

Skull and Skull Base cryoablation



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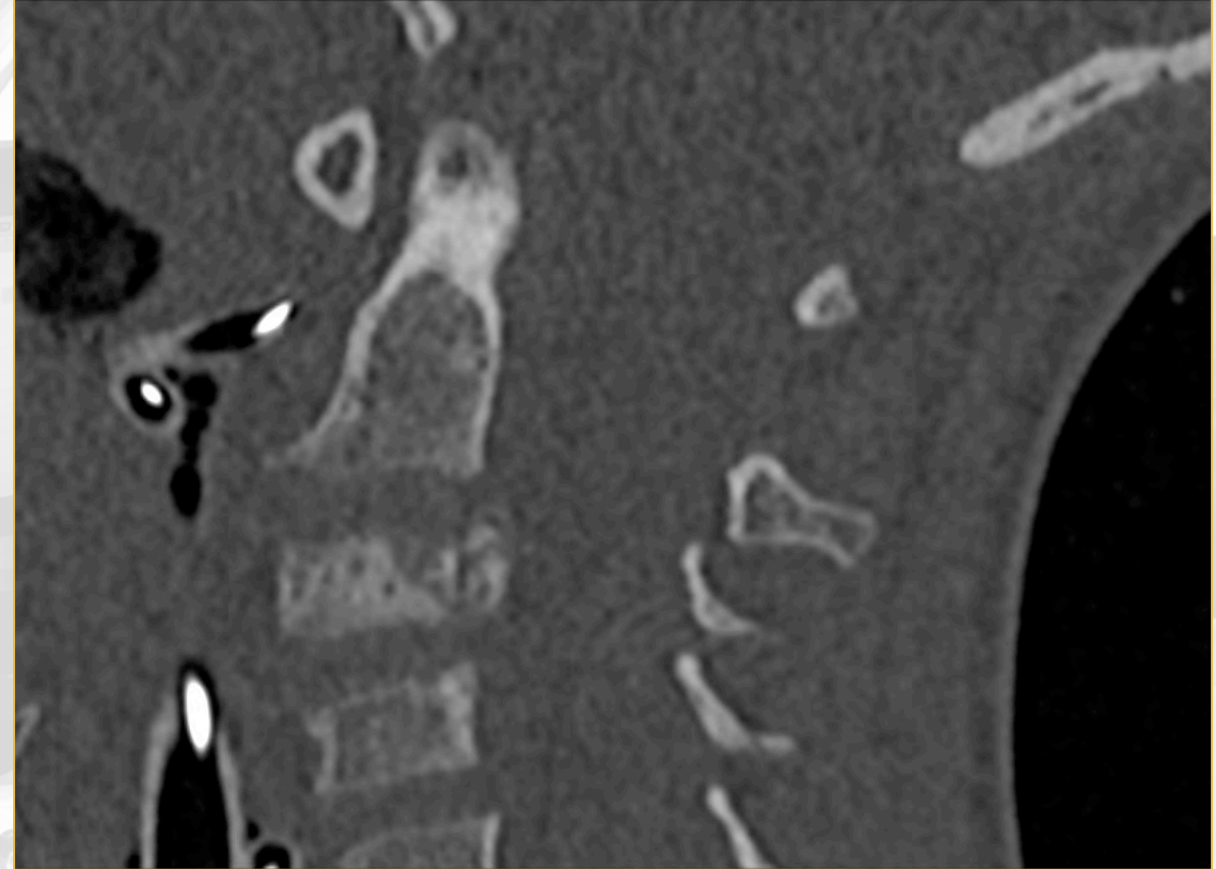
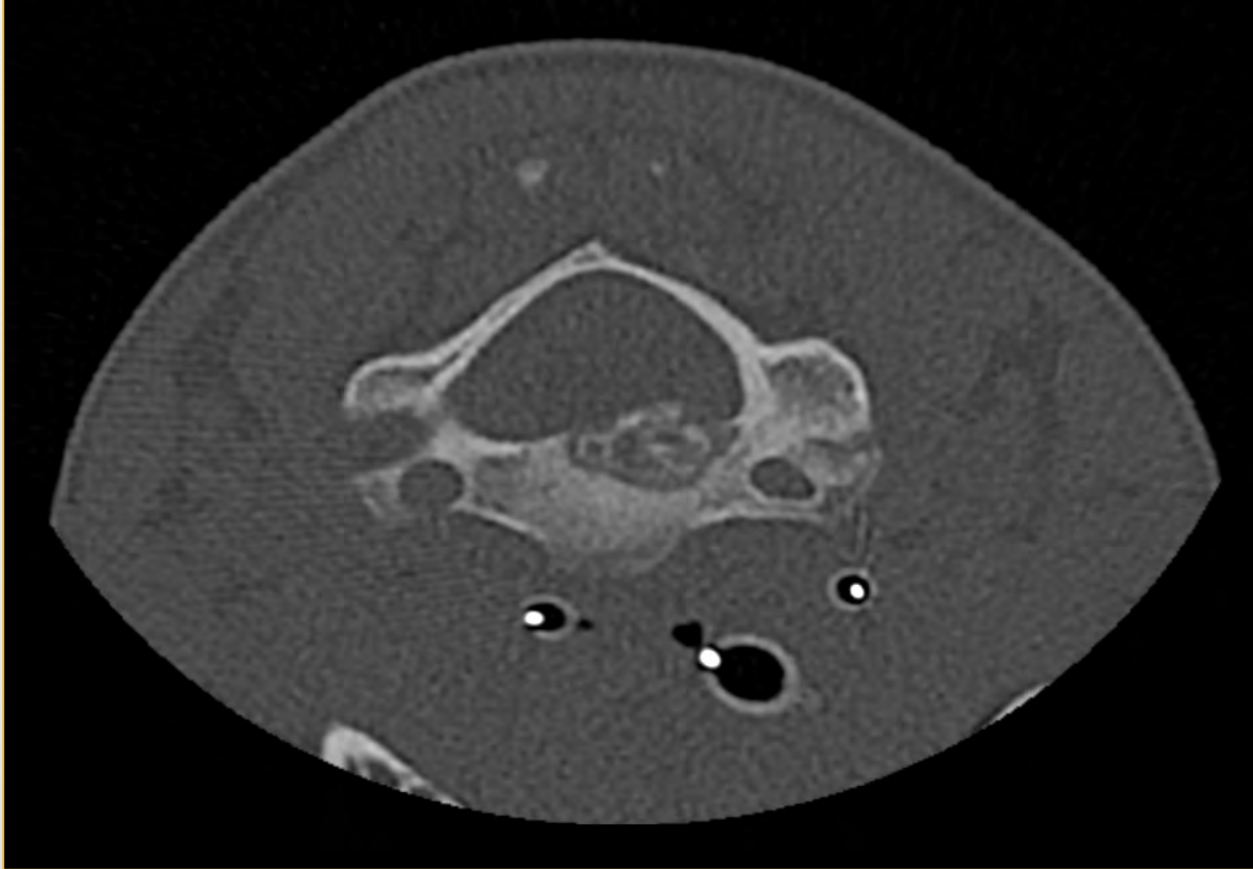
UNIVERSITY HOSPITAL OF STRASBOURG,

FRANCE

Head and neck

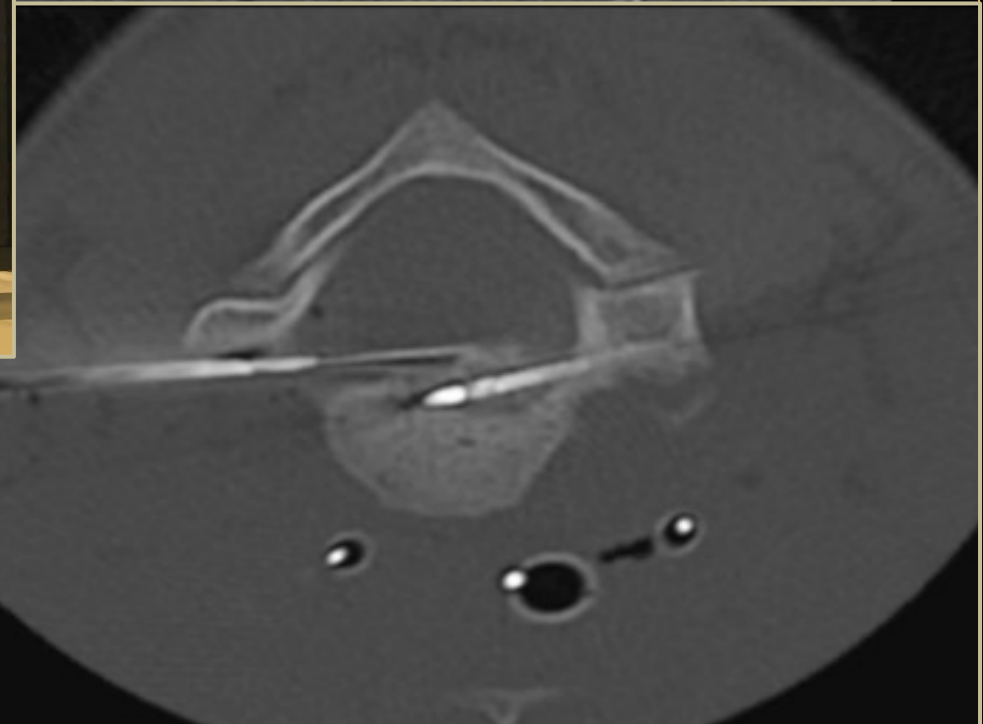
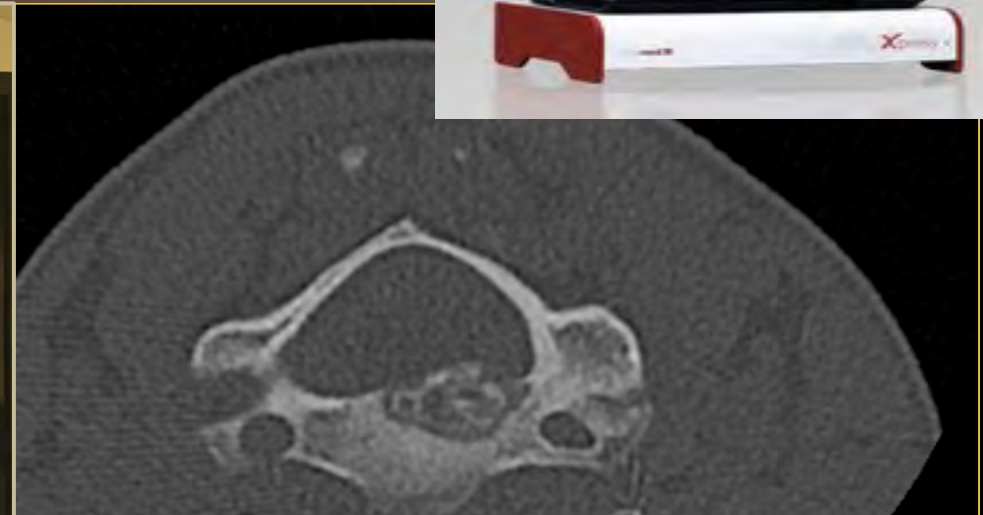


Osteoblastoma C3



- Cryoablation: 1 Icesphere - Protective measure:
 - Hydrodissection
 - Thermocouple
 - Evoked potential

