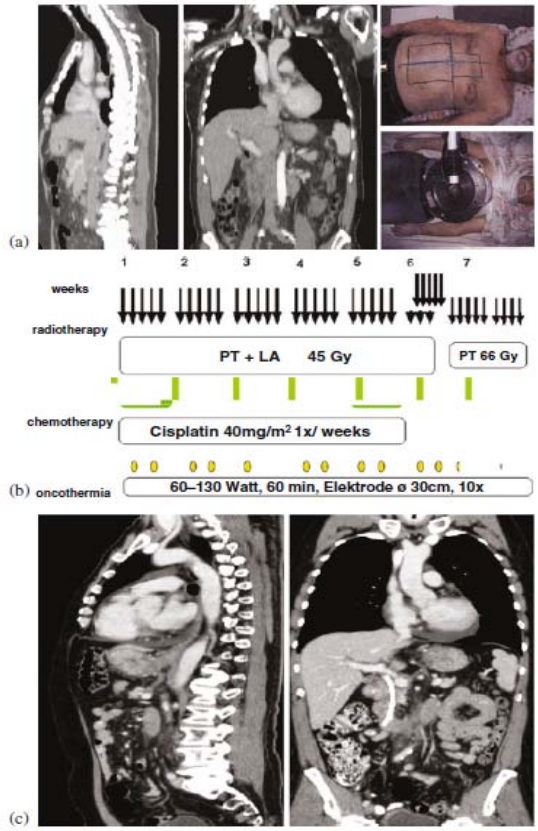


Figure 36. Case of inoperable esophagus carcinoma (Squamous cell G3) in the middle of the esophagus. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 50 year old, male. Metastases: in mediastinum & celiac ganglia. Tumor-classification: cT2 cN1 M1a G3 R2 (**a**). Treatment: trimodal protocol (**b**). Result: complete remission (CR). Follow-up: after 12 month tumor-free, (**c**)

Esophagus carcinoma II.

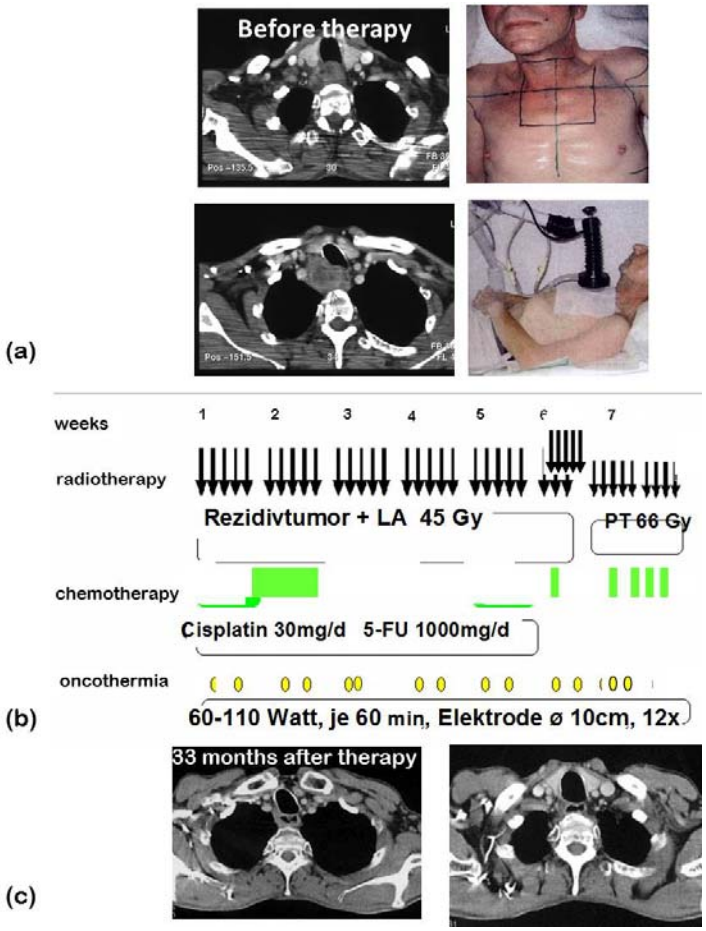


Figure 37. Case of inoperable esophagus carcinoma (Squamous cell G3), upper esophagus. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 49 year old, male. After resection inoperable recidiv. Metastases: involved multilocal lymph nodes (**a**). Treatment: trimodal protocol. Result: complete remission (CR). Follow-up: after 30 month tumor-free, (**b**)

Esophagus carcinoma III.

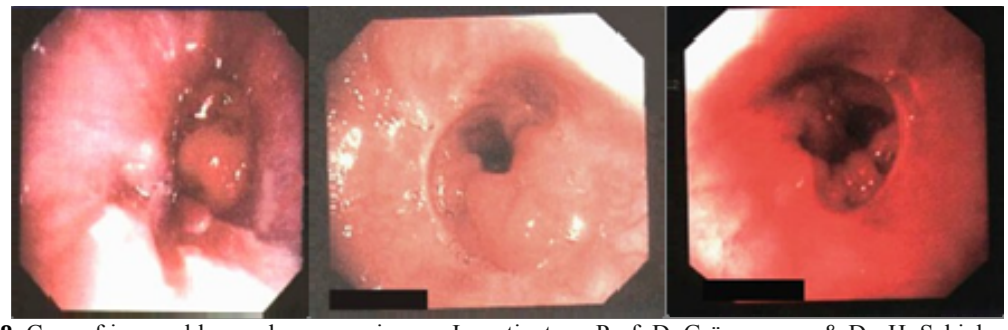


Figure 38. Case of inoperable esophagus carcinoma. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 46 year old, male. Therapies: surgery followed by multiple chemotherapy and afterwards radiotherapy (50 Gy). Recidiv, anastomose, block of food-passage (**a**). Oncothermia applied as monotherapy. Result: complete remission (CR), free-food passage; (**b**)

Gastric carcinoma

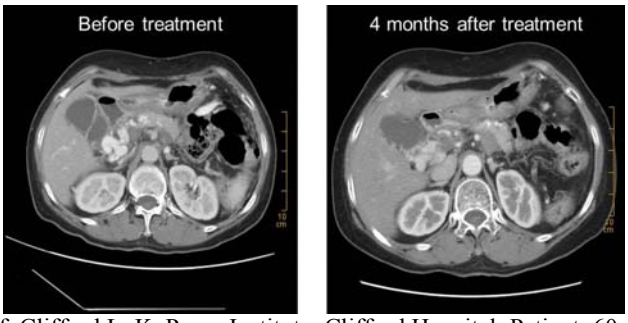


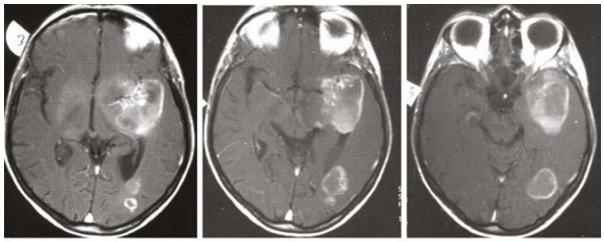
Figure 39. Investigator: Prof. Clifford L. K. Pang; Institute: Clifford Hospital; Patient: 60 y, female; Diagnosis: gastric cancer (stage IV); Histology: moderately differentiated gastric adenocarcinoma; Treatment: whole body hyperthermia in combination with intraperitoneal chemo perfusion. (DDP 60 mg+ MMC 20 mg.) Chinese medicine. Integrative treatments of chelating, medical ozone, Nutritional therapy, acupuncture, Qigong, Taiji, etc; Results: According to the recheck results: The tumor and metastases were smaller than those, Increase in body weight: 5 kg, CEA 12.7 μ g/L, CA199 47.58 U/ml

Glioblastoma multiform I.

The brain is a sensitive organ. It is mostly contraindicated to treat with external conventional radiation hyperthermia, because the elevated temperature in the brain could cause harm and increase the intra-cranial pressure by developing edema. Oncothermia, due to its field effects, could treat this organ with high efficacy and safety.

A 52-year-old female patient [4] presented with a pre-history of raised light headedness, headache, and fatigue of 2 months' duration. Neurologic examination revealed central facial paralysis and homonymous hemianopia. Laboratory evaluation was without significant pathologic findings. MRI showed a lesion of 6x5x4 cm in the left frontal region, and a mass in the left parieto-occipital region measuring 4x3x3 cm.

Surgical intervention was not possible. She underwent stereotactic biopsy of the left frontal mass, where the histopathology was reported as GBM, WHO grade IV. Tretmetn was started with fractionated RT (54 Gy total doses: 1.8 Gy x 5 d/wk for 6 weeks). Her complaints were reduced though neurologic signs did not completely resolve. It was decided to start an adjuvant therapy with local hyperthermia and temozolomide being administered concomitantl (TMZ) (100 mg/m^2/d x 21 days, 1 week rest, for six cycles). Local hyperthermia was continied. The MRI evaluation showed a near complete remission. Her complaints disappeared and all the neurologic symptoms completely resolved. She has not required any further treatment from the time the adjuvant therapy was finished to date and appears for regular checkups. She is in good health and has an active QoL.

(a) 

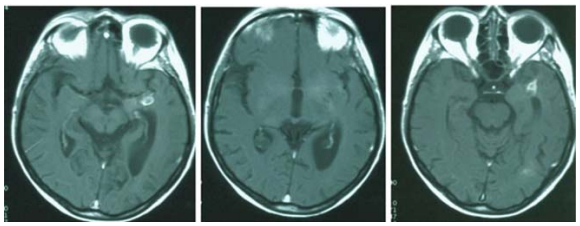
(b) 

Figure 40. Case of glioblastoma multiform (GBM), WHO IV. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 52 year old, female. Lesions: 6×5×4 cm left frontal and 4×3×3 cm left parietooccipital region, **(a)**. Treatments: trimodal therapy; radiotherapy fractionated (54 Gy total dose: 1.8 Gy×5 d/wk for 6 weeks) and temozolomide (TMZ) (fou cycles). Concomitantly with temozolomide oncothermia was applied. Power ranged between 40–150 watts and the average equivalent temperature in the tumors was above 40◦C more than 90% of the treatment time. Oncothermia was performed in two/three sessions per week (total: 25 sessions). After the 1st diagnosis patient was alive more than 24 months. Post treatment, imaging with MRI-T1, **(b)**

Glioblastoma multiform II.

The below figure shows a patient at an advanced stage **[7]**, with a bad QoL that was treated by oncothermia complementary to ACNU (3x50 mg/5 w). The QoL was drastically improved.

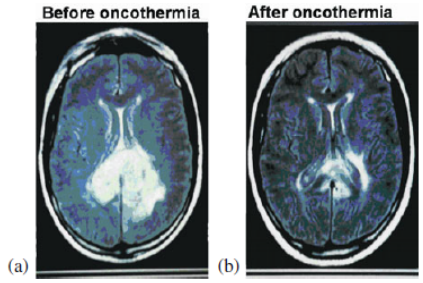


Figure 41. Case of glioblastoma multiform, WHO IV. Investigator: Prof. A. Herzog; Institute: Fachklinik Dr. Herzog, Nidda, (Bad Salzhausen), Germany. Patient: 64 year old, male. Prior to treatment: unable to walk, aphasia; (**a**) Treatment: ACNU 3×50 mg every 5 weeks + oncothermia; Results: partial remission, (PR) (**b**). After 3 cycles of treatment patient walks again, speaks fluently

Glioblastoma multiform III.