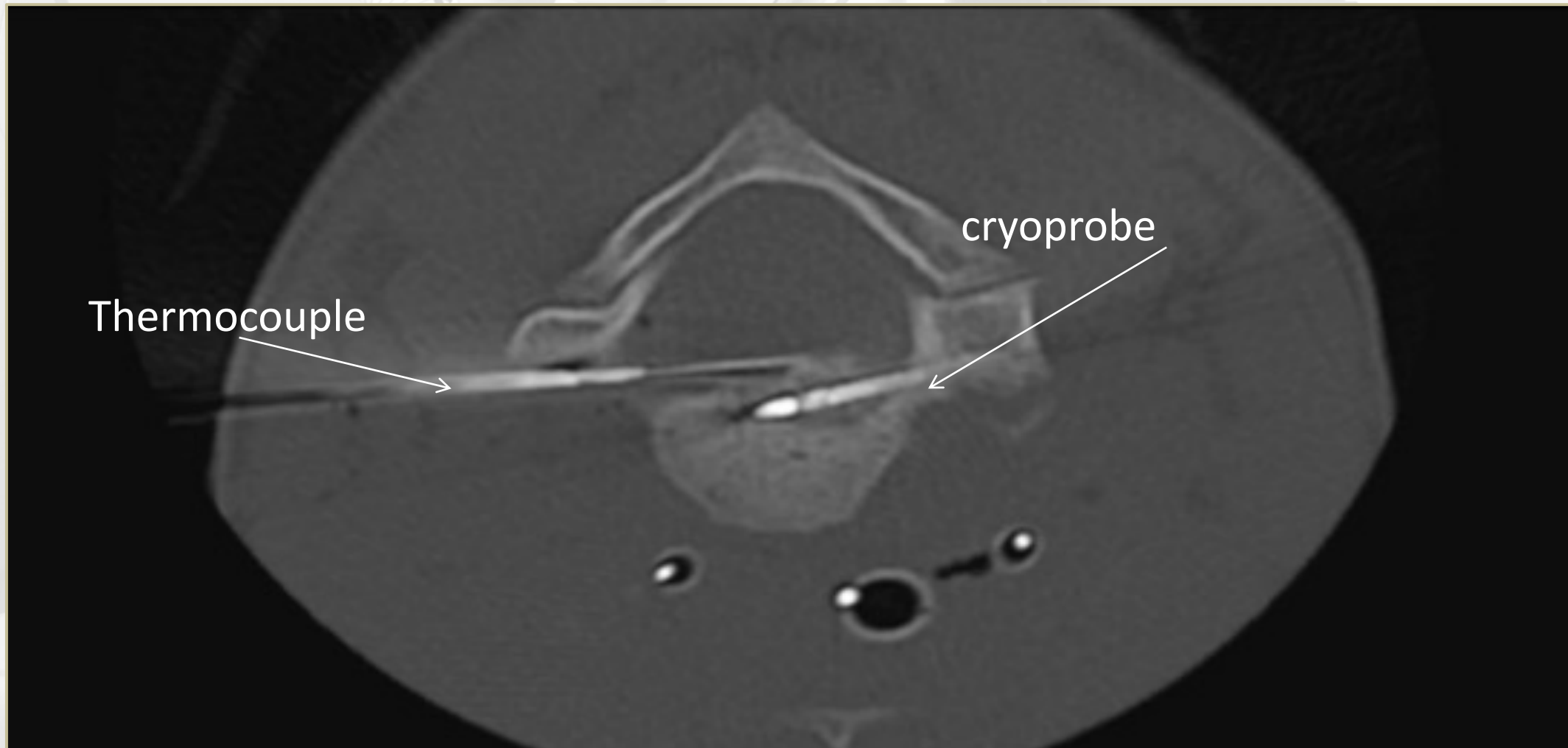
Progress in Neurophysiological Monitoring



Evoked potentials: electrode placement



Osteoblastoma C3



Osteoblastoma C3

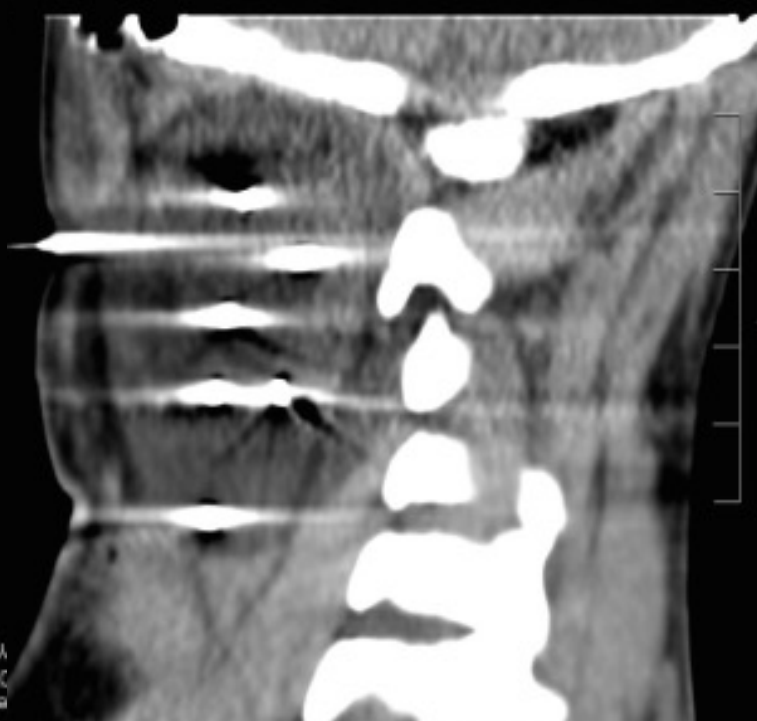
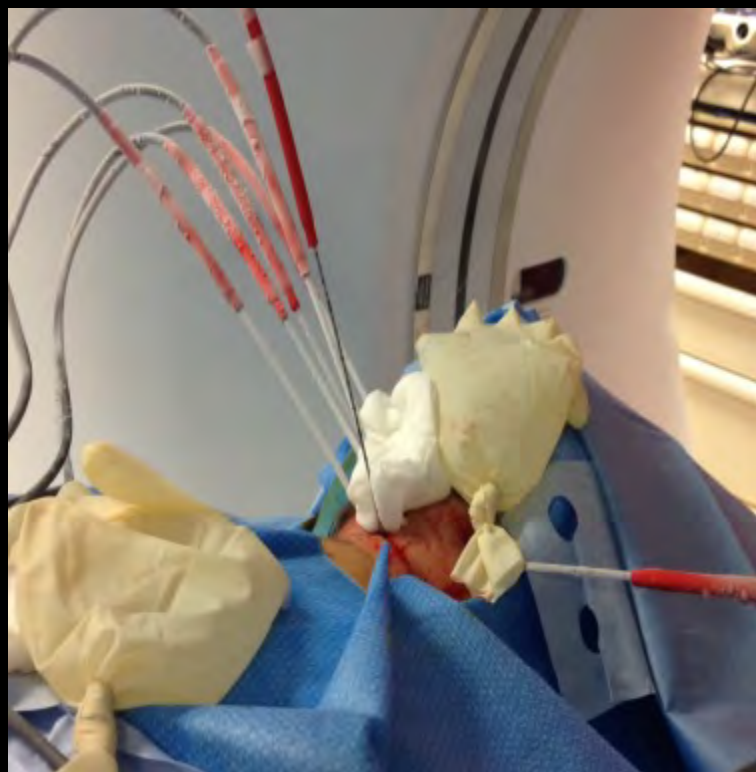


15 y.o. Large desmoid Tumours

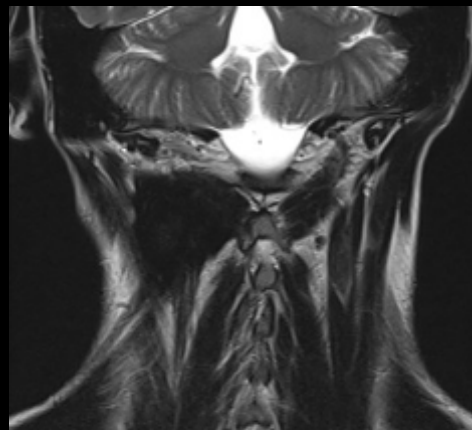
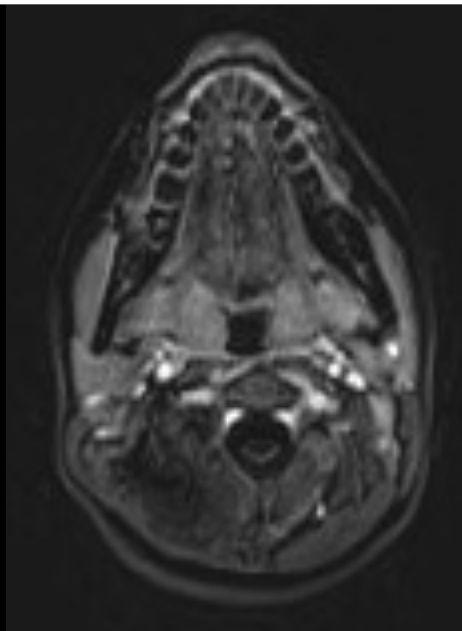
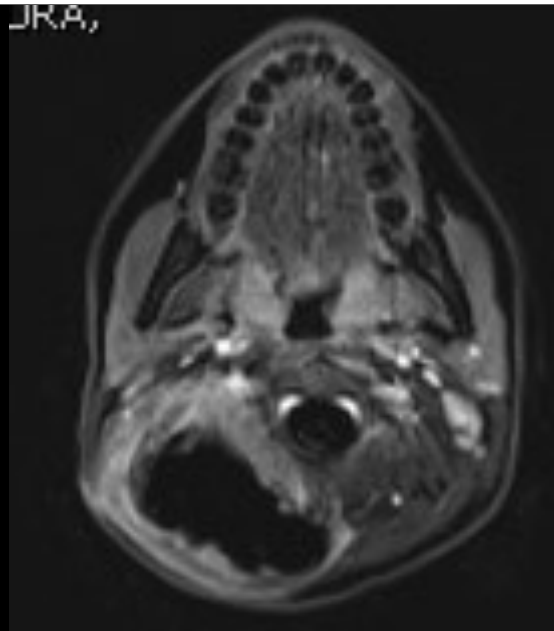
Nexavar

Major Side effects



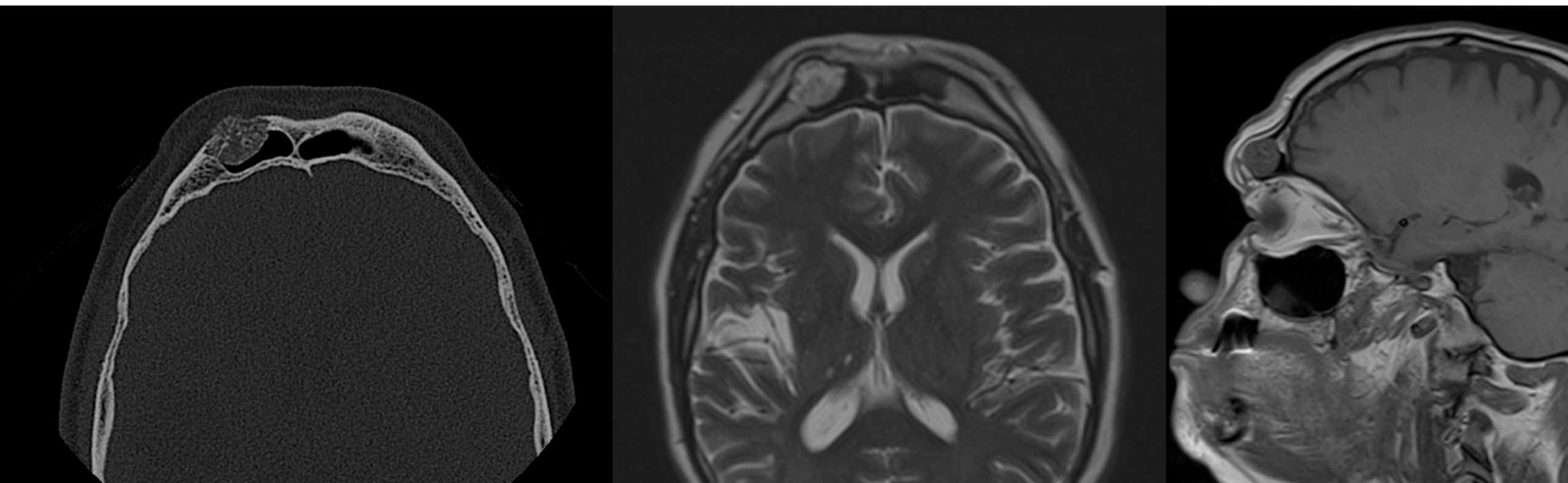


JRA,

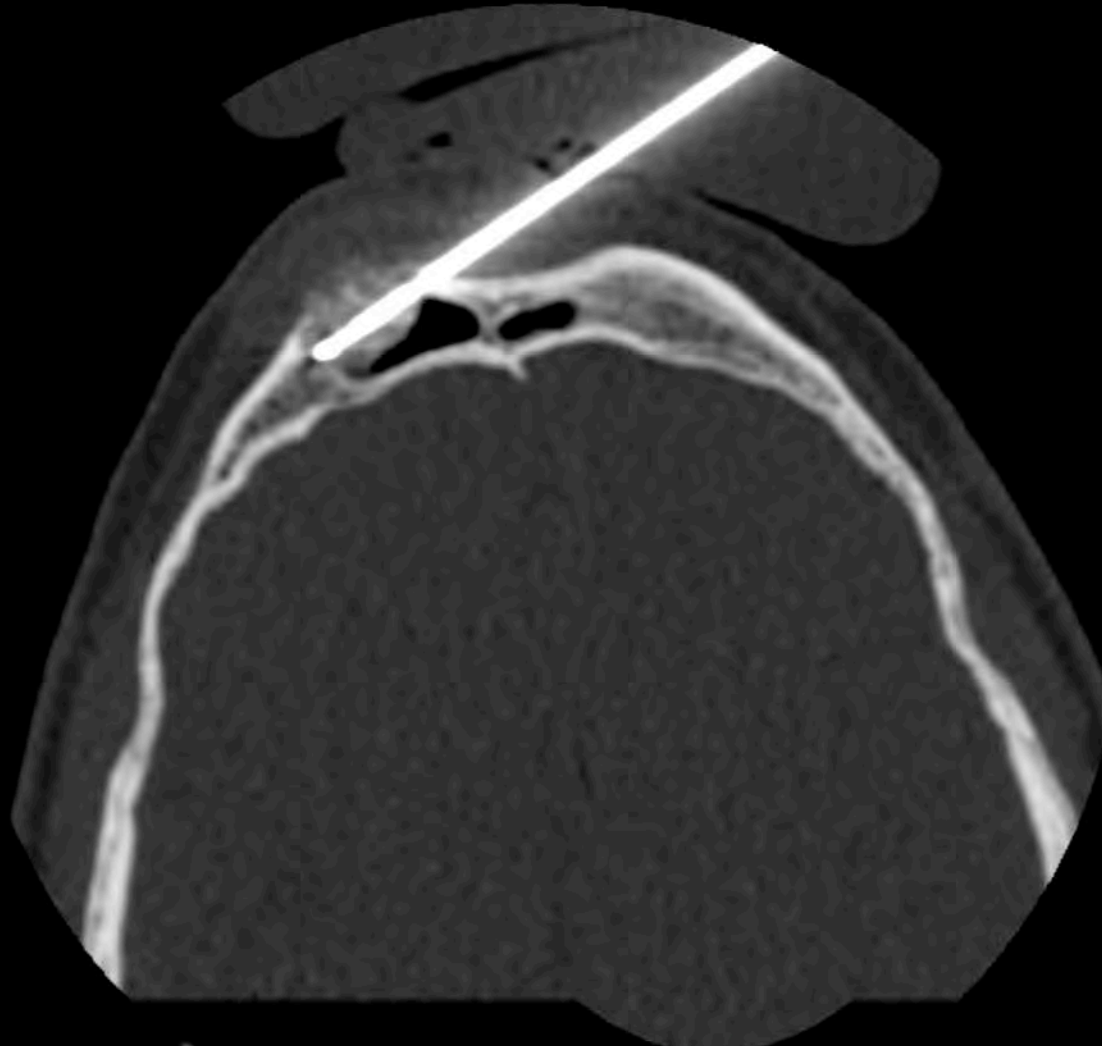


Nexavar stopped

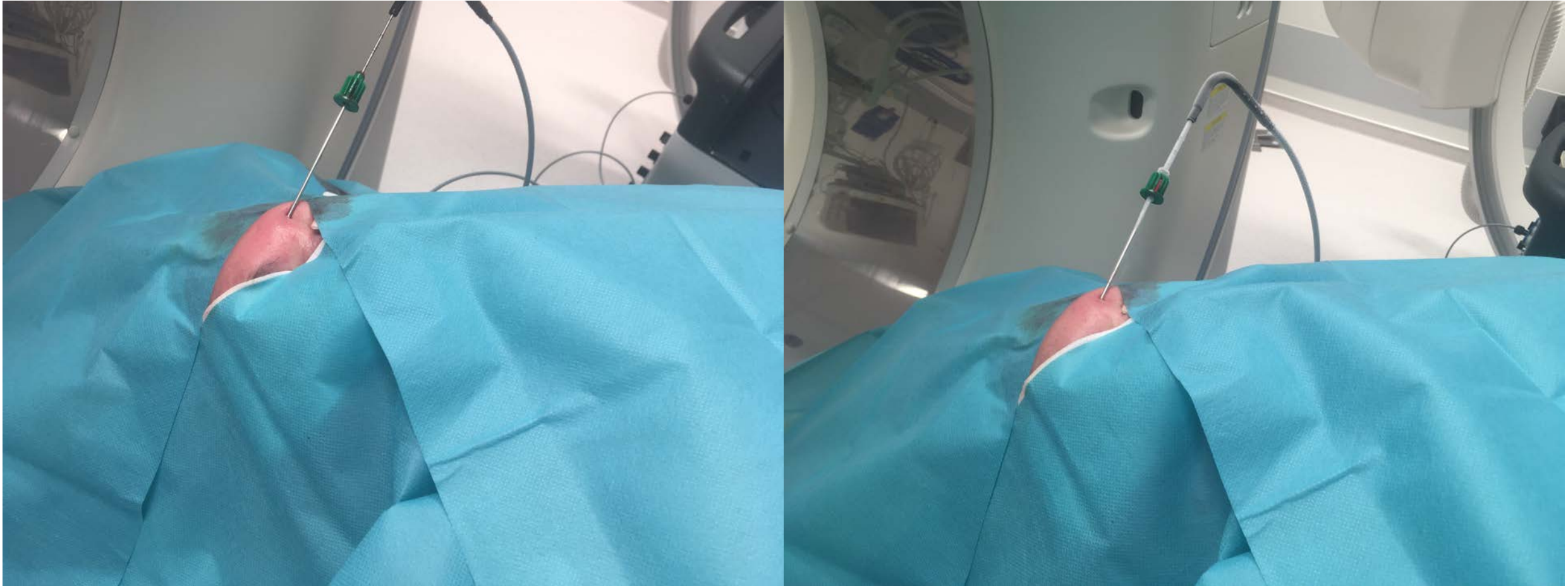
Imaging



Percutaneous Cryoablation



Percutaneous Cryoablation



3 days after Cryo



7 days after cryo



11 ENT tumour treated with cryo

- 8 M and 3 F.
- Mean age 65 YO (37-80).
- Mean tumour volume 3.24 cm³.
- 4 Squamous cell carcinoma, 4 adenocarcinoma, 1 muco-epidermoid carcinoma, 1 adenoid cystic carcinoma and one esthesioneuroblastoma
- 10/11 previous surgery, 7/11 previous chemo, 3/11 prior radioT
- 16 Cryoablation were performed, 10 for complete ablation. Mean Follow-up 11.7 months

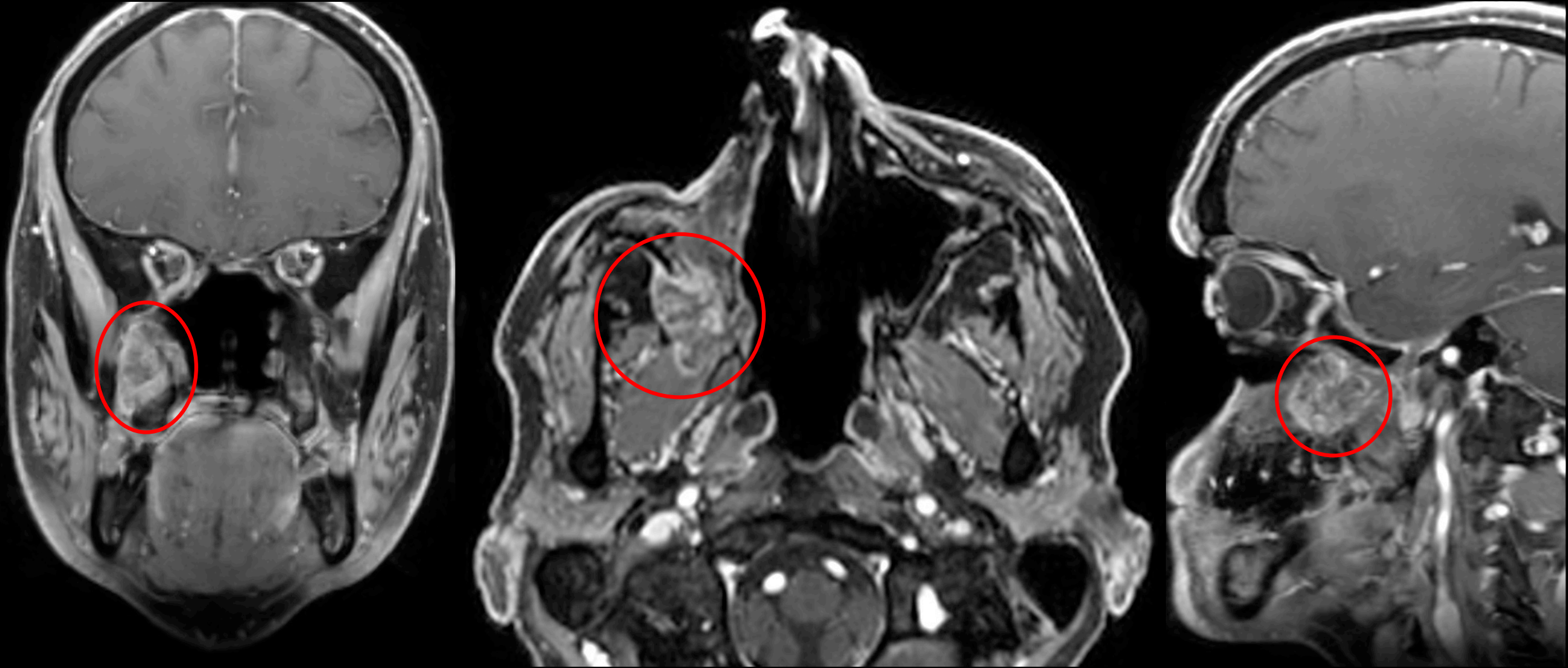
RESULTS

- 5 treated with no recurrence: local control rate of 45.4%.
- 3 tumours 25% local control was not obtained.
- 1 patient died before MR control.
- Two major complication: inhalation pneumopathy and one dysphonia due to recurrent nerve injury