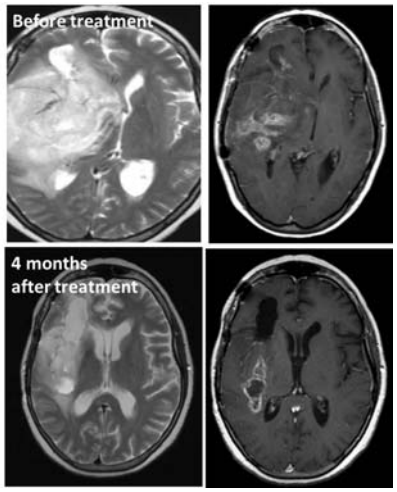


Figure 42. Investigator: Dr. W-P. Brockmann; Institute: Institute OncoLight Hamburg, Germany; Patient: 34 y, female; Diagnosis: Glioblastoma multiforme; Therapy: Oncothermia + dendritic cell treatment; Result: Partial remission

Glioma, low grade

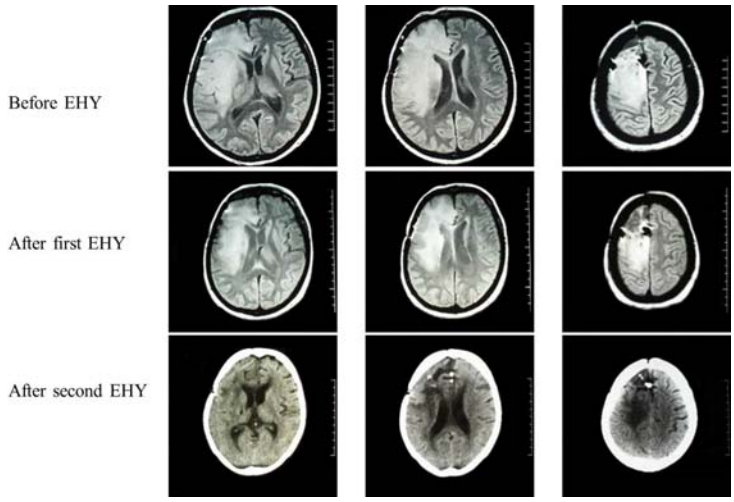


Figure 43. Investigator: Dr. A. Varkonyi; Institute: HTT-MED Clinic, Budapest, Hungary; Patent: 45 year, female; Diagnosis: Tu. Cer. Frontalel. D.; Histology: Glioma low grade; Complete Remission

Hepatic metastases of jejunely tumor

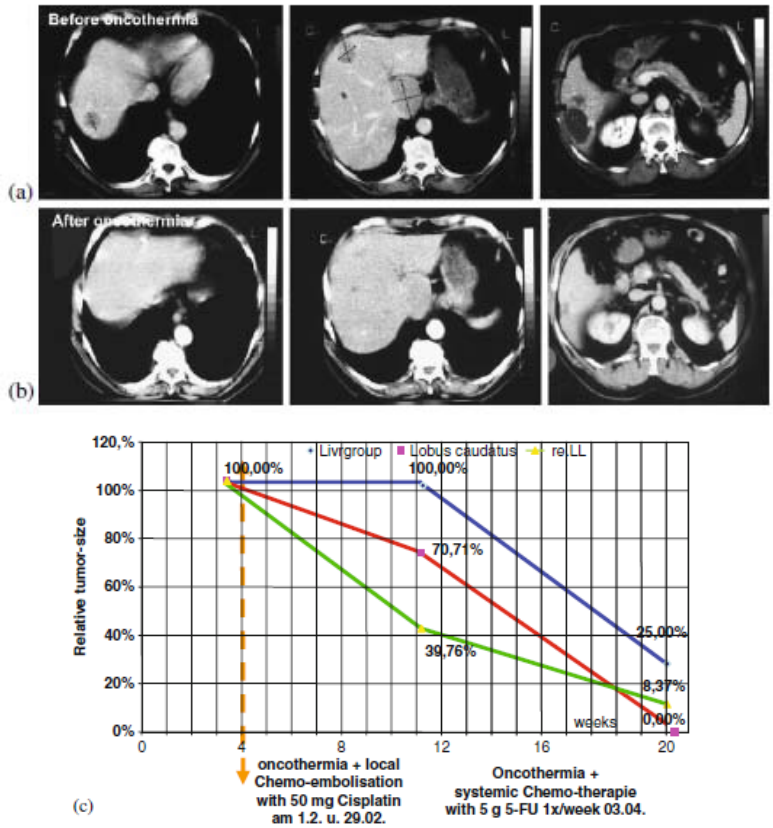


Figure 44. Case of hepatic metastases of jejunely tumor. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 63 year old, male. Metastasis: hepatic (**a**). Therapies: Chemo-embolisation (Cisplatin) combined with oncothermia; followed by i.v. 5FU (5g/week), combined with oncothermia. Result: partial remission (PR) of the tumor (**b**) and tumor marker regression (**c**)

Infiltration in rectus intemus and rectus internus inferior

Inoperable sinus metastasis of colon adenocarcinoma is successfully treated with oncothermia (electrode 10 cm diameter), [5], the large tumor mass was eliminated.

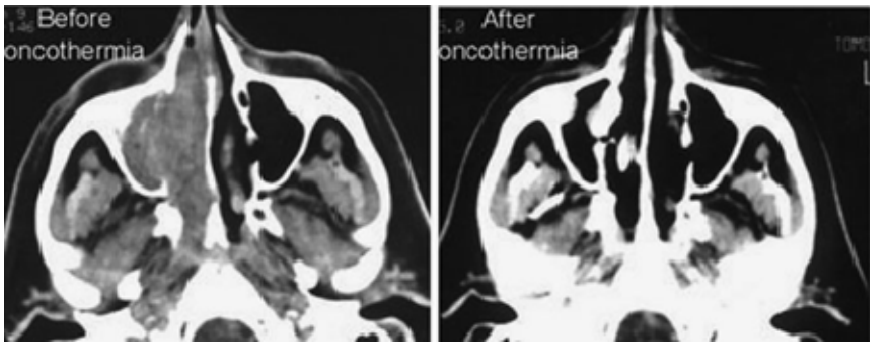


Figure 45. Case of metastasis, infiltration in rectus internus and rectus internus inferior; inoperable. Primary tumor: colon adenocarcinoma. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 46 y, male; (**a**). Therapies: local chemo perfusion and concomitantly oncothermia. (12×60 min/each). Result: complete remission (CR); (**b**)

The near-eye treatments show the unique capability of oncothermia: the field acts. The higher temperature of the regular hyperthermia is contraindicated in these cases.

Intrahepatic bile-duct carcinoma

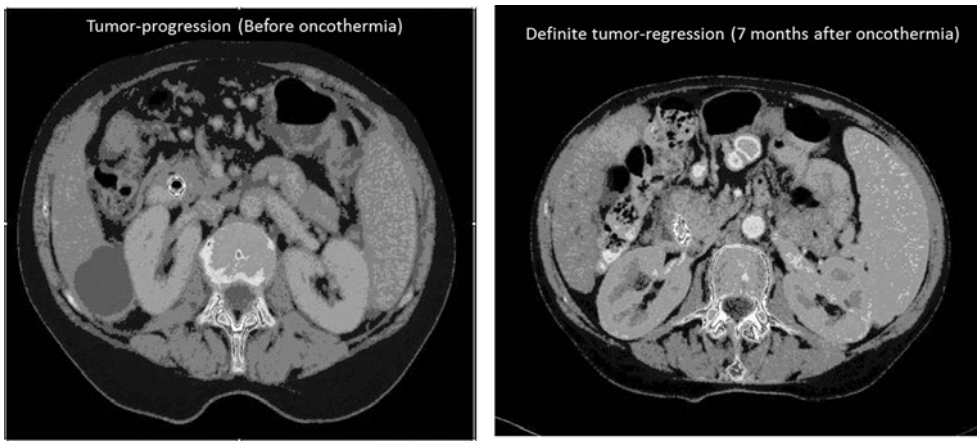


Figure 46. Investigator: Dr. A. Csejtey & Mr. P. Lorencz; Institution: Markusovsky Hospital, Szombathely, Hungary; Diagnosis: Intrahepatic bile-duct carcinoma, inoperable; Therapy: Oncothermia as monotherapy with concomitant supportive vitamins only. Due to the patient's status, no any other therapies were possible. Prognosis: overall median survival 7 months

Lung metastasis of primary carcinoma

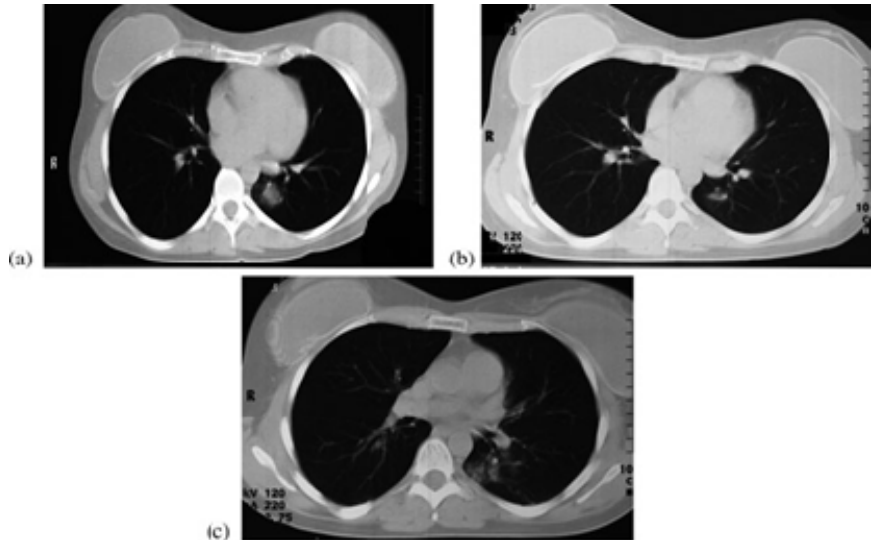


Figure 47. Case of lung metastasis of primary carcinoma of uterus cervix. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 38 year old, female. Histology: squamous cell carcinoma. Lung-metastasis is diagnosed 19 months later than primary (**a**). Therapy: palliative radio-thermotherapy: 55 Gy, + oncothermia: 12 sessions, duration: 6 weeks. Result: after 40 Gy: partial remission (PR, 80%), (**b**). Result (after 4 weeks): complete remission, (CR, 100%) (**c**)

Lung metastasis of soft-tissue sarcoma

(see Figure 48.)