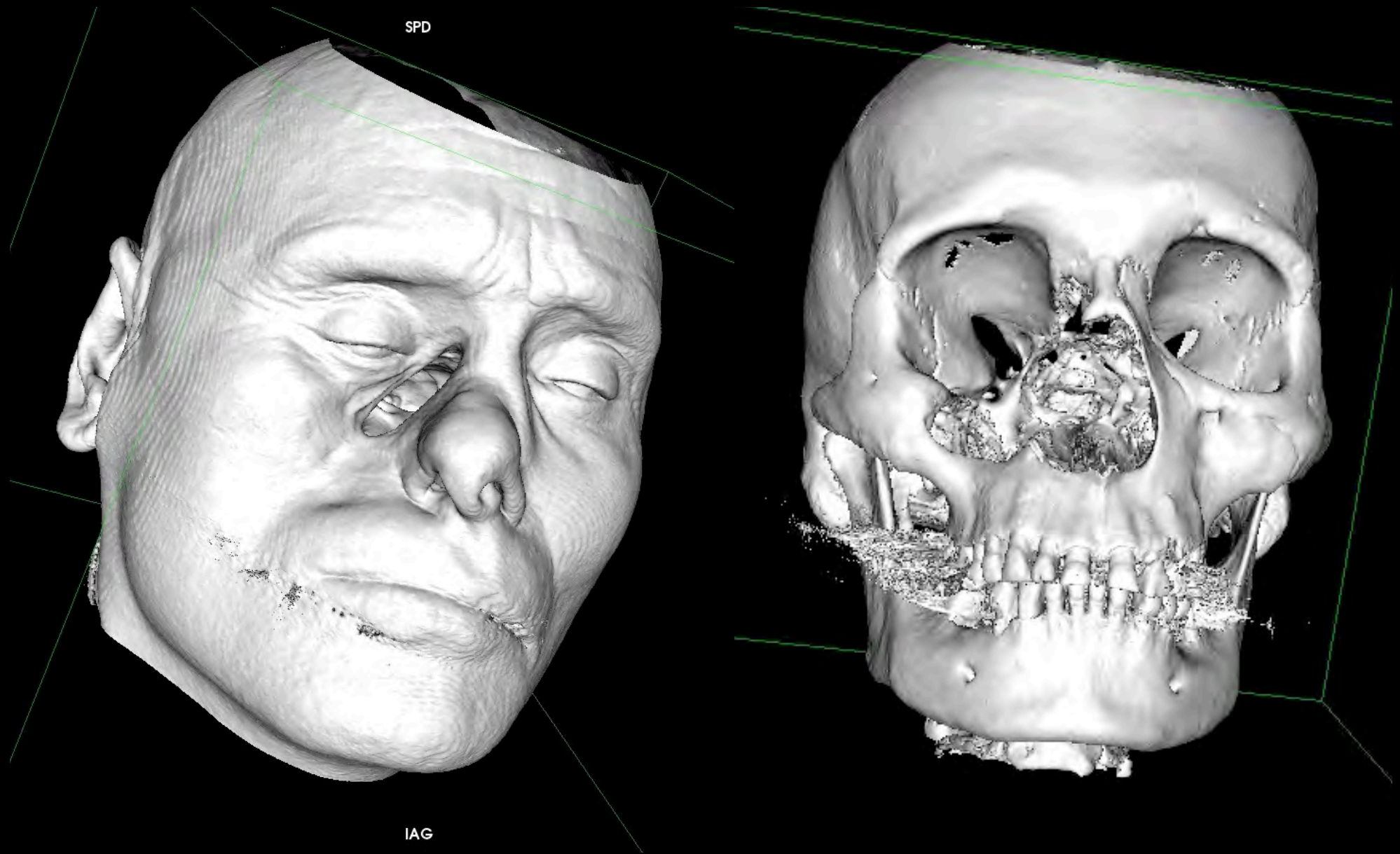
Intra sinusal frontal hemangioma

- 54 year old male
- Painful frontal angioma, pain level 4-5 / 10 with paroxysm at 7-8 / 10 on VAS
- Increase in height over the last year with increased pain

Ablation of Skull base Tumour

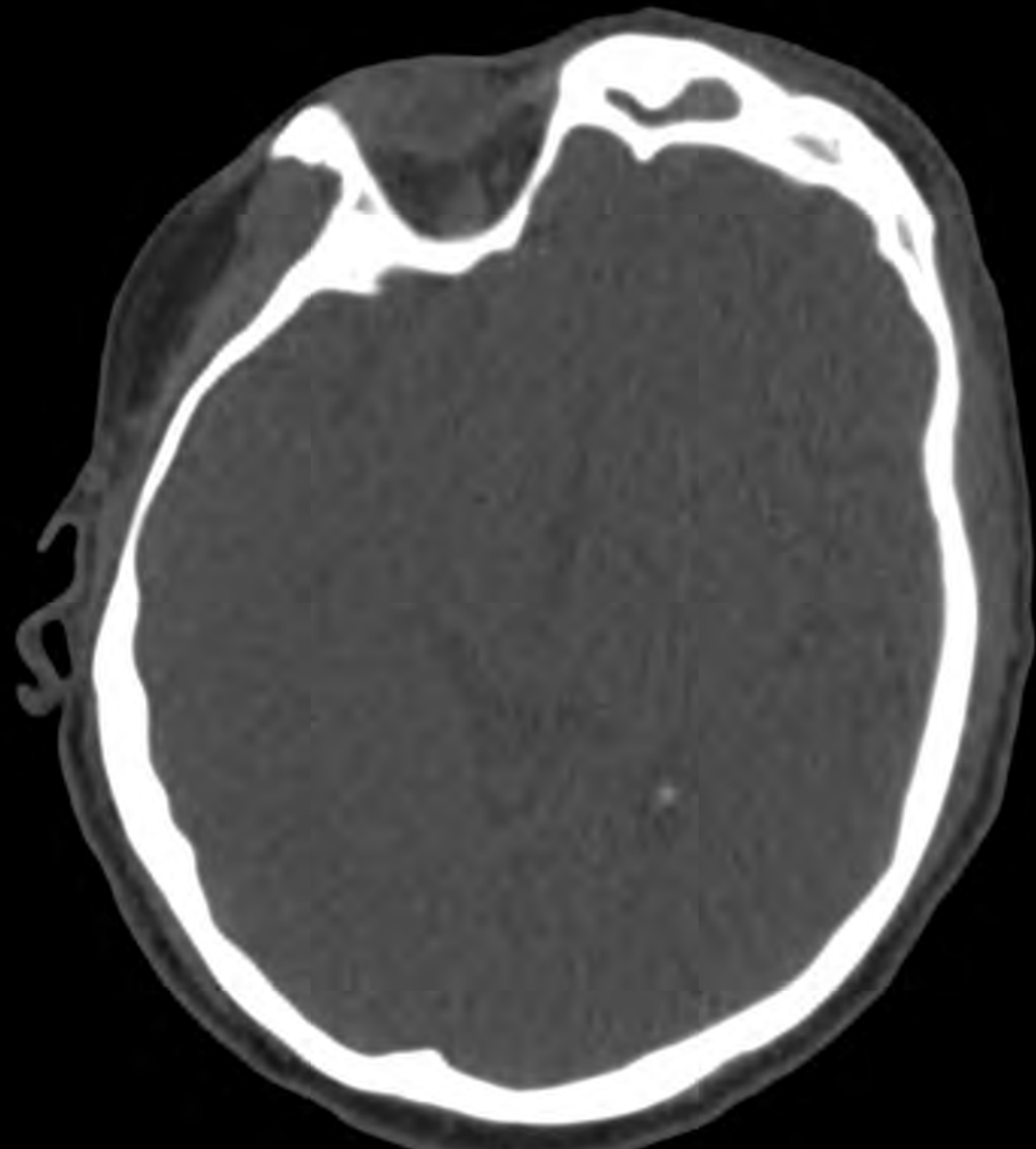


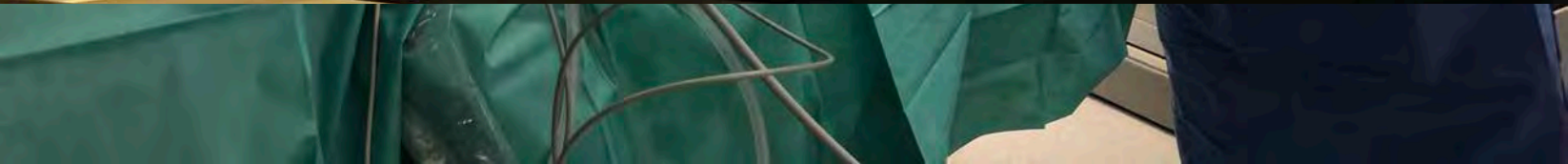
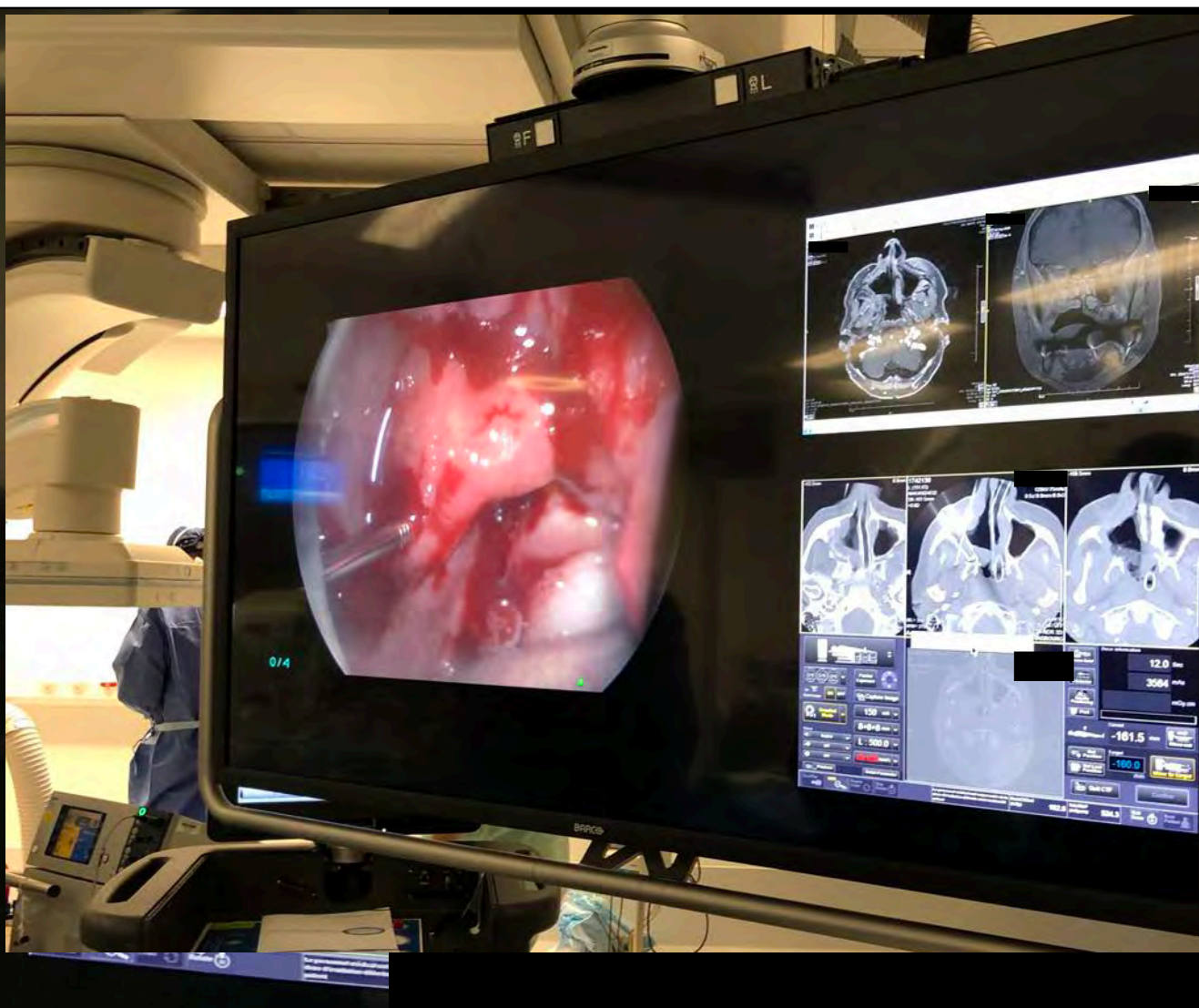
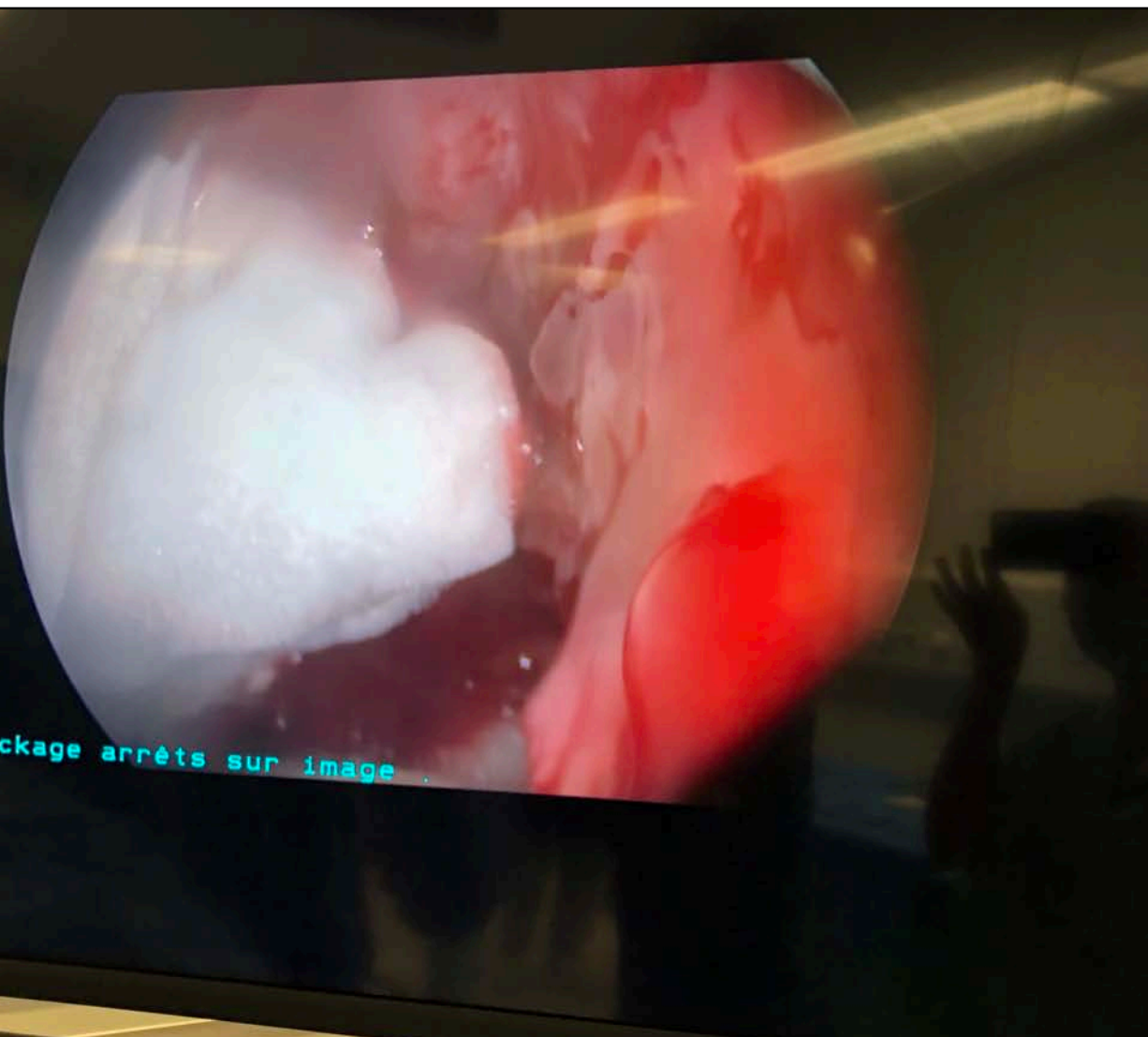
Ablation of Skull base Tumour