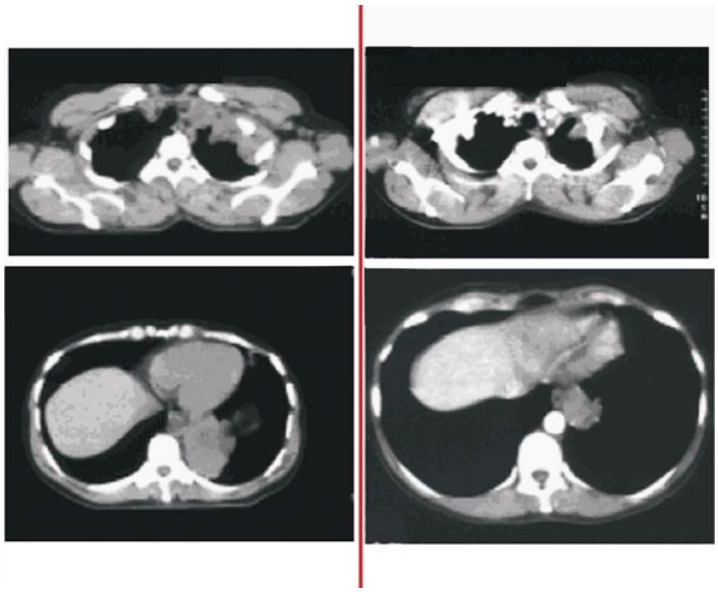


Figure 49. Case of lung metastasis of soft-tissue sarcoma. Investigator: Dr. W-P. Brockmann Institute OncoLight, Hamburg, Germany. Patient: 38 year old, female. Diagnosis: adenoid cystic carcinoma of the parotid gland with two extended soft-tissue lung-metastasis. (a) Therapy: surgery, resection, radiotherapy, postoperative fast neutrons. Result: relapses small cell lung carcinoma + uterine cervix. Therapy: radiotherapy on lung metastases, 18 MV, 50.4 Gy (5× 1.8 Gy/week) + oncothermia: complementary 2–3/week, 13 sessions, 60 min each. Result: good partial remission in both the lung nodules (b). Follow-up: further reduction, ended by complete remission (CR) and no obvious metastasis was observed for three years

Lymphangioepithelium sarcoma

Figure 50. Investigator: Dr. W-P. Brockmann; Institute: Institute OncoLight Hamburg, Germany; Patient: 51 y, male; Diagnosis: Lymphangioepithelium sarcoma; Therapy: Radiation therapy (50.4 Gy) + oncothermia + WBH + Novelbine (1x2 mg/week) + Cardioxane (2x50 mg/week); Result: NED (No evidence of disease)

Malignant fibrotic histiocytoma

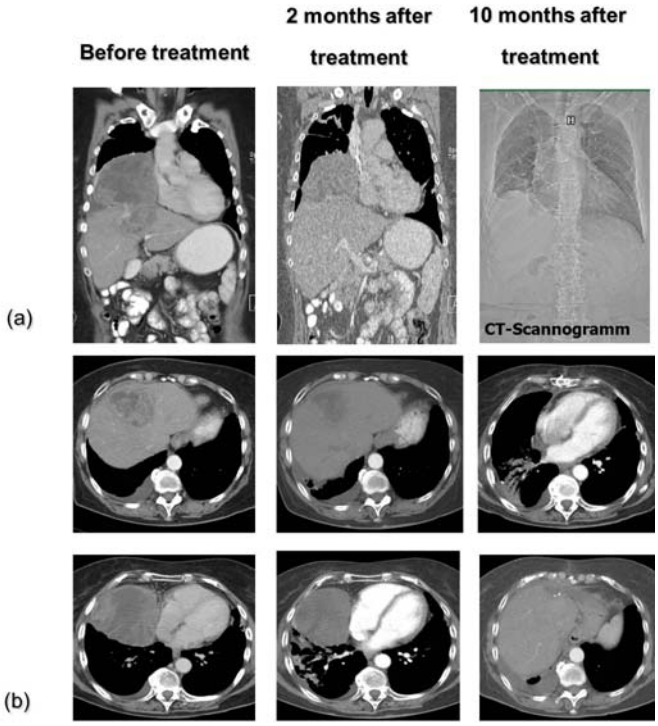


Figure 51. Investigator: Dr. W-P. Brockmann; Institute: Institute ONcoLight Hamburg, Germany; Patient: 69 y, male; Diagnosis: Malignant fibrotic histiocytoma; Therapy: oncothermia + radiation therapy + operation (R0) + dendritic cell treatment; Result: partial remission

Mamma carcinoma

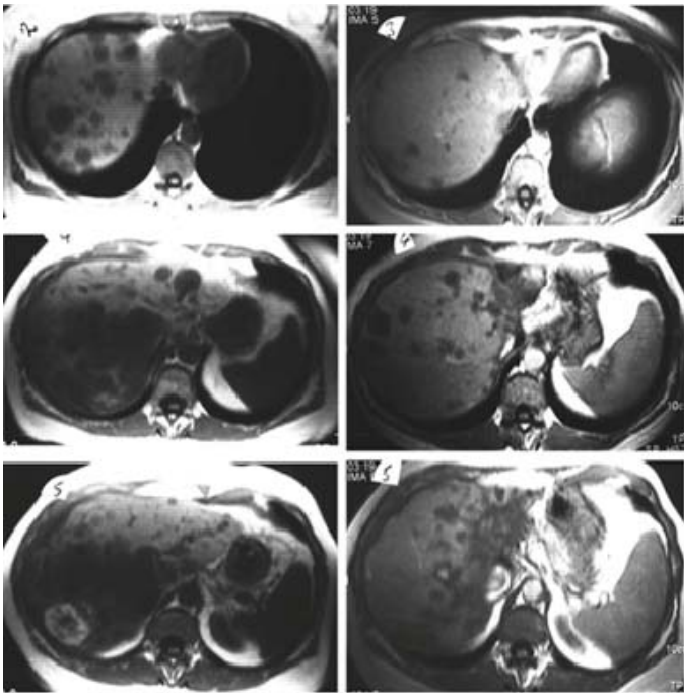


Figure 52. Case of hepatic metastases of mammary carcinoma. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 49 year old, female. Hepatic metastases two years after the primary diagnosis, followed by the cerebral metastases after 6 years. Treatments: Radiotherapy 30 Gy + chemotherapy: Xeloda + oncothermia; 60 min, 2–3 weekly. Result (on liver): partial remission; (PR)

Mammary carcinoma with brain metastasis

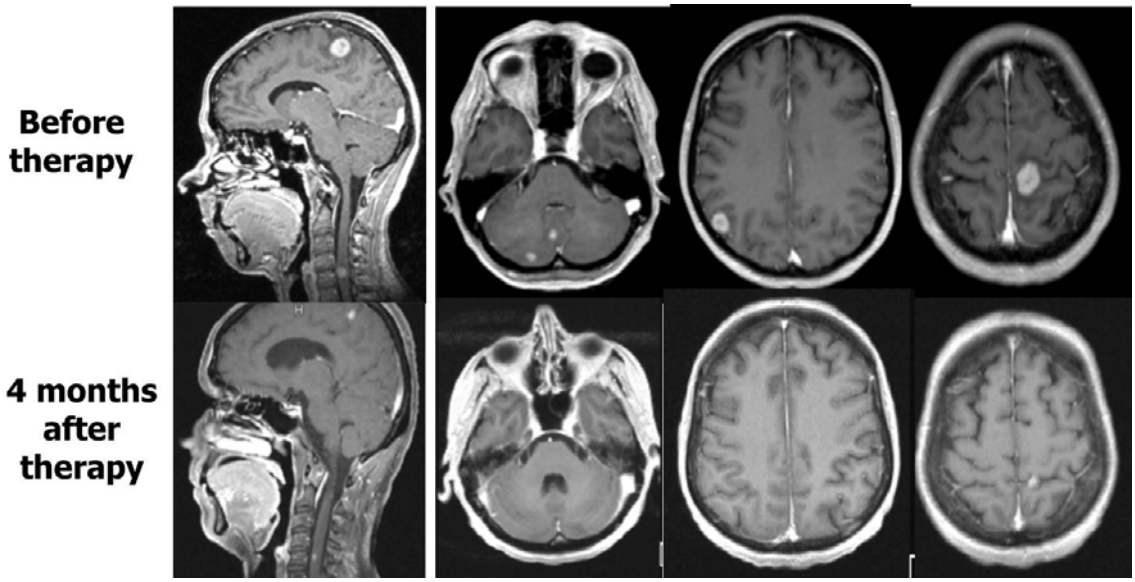


Figure 53. Investigator: Dr. W-P. Brockmann Institute: Dr. W-P. Brockmann Institute OncoLight, Hamburg, Germany. Patient: 52 y, female, Primer-tumor: Mamma-Ca neck and brain metastases; Treatment: hyperfractioned radiotherapy oncothermia, dendritic cell therapy; Result: Good partial remission

Metastatic brain tumor

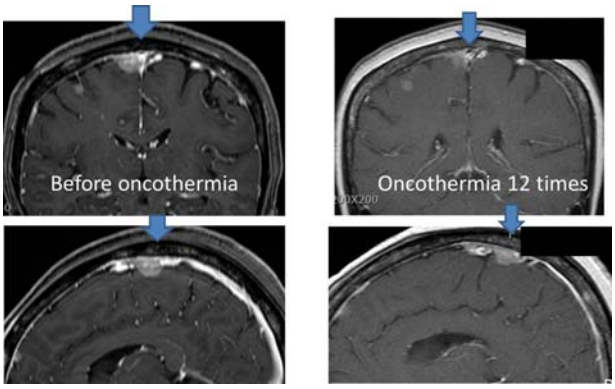


Figure 54. Investigator: Prof. Dr. Taesing Jeung; Institute: Department of Radiotion Oncology, Kosin University, College of Medicine & Kosin University Gospel Hospital. Patient: female 57 y; Published: 31st ICHO Oct. Budapest; 2012; Oncothermia as monotherapy; Lung Ca(Adenocarcinoma), ChemoTx for 2 years, Oncothermia for Brain Mets

Metastatic tongue carcinoma

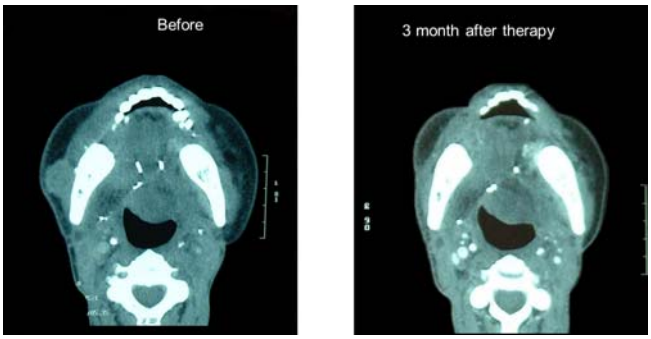


Figure 55. Investigator: Prof. Dr. med. Alexander Herzog; Institute: Fachklinik Dr. Herzog, Nidda – Bad Salzhausen; Patient: Female, 41 years old; Diagnosis: Metastatic tongue carcinoma; Treatments: Operation, Radio-chemotherapy, Rezidiv-OP re, Rezidiv again, plastic surgery, Rezidiv again, Swelling of the right cheek; Last treatment: oncothermia + chemotherapy (Cisplatin and 5-FU); Results: Complete Remission, Pain free

Non Hodgkin-Lymphoma I.