Ablation of Skull base Tumour



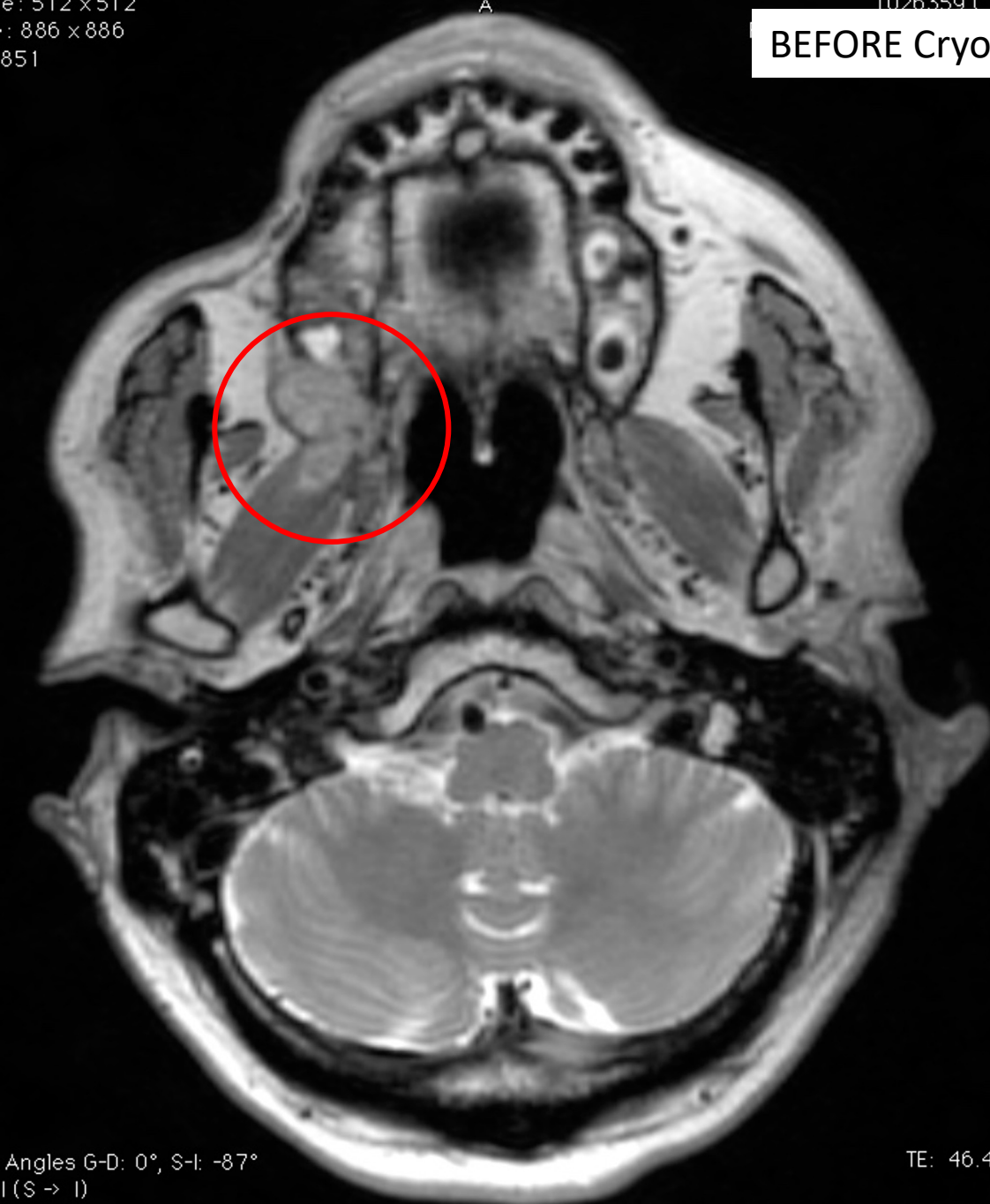




512 x 512
886 x 886
851

BEFORE Cryo

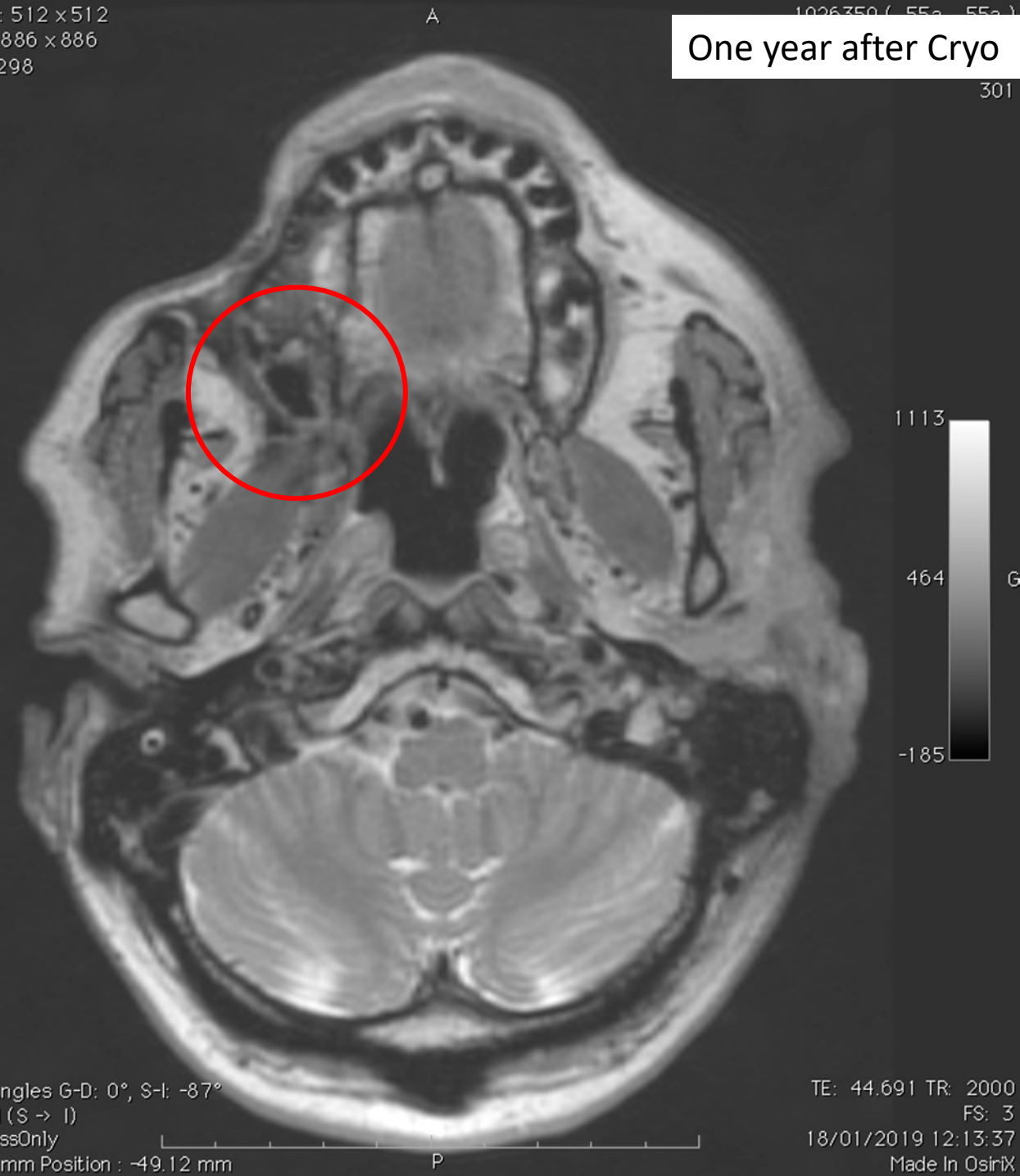
1026359 (55a, 55aimage: 512 x 512
X T2 CUBa vue: 886 x 886
3518LF: 1298
50