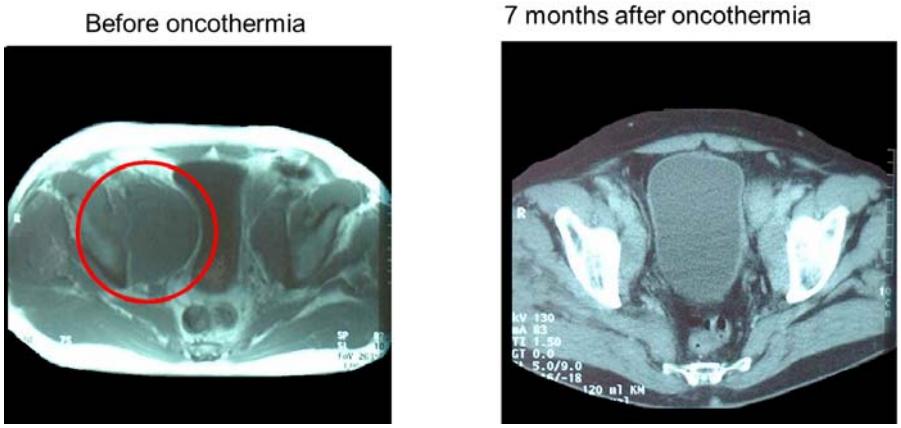


Figure 56. Investigator: Prof. Dr. A. Herzog; Institute: Fachklinik Dr. Herzog, Nidda (Bad Salzhausen), Germany; Patient: 65 y, female; Diagnosis: Non-Hodgkin Lymphoma; Symptoms: frequent urge to urinate; Treatment: Oncothermia (& psycho-support – homeopathy); Results: partial remission, symptoms disappeared, no complains

Non-Hodgkin-Lymphoma II.

An eye involving a non-operable non-Hodgkin-lymphoma case is shown in the below figure, [6]. The local success of oncothermia is obvious despite the eye involvement. However, the development of the disease was intensive, but the area which was treated before had no relapse.

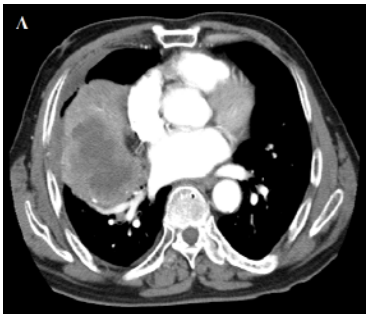
(a)  (b) 

Figure 57. Case of inoperable advanced non-Hodgkin-lymphoma Investigator: Prof. A. Herzog; Institute: Fachklinik Dr. Herzog, Nidda, (Bad Salzhausen), Germany. Patient: 38 year old, female; Stage: WHO IV; **(a)**. Treatment: chemotherapy (Bendamustin) + oncothermia. Result: complete remission, (CR), success shows the safety of the method **(b)**

Non-Hodgkin-Lymphoma III.

Figure 58. Development of the same case as Figure 2. Definitely no relapse was occur in the area which was treated by oncothermia before

Non-small cell lung cancer (NSCLC) I.



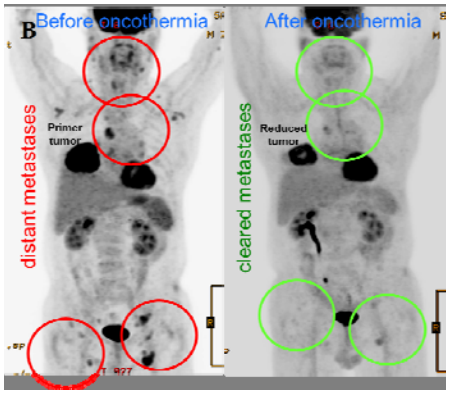


Figure 59. Investigator: Prof. Dr. Seong Min Yoon; Institute: Division of Hematology-Oncology, Department of Internal Medicine, Samsung Changwon Hospital, Sungkyunkwan University, Korea; Patient: 72 y, male; Primer-tumor: Non-small cell lung cancer; Size: 9.5 cm right middle lobe; Metastases: in sentinel and distant lymph-nodes; Tumor-classification: cT2 cN2 M0, stage IIIB; Treatment: trimodal protocol: 28x1.7 Gy; support: 250 microgram Leukine and Oncothermia 6x.; Only the primer tumor was treated; Result: Good partial remission (PR), Abscopal effect: complete remission (CR) in the non-treated metastatic lesions also

Non-small cell lung cancer (NSCLC) II.

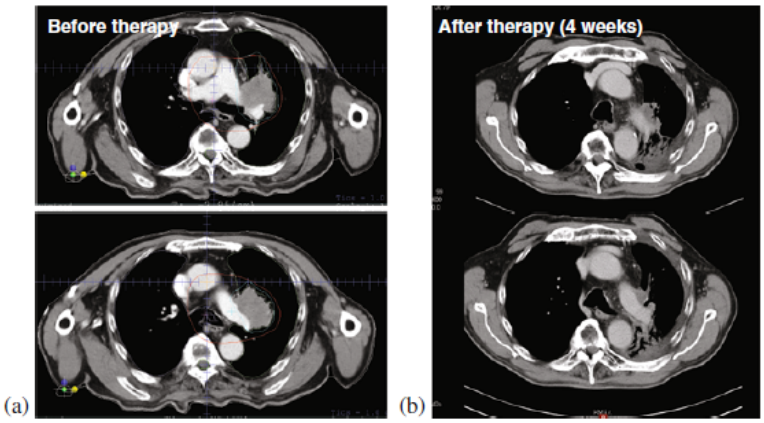


Figure 60. Case of non-small cell lung cancer (NSCLC) left-lobe. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient 61 year old, male. Histology: squamous cell carcinoma; classification: cT3 cN0 M0 G3 R2; (**a**). Therapy: radiotherapy 72 Gy; + oncothermia (16 sessions). Result: partial remission, (**b**). Experience: not evaluate too early, and not apply too high dose of radiation

Non-small-cell lung cancer (NSCLC) III.

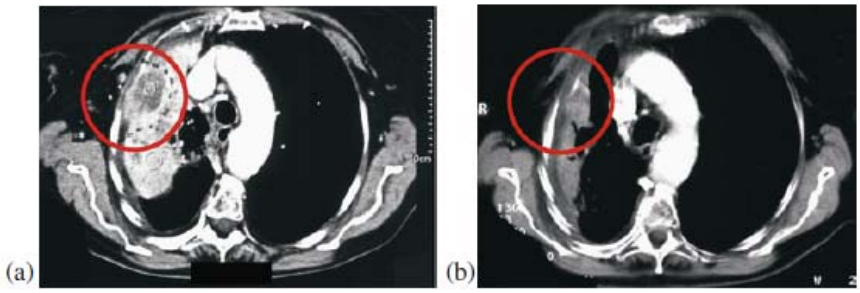


Figure 61. Case of non-small cell lung cancer (NSCLC) periphery, inoperable. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 79 year old, female. Histology: squamous-cell carcinoma; classification: cT3 cN0 M0 G2 R2 (**a**). Treatment: bimodal pallia- tive protocol; radiotherapy, 54 Gy, + Chemotherapy, Cisplatin + oncothermia, (9×, 1–2/week [6 weeks], 60 min/session, electrode 30cm). Result: partial remission (PR), (**b**)

Non-small cell lung cancer (NSCLC) IV.

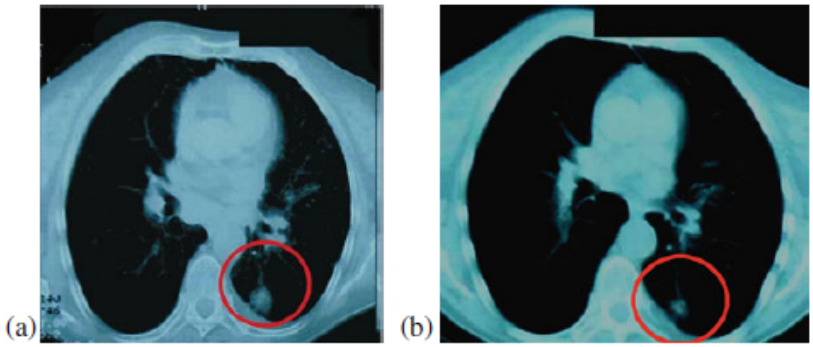


Figure 62. Case of non-small cell lung cancer (NSCLC). Investigator: Prof. A. Herzog; Institute: Fachklinik Dr. Herzog, Nidda, (Bad Salzhausen), Germany. Patient: 66 year old, female. Symptoms: cough, shortness of breath (**a**). Treatment: oncothermia + Irressa (Gefidinib). Results: partial remission (**b**), disappearance of symptoms, improved, good QoL

Non-small cell lung cancer (NSCLC) V.

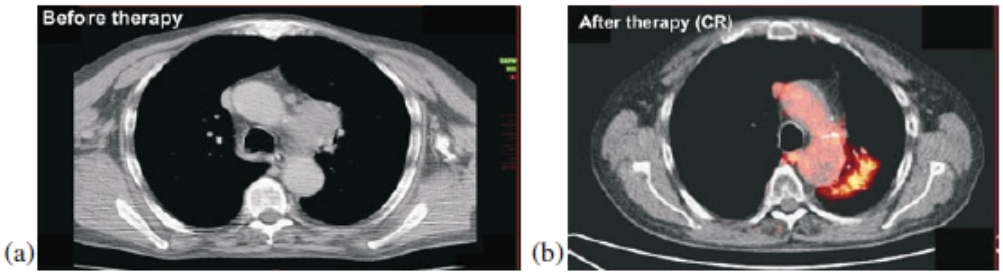


Figure 63. Case of non-small cell lung cancer (NSCLC). Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient 76 year old, male. Tumor-classification cT3 cN2 G3 (**a**). Therapy: trimodal; radiotherapy, 50.4 Gy; (5×1.8 Gy/weeks), chemotherapy, Cisplatin + oncothermia (12 sessions). [Control: CT: 1× in every 3 months; PET-CT: 2× in every 9 months.] Result: complete remission after 3 months (**b**)

Oligodendroglioma

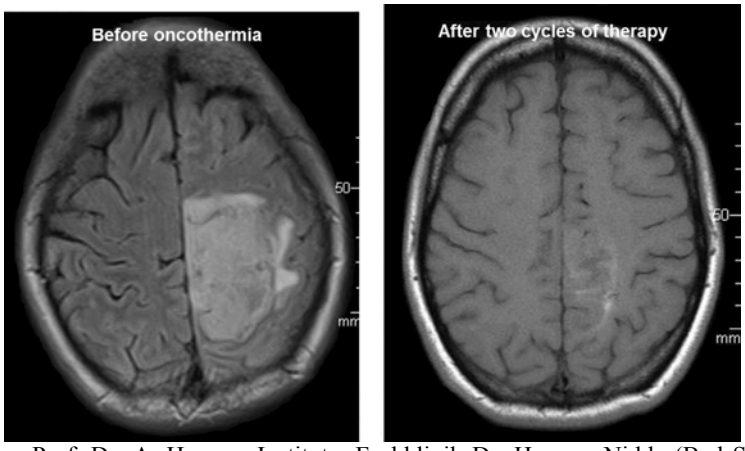


Figure 64. Investigator: Prof. Dr. A. Herzog; Institute: Fachklinik Dr. Herzog, Nidda (Bad Salzhausen), Germany; Patient: 35 y, female; Diagnosis: Oligodendroglioma WHO grade II; Symptoms: Increased numbness and weakness of the right foot, often focal-epileptic eizures; Prior therapy: PVC: partial remission (PR), Temodal (no change, NC); Treatment: Regional chemo-perfusion ACNU 100 mg; (Prof. Vogl, Frankfurt), accompanied by several sessions of oncothermia. Temporary double vision after the first treatment; Control: MRT-Brain; Result: very good partial remission (PR) after two cycles of treatment. Complete resolution of symptoms, good quality of life