Angles G-D: 0°, S-I: -87°
I (S → I)
LosslessOnly
0 mm Position: -37.60 mm

TE: 46.45 TR: 2000
FS: 228 I (S → I)
04/05/2018 10:58:00 LosslessOnly
Made In Osir: 2.00 mm Position: -49.12 mm

One year after Cryo



TE: 44.691 TR: 2000
FS: 3
18/01/2019 12:13:37
Made In OsirIX

ge: 512 x 512
e: 886 x 886
851

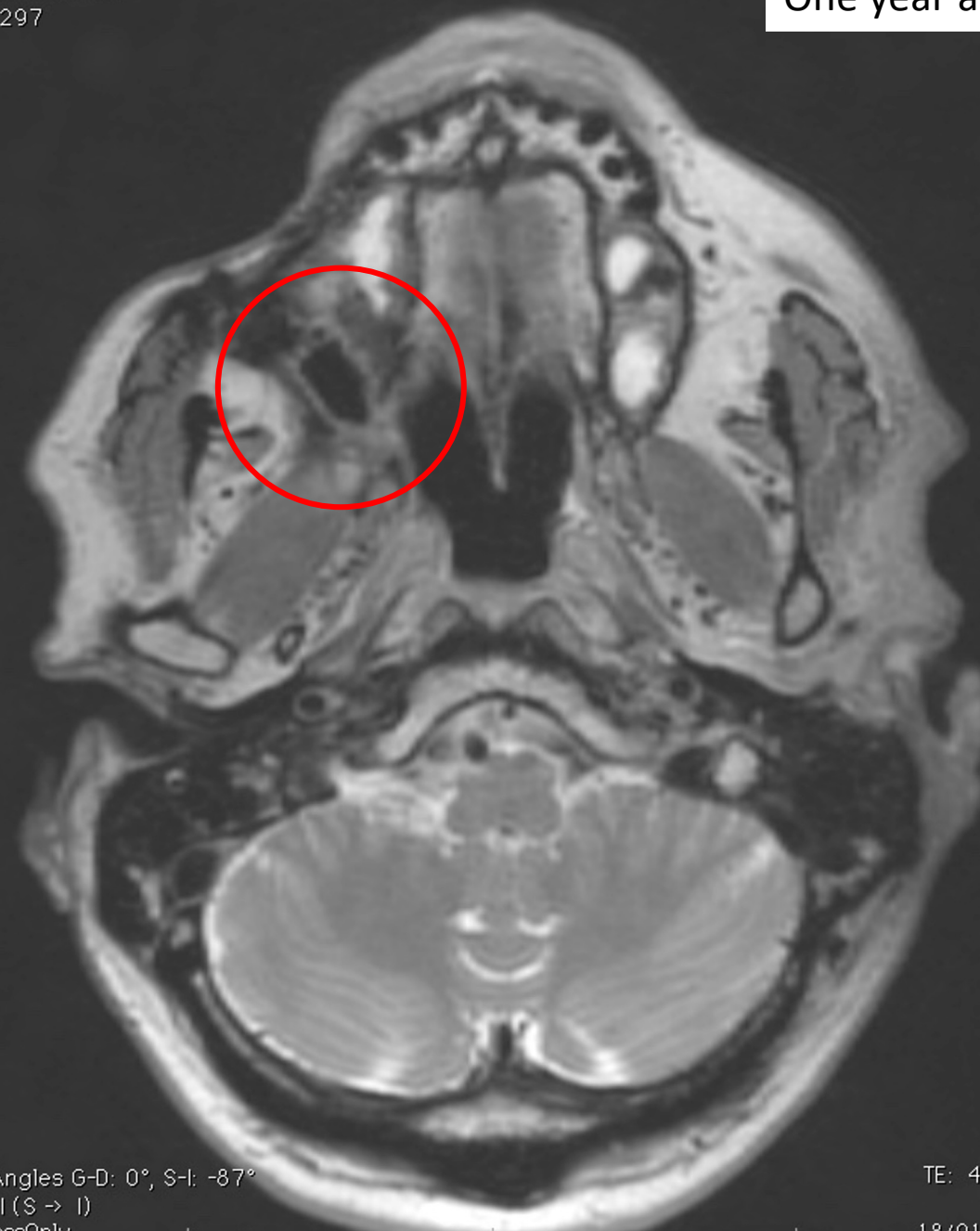
FACE
BEFORE Cryo

1026350 / 55a) ge: 512 x 512
CUBE e: 886 x 886
5186 1297
501



TE: 46.45 TR: 2000 ; Angles G-D: 0°, S-I: -87°
FS: 38 I (S → I)
04/05/2018 10:58:07
Made In OsiriX
00 mm Position : -35.60 mm

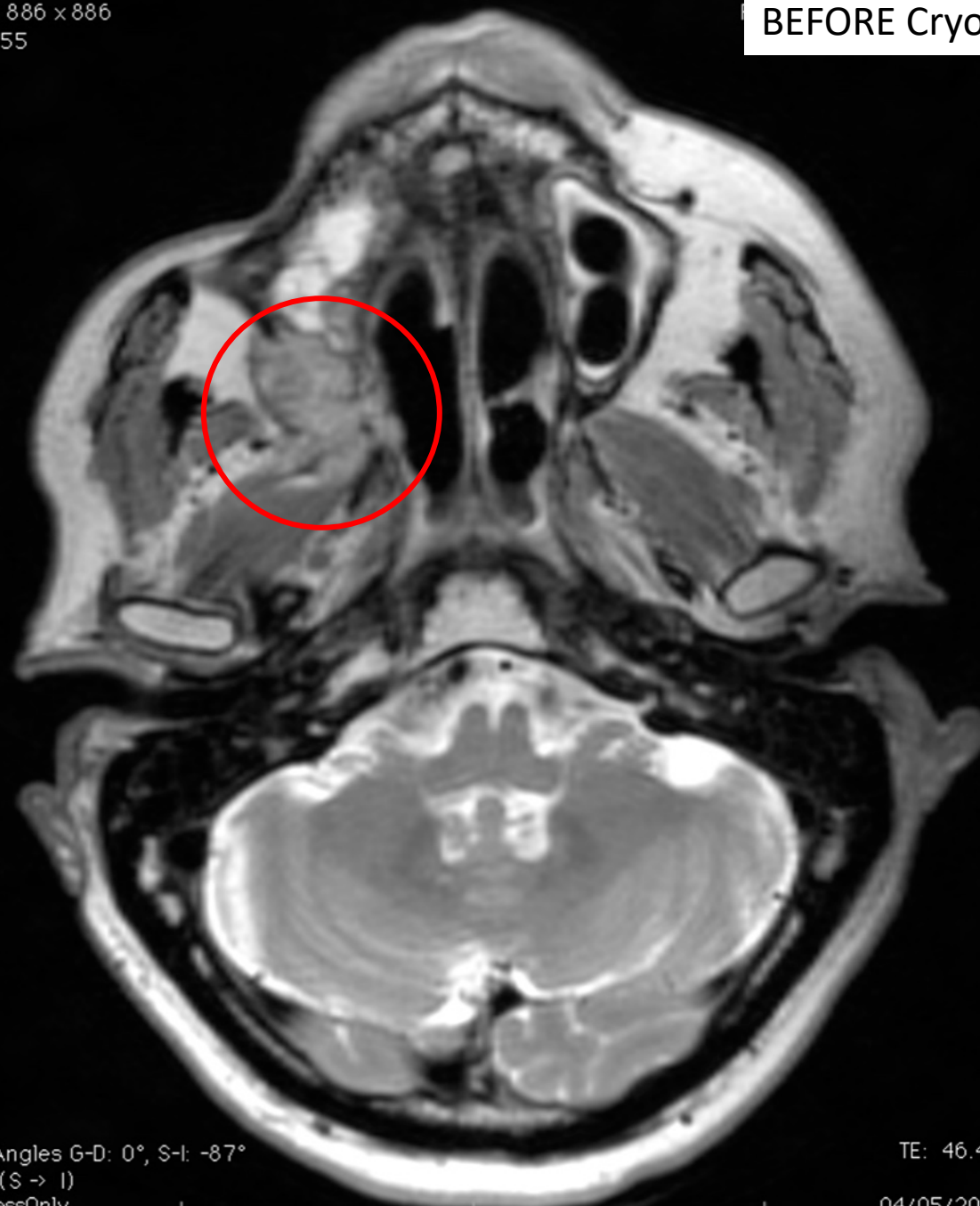
One year after Cryo



TE: 44.691 TR: 2000
FS: 3
18/01/2019 12:13:37
Made In OsiriX
00 mm Position : -47.12 mm

l'image : 512 x 512
la vue : 886 x 886
3 LF : 855

BEFORE Cryo



173% Angles G-D: 0°, S-I: -87°
101 I(S → I)
00LosslessOnly
ur: 2.00 mm Position : -31.60 mm

1026350 / 55 Taille de l'image : 512 x 512
X Taille de la vue : 886 x 886
F : 465 LF : 1299

One year after Cryo



TE: 46.45 T Room : 173% Angles G-D: 0°, S-I: -87°
h : 133/228 (S → I)
04/05/2018 1PEG2000LosslessOnly
Made paiseur: 2.00 mm Position : -43.13 mm

TE: 44.691 T
18/01/2019 1
Made

Image: 512 x 512
a vue: 886 x 886
LF: 851

1026359 (55a 55a) e l'image: 512 x 512
FACE Pr BE e la vue: 886 x 886
3614 LF: 1298
501

BEFORE Cryo

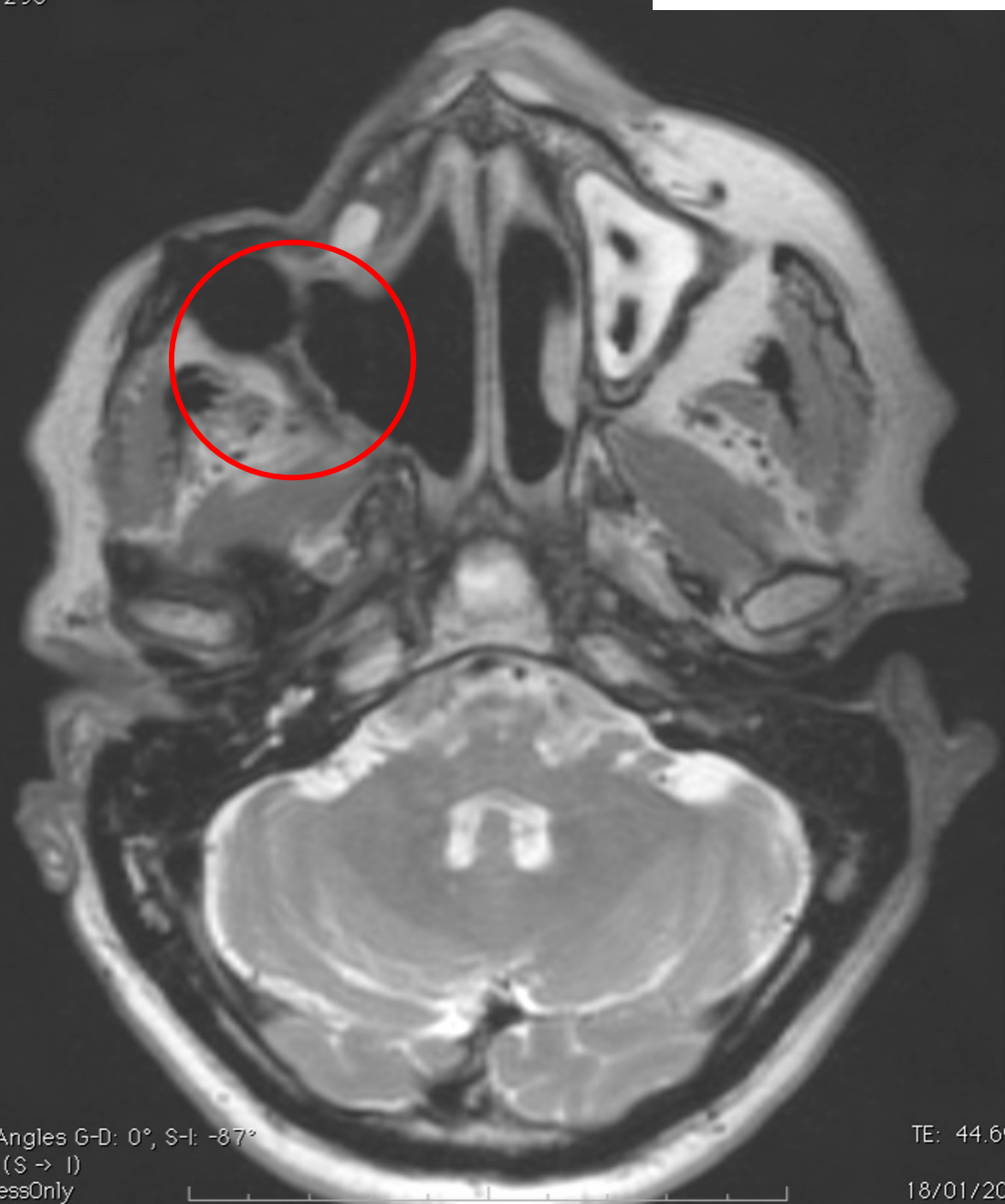


73% Angles G-D: 0°, S-I: -87°
101 I (S → I)
LosslessOnly
2.00 mm Position: -27.61 mm

TE: 46.45 TR: 2000 173% Angles G-D: 0°, S-I: -87°
FS: 319/228 (S → I)
04/05/2018 10:58:07 LosslessOnly
Made In OsiriX ur: 2.00 mm Position: -39.13 mm

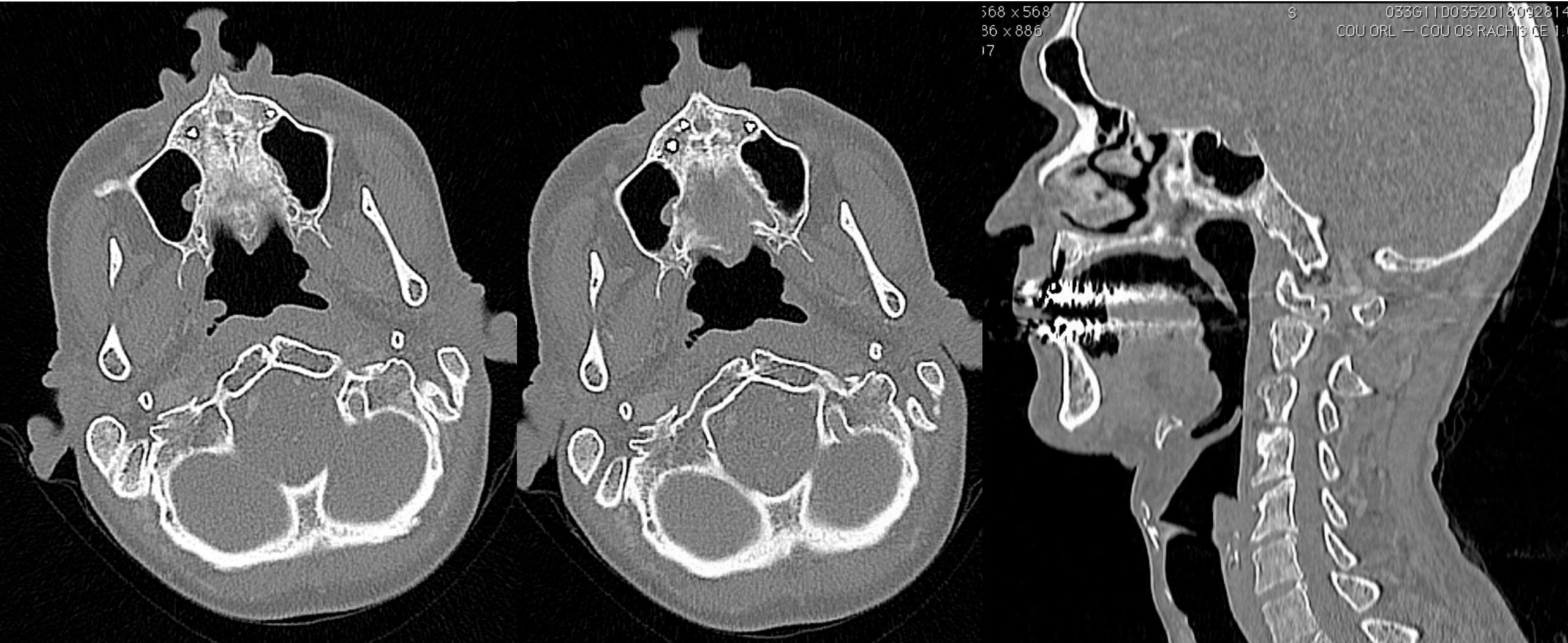
1026359 (55a 55a) e l'image: 512 x 512
FACE Pr BE e la vue: 886 x 886
3614 LF: 1298
501

One year after Cryo

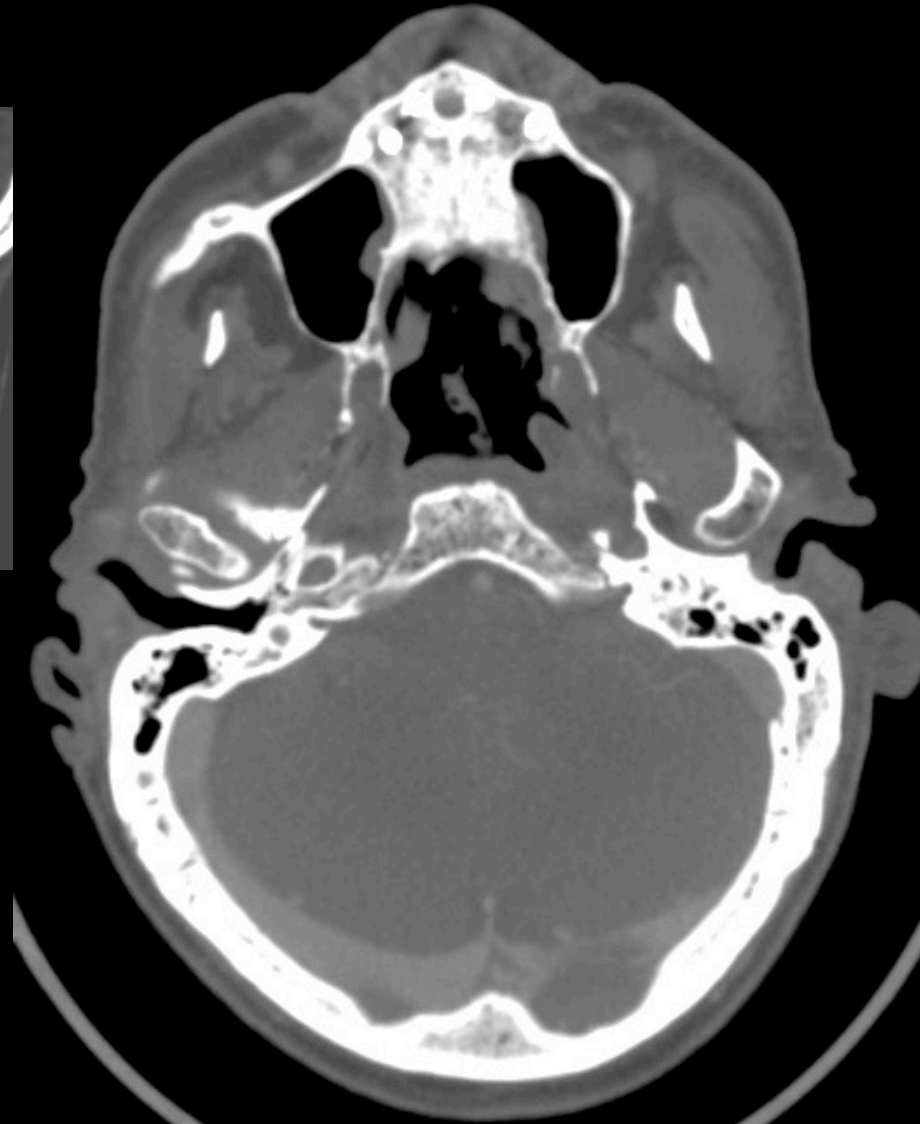
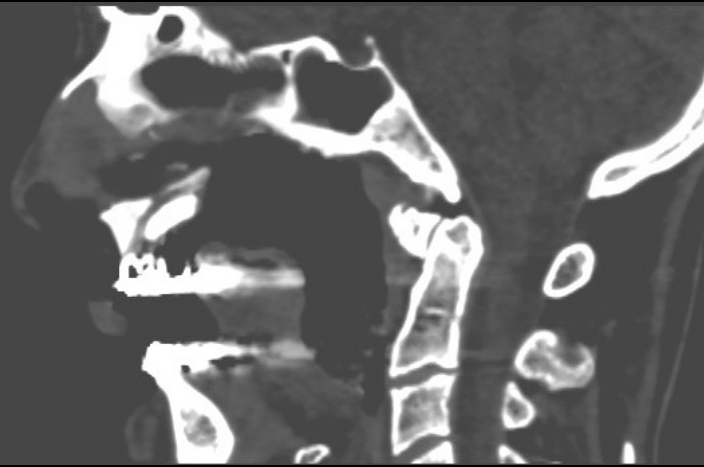