Pleomorph sarcoma recurrence

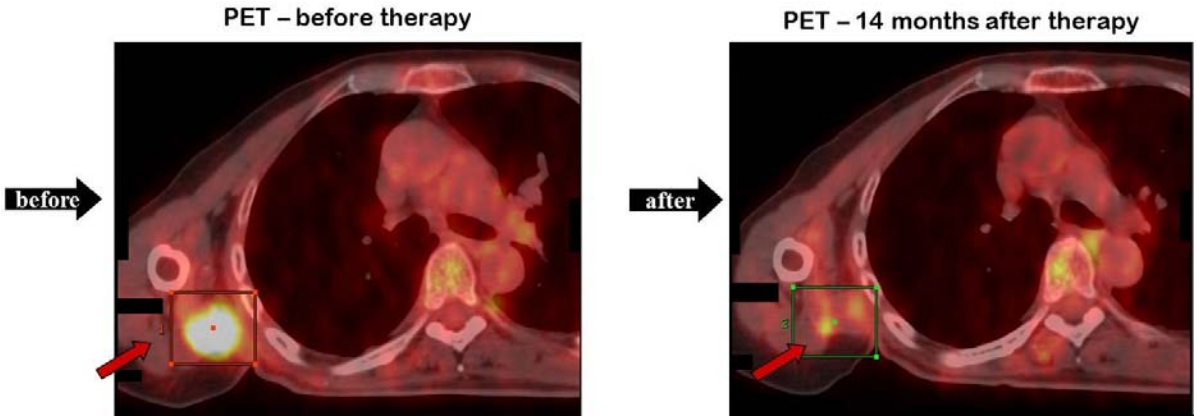


Figure 65. Investigator: Prof. H. Kirchner; Institute: Department of Hematology & Oncology, Hospital Siloah, Hannover, Germany; Patient: 60, female; Diagnosis: Pleomorph Sarcoma / MFH re. Thoraxwand; Radikale

Tumorextirpation; Adjuvante Radiatio 50.4 Gy; Lokal-recidiv, Lung-infiltration; Therapies: Radiation →Local-recidiv; Chemotherapy MAID-Schema (2 sessions); Radiation paravertebrale RF BWK 10; 2 sessions high-dosis Adri / IFO + Stem-cell rescue; Result: minor Remission11/05 Atypical Resection Lung-partly; Scapulotomie, partly. Rippenresection, Thoraxwand-resection; Keilresektion li.; Result: Histology tumor-free; Recidiv: paracardial, right shoulder, Avastin, Ixoten, + Oncothermia; paracardial, (shoulder); Result: good PR, (PET-approved); better QoL

Prostate carcinoma

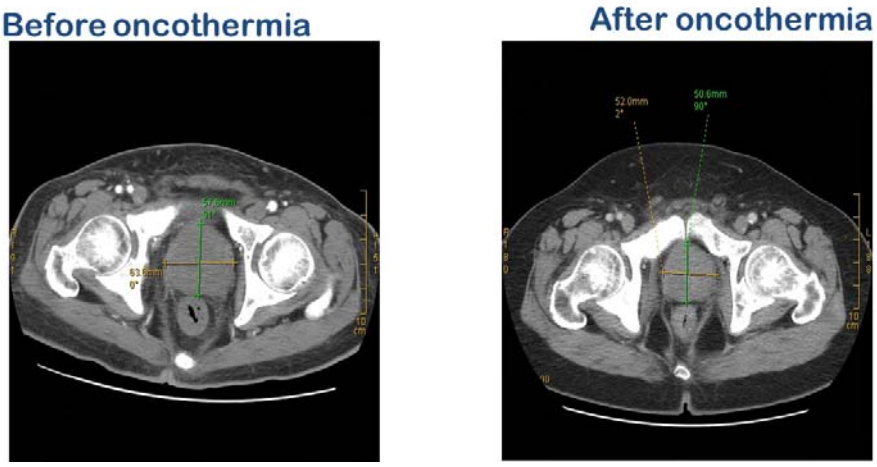


Figure 66. Investigator: Prof. Clifford L. K. Pang; Institute: Clifford Hospital; Patent: Male, 75 years old; Histology: Diagnosed with carcinoma of prostate, stage IV, with multiple metastases of lung, pleura and bones. Pathological report: moderately differentiated adenocarcinoma of prostate. TPSA428.27 ng/ml. Frequent micturition, urgent micturition, odynuria and urination difficulty, blood urine occasionally. Pain in lumbosacral area, VAS 6, and insomnia.; Treatment: Treated with Oncothermia in combination with Chinese medicine. Alogn with the integrative treatmetns of chelation, medical ozone, acupuncture, nutritional therapy, Qigong, Taiji, etc. Rechecked every 3 months. The volume of prostate reduced and TPSA decreased gradually; Results: According to the recheck results: the symptoms disappeared. TPSA 21.06 ng/ml, VAS 0. Recheck results: TPSA 18.56 ng/ml, VAS 0

Prostate carcinoma and colon metastasis

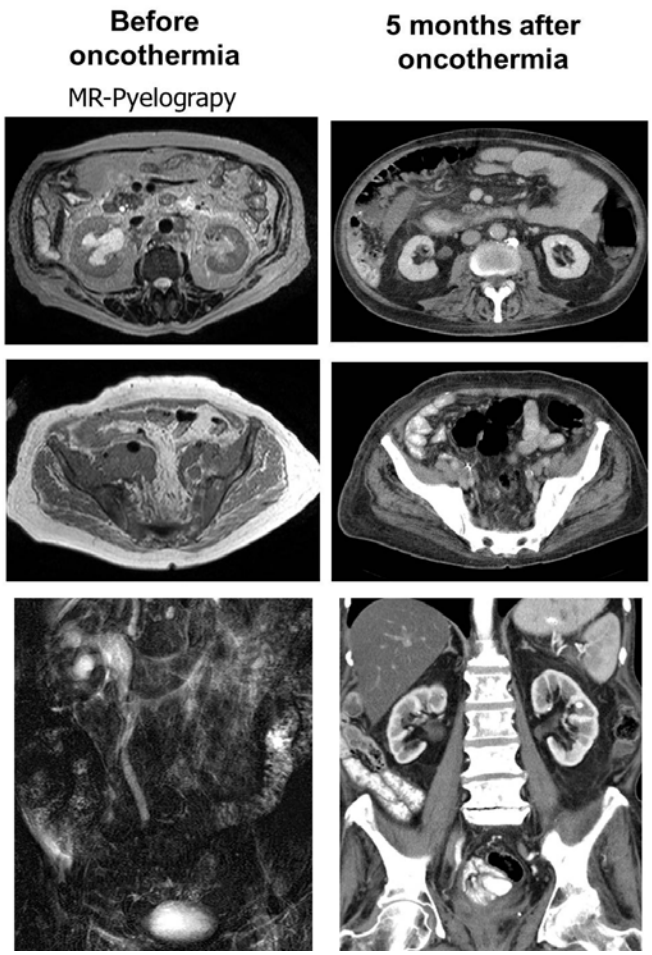


Figure 67. Investigator: Dr. W-P. Brockmann; Institute: Dr. W-P. Brockmann Institute OncoLight, Hamburg, Germany; Patient: 75 years old, male; Primer-tumor: Prostate carcinoma and colon metastasi.; Tumor-stage: PSA 136, CEA 37.; Treatment: 130ml BK-RiV + Oncothermia, together with den dritic cell therapy; Result: Partial remission, PSA 7, CEA 10

Rectum carcinoma I.

A case of rectum carcinoma treated by oncothermia is shown in the below figures.

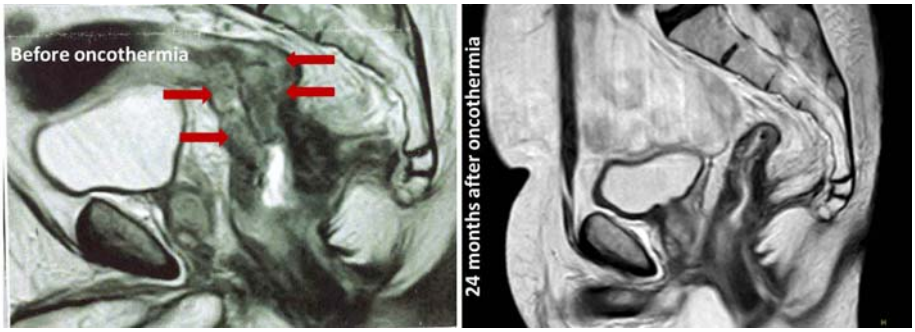


Figure 68. Invastigator: Prof. Dr. A. Herzog; Institute: Fachklinik, Dr. Herzog, Nidda, (Bad Salzhausen), Germany; Patient: 68 y, male; Diagnosis: Rectum carcinoma, wach&wait, no treatment, consequence: bowel obstruction, AP plant, Symptoms: intestinal obstruction, pain; Treatment: chemothereapy FOLFOX accompanied by several sessions of oncothermia (neodajuvant radio-chemo-therapy [Capezitaine]. Shift-back AP, recurrence free!; Result: good partial remission (PR), no pain, good follow-up

Rectum carcinoma II.

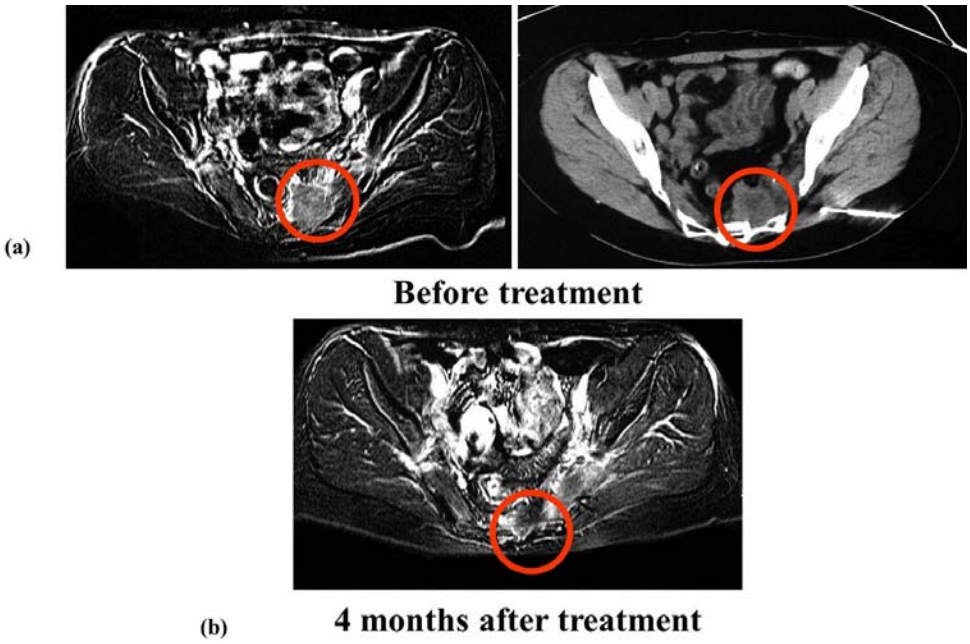


Figure 69. Case of inoperable rectum carcinoma. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 36 year old, female, Histology: Neuroendocrine carcinoma; Tumor-classification: rcT4 cN0 M0 G4 R2, (**a**). Treatment: trimodal protocol; radio- therapy 45 Gy, + Chemotherapy, Cisplatin, + oncothermia, 60 min, (14×, 3/week, electrode 20cm). Result: partial remission (PR) **(b)**

Rectum carcinoma III.

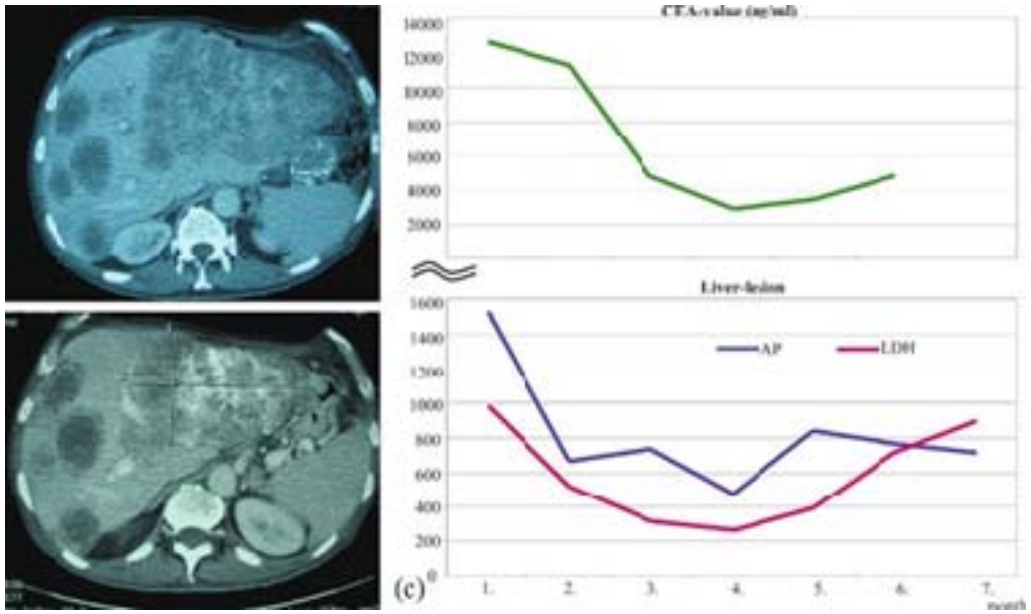


Figure 70. Case of hepatic metastasis of rectum carcinoma. Investigator: Prof. H. Kirchner. Medical Department III. (Hematology & Oncology), Hospital Hannover-Siloah, Hannover, Germany. Patient: 56 year old, male. Tumor classification: pT3c, pN2, M1 G2 (Liver). Therapies: surgery: OP anterior rectum resection, followed by Campto, Leukovorine, 5-FU (**a**) + oncothermia on liver Result: no change, (NC) (**b**), but good improvement of the tumor-marker (**c**) and good QoL

Recurrent astrocytoma

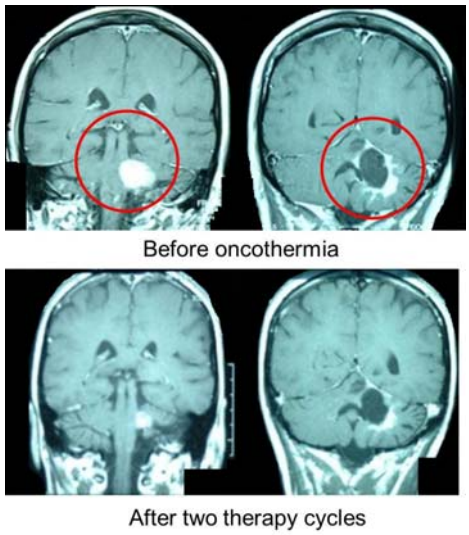


Figure 71. Investigator: Prof. Dr. A. Herzog; Institute: Fachklinik dr. Herzog, Nidda (Bad Salzhausen), Germany; Patient: 32 y, female; Symptoms: Dizziness, unsteady gait, weakness, impared fine movement of fingers, left facial paralysis; Diagnosis: Anaplastic astrocytoma; Treatment: 1. line: Surgery (complete), recurrence; 2. line: Repeated surgery, radiation second recurrence; 3. line: reoperation, radiation again; 4. line: third recurrence, Chemotherapy, 2x BCNU, progress; 5. line: Oncothermia + Temodal (150 mg/m2, days 1-5 every week, four weeks; Result: Partial remission (PR); reformed mobility, patient knits again

Recurrent cervix carcinoma

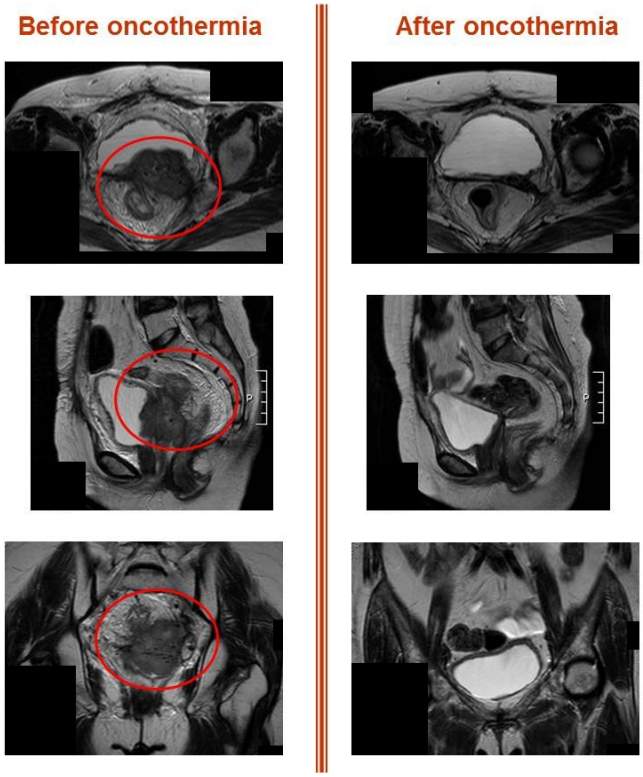


Figure 72. Investigators: SG Jung, H Park, SY Lee, C Lee, ST Park, SJ Kim; Institute: Comprehensive Gynecologic Cancer Center, CHA General Hospital, College of Medicine, CHA University, S.Korea; Patient: 55 y, female, Primer-tumor: Cervix carcinoma; Tumor-stage: IIB, SCC, LK; Treatment: NCT -> RAH c BPLND c BALND -> CCRT; Result: recurrence; Treatment: ACT (VBP #9) + oncothermia #12;Result: Complete remission (CR), no evidence of disease (NED); Follow-up: Continues

Recurrent glioblastoma

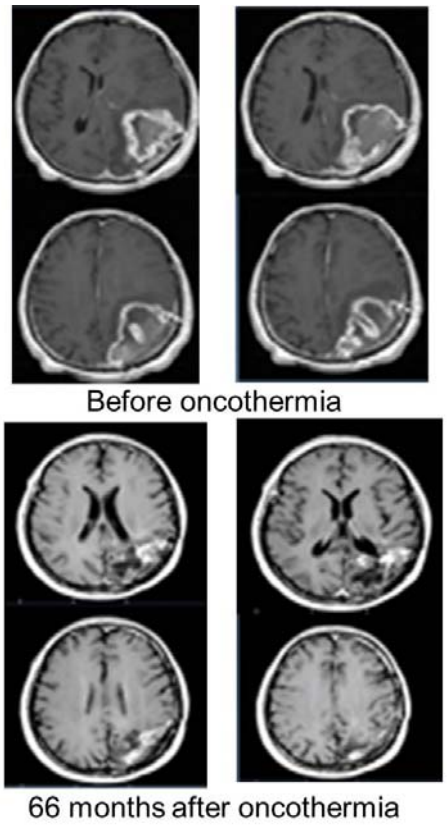


Figure 73. Investigator: Dr. A.Gramaglia, Dr. G.Parmar, Institute: Integrated Health Clinic, Fort Langley, B.C., Canada, Patient: male, Diagnosis: Glioblastoma multiforme. Treatment: The patient then underwent RT (45 Gy CFRT in 18 fractions) followed by a boost CFRT to reduced target (20 Gy in 4 fractions). He then started and continued Temodar (10 cycles) until progression. This was followed by 2 cycles of ACNU, until progression. He was then started on lonidamine and oncothermia. The initial cycles were done at 45 day intervals, then after an initial good response and apparent stabilization, the GBL progressed the treatment was done at larger intervals of up to 9 CT+oncothermia. The treatment was as follows: 12 mg/m2 IV + steroids in glucose solution and on day 1200 mg of Quercetin p.o. one hour before oncothermia, and repeated at least four hours later. From days 2 to 5 the patient underwent 4 consecutive days of more oncothermia and quercetin treatment (100 mg before and after completion of oncothermia). Oncothermia was delivered by means of a 13.56 MHz radiofrequency capacitive device (Synchrotherm Duer) via two opposite plates at the maximum tolerated power for at least one hour for five consecutive days. Due to progression we decided to begin 20 mg of Caelyx® i.v. + oncothermia, with the following schedule: after i.v. injection of Caelyx® an oncothermia application lasting 1 h was done. Following the oncothermia treatment every day were applied for 10 times and a partial regression and stabilization was obtained, Result: partial remission (PR); reformed mobility. Published: Gramaglia A, Gurdev P, Marco B, Cassuti V, Baronzio G: Liposomiated doxorubycyn (ld) and hyperthermia on glioblastoma relapsing after surgery, radiotherapy and two chemotherapy lines: a case report, ICHS, Budapest, Hungary, 2012

Recurrent stomach cancer

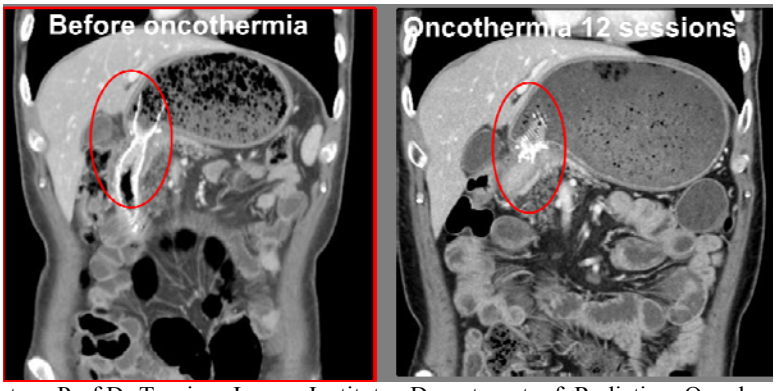


Figure 74. Investigator: Prof.Dr.Taesing Jeung; Institute: Department of Radiation Oncology, Kosin University, College of Medicine & Kosin University Gospel Hospital.; Patient: 50 y, male; Published: 31st ICHO Oct. Budapest; 2012; Stomach Ca and op; Recurrent Ca; RT 30 Gy; 0ncothermia monotherapy 12 sessions

Renal cell carcinoma

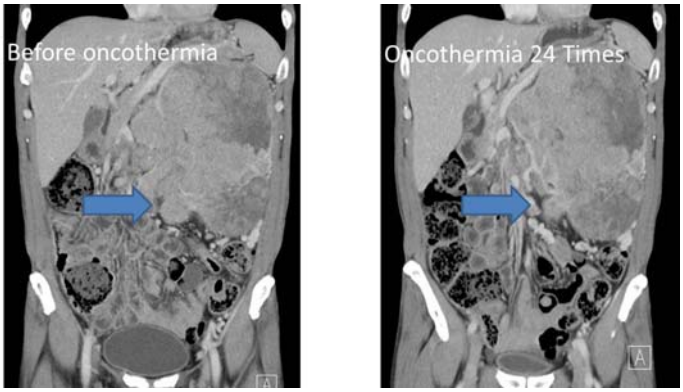


Figure 75. Investigator: Prof.Dr.Taesing Jeung; Institute: Department of Radiation Oncology, Kosin University, College of Medicinen University Gospel Hospital. Patent: 61 y, male; Diagnosis: Renal cell carcinoma; Treatment: Dx, No Tx except oncothermia (monotherapy), Oncothermia 24 times; Published: 31st ICHO Oct. Budapest; 2012

Sigma carcinoma

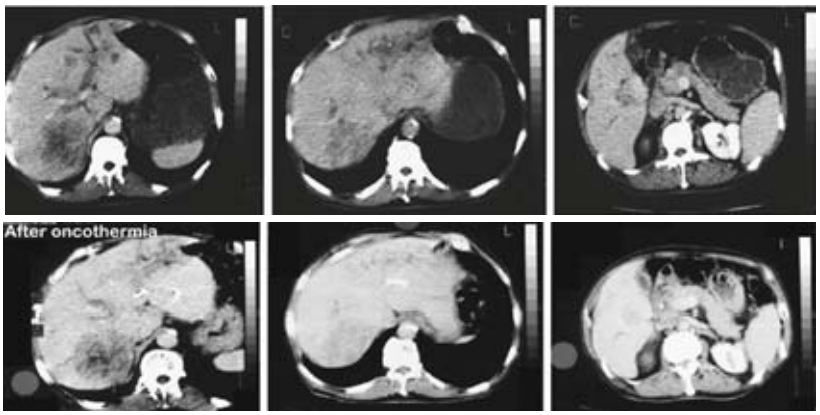


Figure 76. Case of hepatic metastasis of sigmoid carcinoma. Investigators: Prof. D. Grönemeyer, & Dr. H. Sahinbas. Institute of Microtherapy, University Witten-Herdecke, Bochum, Germany. Patient: 61 year old, male. Metastasis: hepatic. Tumor-classification: pT3 N1 M0; Size: 4×5 cm; Therapy (for metastasis): oncothermia. Result: partial remission (PR) tumor and tumor marker regression

Small cell lung cancer

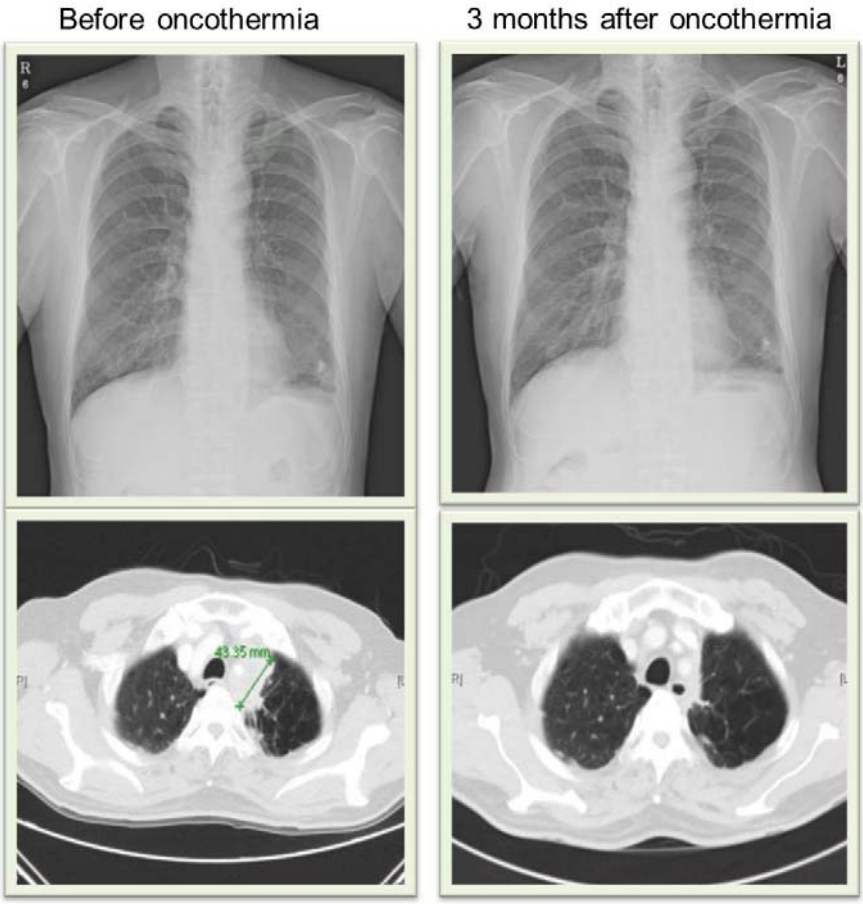


Figure 77. Investigator: Prof. Dr. Doo Yun Lee; Institute: Gangnam Severance Hospital, Yonsei University, Seoul, S. Korea; Patient: 66y, male; Diagnosis: small cell lung cancer (SCLC); Treatments – Chemotherapy EPS #2, Oncothermia: 2x/week, 1 cycle; Results: Good partial remission (PR)

Stomach carcinoma

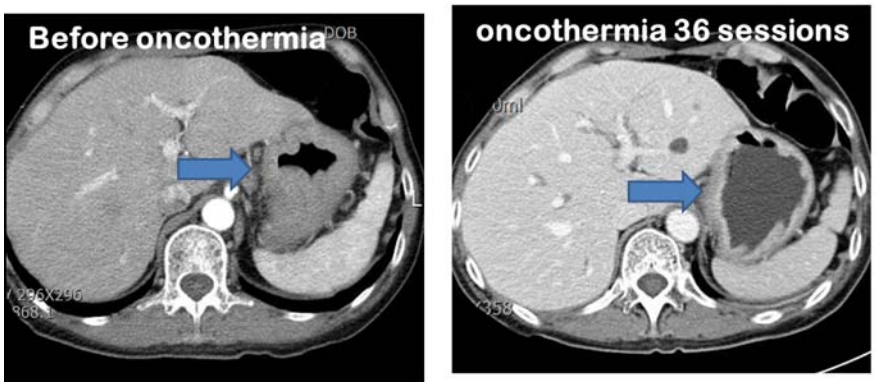


Figure 78. Investigator: Prof.Dr.Taesing Jeung; Institute: Department of Radiation Oncology, Kosin University, College of Medicine & Kosin University Gospel Hospital.; Patient: 54y/F; Published: 31st ICHO Oct. Budapest; 2012; Stomach Ca, No chemoTx, oncothermia monotherapy, HT 36 times

Stomach metastases

Stomach metastasis in liver was not observed for a few months. After its detec- tion chemotherapy kept the metastasis unchanged. A few oncothermia treatments were concomitantly applied afterwards, and the stable condition was continued. By intensifying the oncothermia treatments (more frequent and later higher doses) the liver metastasis started to shrink, and a good partial remission was achieved. A year after termination of oncothermia progression of the liver metastasis was detected again.

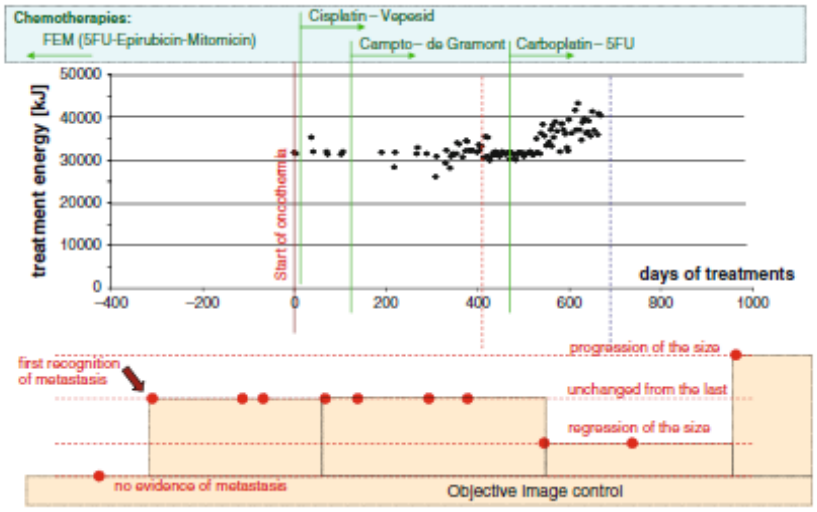


Figure 79. Case of hepatic metastases of stomach tumor as primary. Investigator: Dr. A. Csejtey. Markusovsky Hospital, Szombathely, Hungary, Patient: 48 year old, male. Therapy for primary: FEM (5FU, Epirubicine, Mitomycin-C). Follow-up: no evidence of metastasis (400 days), but afterwards metastases appear in liver. Therapy for metastasis: Cisplatin + Vepesid + oncothermia; followed by Campto + oncothermia; and after Carboplatin + 5-FU + oncothermia. (Notes: green points indicate the chemotherapies, the blue points are the individual oncothermia treatments showing its treatment energy in kJ, the red points show the objective image control by MRI.)

Tongue-base cancer I.

One of the treatments of the salivary glands and the tongue-base is shown in below figures.

Figure 80. Case showing practice: treat tongue-base cancer. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Bimodal therapy, oncothermia with radiotherapy. Fixing for radiotherapy (**a**) and for the oncothermia (**b)**

Tongue-base cancer II.

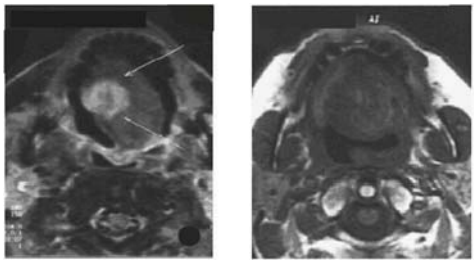


Figure 81. Case of tongue-base carcinoma. Investigator: Dr. W-P. Brockmann Institute OncoLight, Hamburg, Germany. Patient: 57 year old, female. Treatments: surgical resenction and postoperative radiation 60 Gy. After it recurrence (a). Refusal of glossectomy. Trimodal therapy is applied: radiotherapy 36 Gy, chemotherapy: Carboplatine, and oncothermia 2–3 times a week, 10 sessions, 60 min/each. Result is complete remission (CR) (b). Follow up 7 months, no relapse

The case was investigated by Prof. H. Renner, in Praxis at Klinikum Nord, Nürnberg, Germany. The patient was 46 years old, male, with tongue-base cancer. It was inoperable, histological squamous cell carcinoma having metastases: cervical lymph nodes. Tumor classification: cT3 cN2b M0 G2 R2. The applied treatment was a trimodal protocol: radiotherapy: 61 Gy, PT+LA + interstitial PT 19.2 Gy, Chemotherapy: Cisplatin + 5-FU, Oncothermia: 60 min, diam. 10 cm, (14×, 2/week). Result: CR March 2003, with follow-up till recidiv involved cervical lymph nodes.

Another tongue-base treatment (Investigator: Dr. Brockmann W-P. Institute OncoLight Hamburg, Germany, Patient: 57 years old, female, Diagnosis: Tongue- base cancer, Therapy (1): surgery: resection; radiotherapy: postop. 60 Gy. Result (1): recurrence – refusal of glossektomie. Therapy (2): radiotherapy; 36 Gy (2 ×1.2 Gy/day); chemotherapy: Carboplatin 10 × 60 mg; Oncothermia: 2–3/week, 10 treatments, 60 min each. Result (2): complete remission Follow-up: no relapse for a year. The main emphases of oncothermia applications are in the most common and aggressive gastrointestinal tumors, like esophagus, stomach, pancreas, colon, rectum and their metastatic situations.

Tonsils carcinoma

Figure 82. Investigator: Prof. dr. A. Herzog; Institute: Fachklinik Dr. Herzog, Nidda (Bad Salzhausen), Germany; Patient: 55 y, female; Diagnosis: Tonsils carcinoma (squamous), lymph and pulmonary metastases; Treatment: Oncothermia & chemotherapy; (6x Mitomycin und 5-FU, 2x Cisplatin / 5FU); Results: partial remission, symptoms disappeared, no complains

Tumor of sinus sphenoidalis

The near-eye application needs special attention and control, because the eye could be easily damaged by heat. The direct RF-radiation can cause temporary or permanent blindness. However, as oncothermia does not use high temperatures, the treatment is possible with care. The case-report examples for near-eye localizations are shown in the below figure, [7].

(a)

(b)

(c)

Figure 83. Case of inoperable tumor of sinus sphenoidalis. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 67 year old, male; Histology: squamous epithe- lium carcinoma; Development: complete right opthalmoplegy **(a)**. Therapy: radiotherapy: 54 Gy, fractional + oncothermia (simple regular approach, electrode diameter is 10 cm; 6 sessions, 60 min/each, immediately after radiotherapy) **(b)**. Result: partial remission (PR), spectacular success shows the safety of the method **(c)**

Ulcerative transverse colon

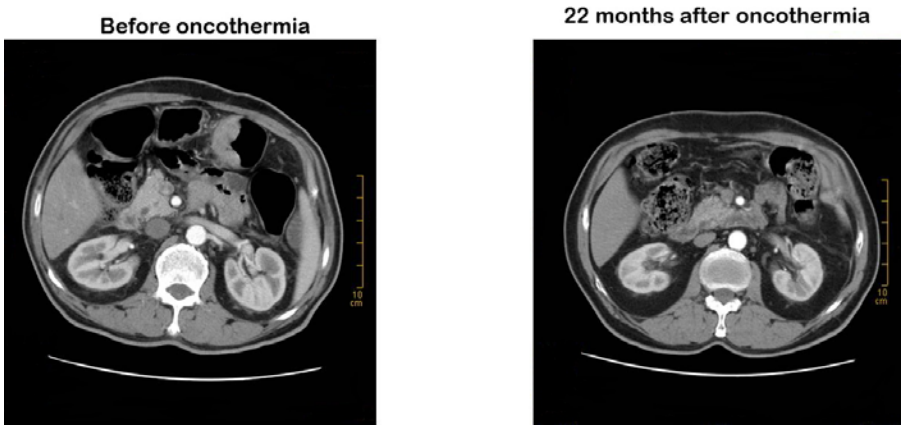


Figure 84. Investigator: Prof. Clifford L. K. Pang; Institute: Clifford Hospital; Patent: Male, 80 years old; Histology: Diagnosed with ulcerative transverse colon with moderately differentiated tubular adenocarcinoma of stage IV (T3N1M1, with lung metastasis). Racical resection of colon cancer was performed; Treatment: Came to Clifford Hospital for non-toxic integrative treatements for cancer after surgery. Treated with Oncothermia in combination with Clifford TCM Immune Booster. Along with the integrative treatments of chelation, medical ozone, acupuncture, nutritional therapy, Qigong, Taiji, etc.; Results: No relapse, no metastasis, good nutritional state, KPS 90, VAS 0~1, increase in body weight: 12 kg since surgery. Normal blood routine and tumor markers results

Ureter-carcinoma

We show a urethra carcinoma case having metastasis in hilus.

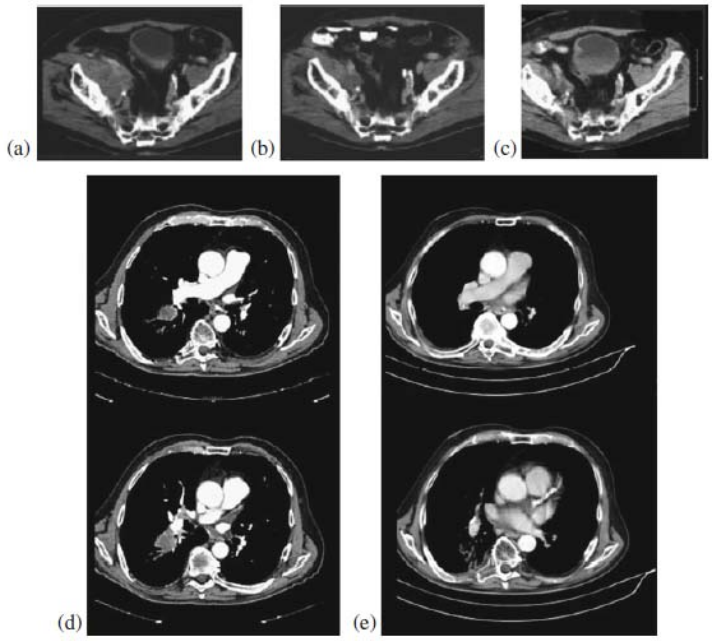


Figure 85. Case of ureter-carcinoma. Investigator: Prof. H. Renner; Praxis at Klinikum Nord, Nürnberg, Germany. Patient: 80 year old, male. Histology: transitional cell carcinoma. Therapy: surgery. Local-recurrence, (**a**). Therapy: palliative radio-chemo-thermo therapy; radiotherapy, 54 Gy, chemotherapy, 1 cycle of Carboplatin + oncothermia (12 sessions, duration 6 weeks). Result: partial remission (PR) (**b**), followed by a complete remission (CR) a year later (**c**). Follow- up: metastasis hilus right (one year after the CR) (**d**); Therapy: palliative radio-thermo-therapy; radiotherapy 51 Gy, (5×1,7 Gyw/eek), + oncothermia (17 sessions; duration: 6 weeks). Result: complete remission (CR) again; (long follow-up, 9 months) (**e**)

Uroepithelium carcinoma

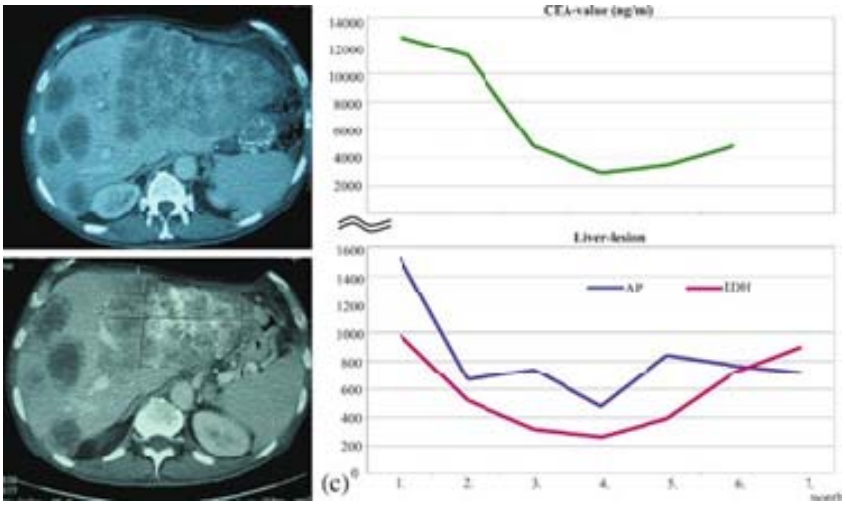


Figure 86. Case of hepatic metastasis of uroepithelium carcinoma. Investigator: Prof. H. Kirchner. Medical Department III. (Hematology & Oncology), Hospital Hannover-Siloah, Hannover, Germany. Patient: 69 year old, male. Surgery: nephroureterectomy, Tumor-classification: pT2 N0 Mx R0 G2. Metastasis: multiple hepatic. Therapy: Gemcitabine/Cisplatin (3 sessions) + oncother- mia (Liver) followed by PNP Gemzar/Carboplatin (4 sessions). Result: good partial remission (PR) of the tumor (>1cm) and tumor marker regressio

Vagina polypoid tumor (planocellular – squamous)

A typical case of polypoid tumors is shown in the below figure.

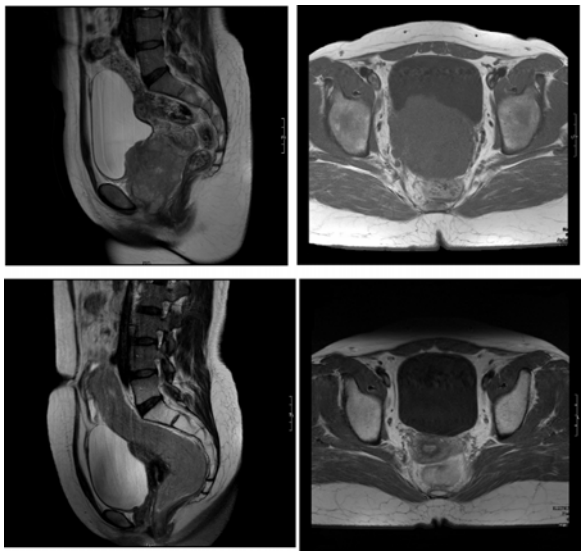


Figure 87. Case of removal of polyploidy tumor on the right wall of the vagina. Investigator: Dr. A. Csejtey, Markusovsky Hospital, Szombathely, Hungary. Patient: 43 year old, female. Histology: planocellular cancer. Huge local/regional recurrence infiltrating the urinary bladder (**a**). Treatment: Radio-thermo-therapy (bimodality) pelvic irradiation: 17×15 cm AP-PA opposed fields, 15 MV photons, daily 2 Gy fractions, total 30 Gy; after it oncothermia (2× weekly pelvic) combined with 6 and 15 MV photon radiotherapy of the same pelvic region from 12×10 and 12×6 cm fields with 4 field box technique, daily 2 Gy fractions, total 26 Gy. Result: considerable regression (**b**), she was able to work again

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