TE: 44.691
18/01/2019
Mad

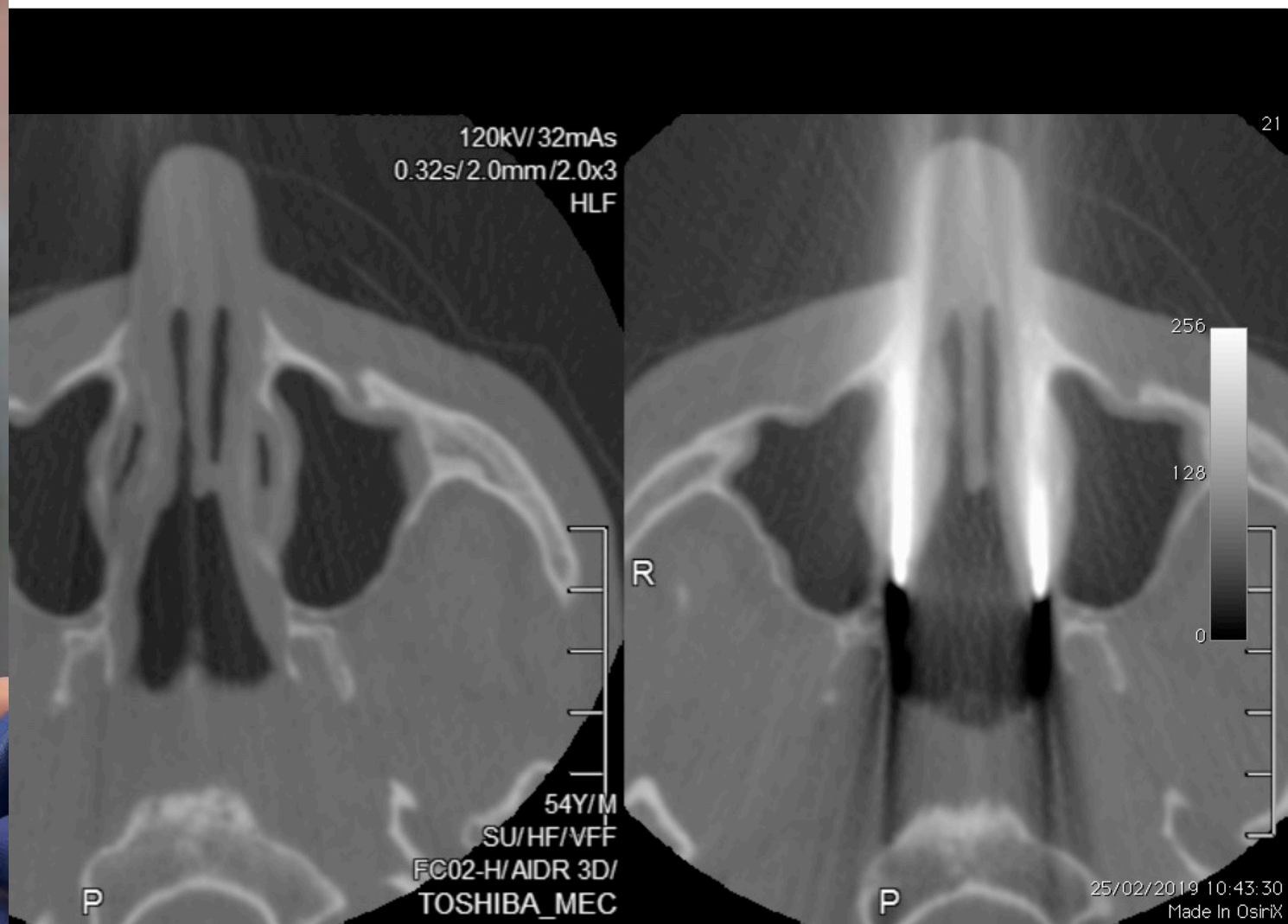
HISTORY OF palate carcinoma of nasopharyngeal carcinoma treated with RT



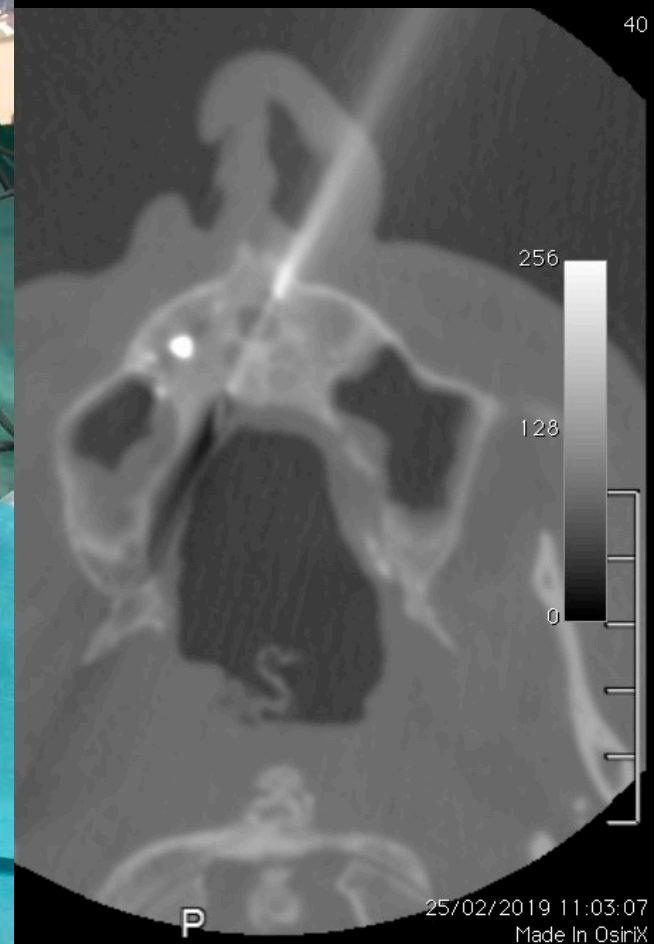
Squamous cell carcinoma of the bony palate treated by maxillectomy.
Biopsies performed after SURGER STILL positive => Cryoablation







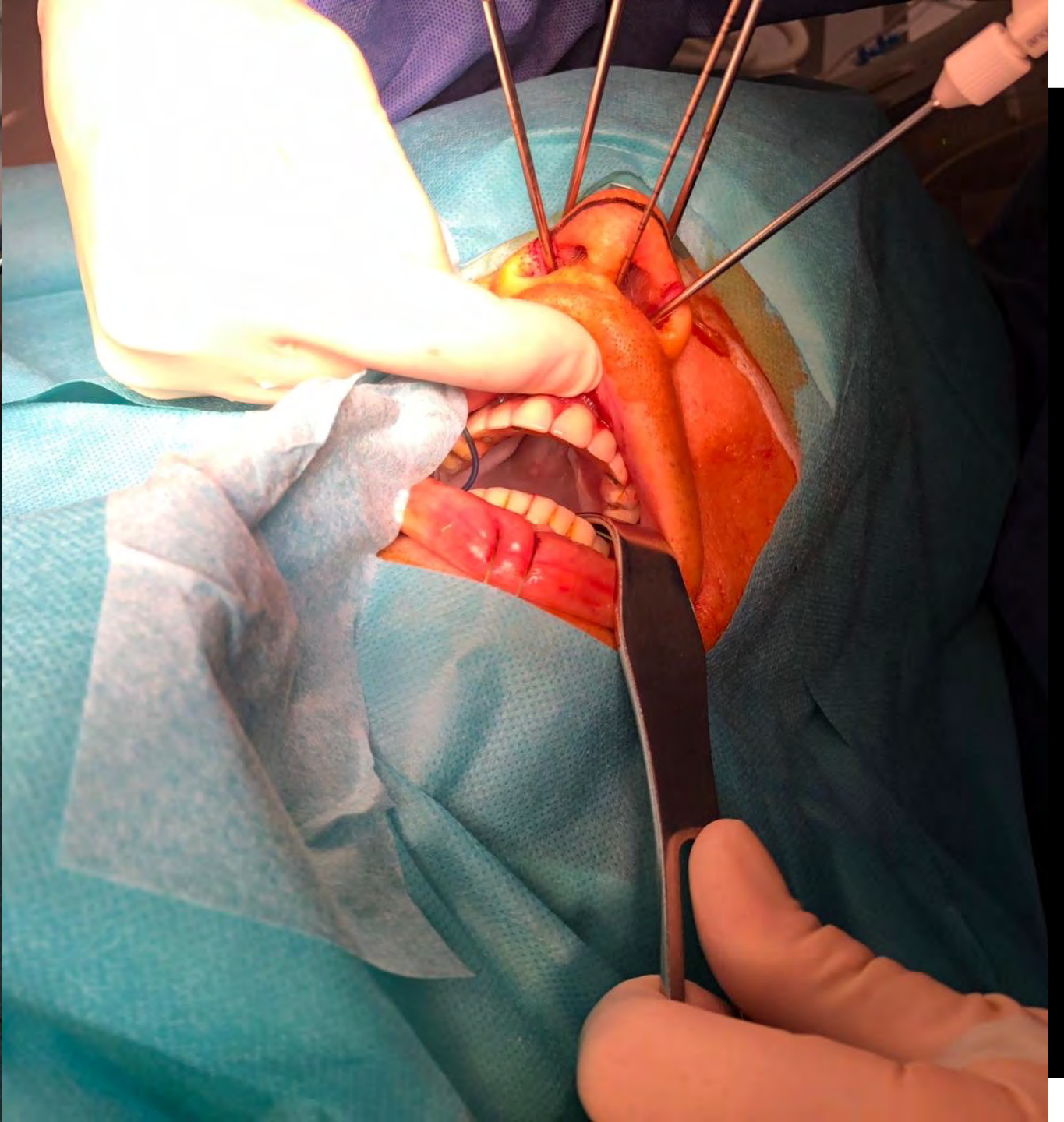
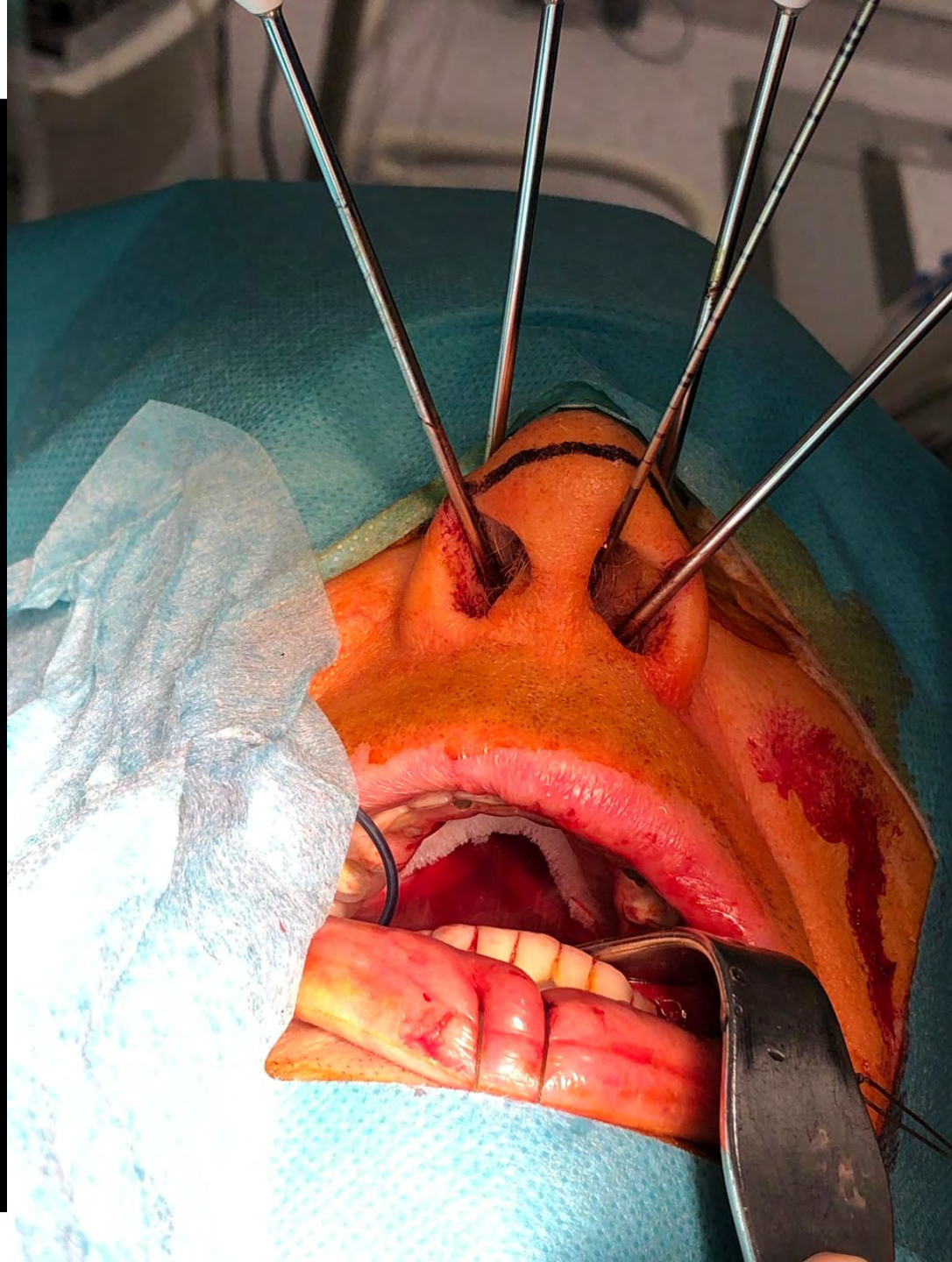




25/02/2019 11:03:07
Made In OsiriX





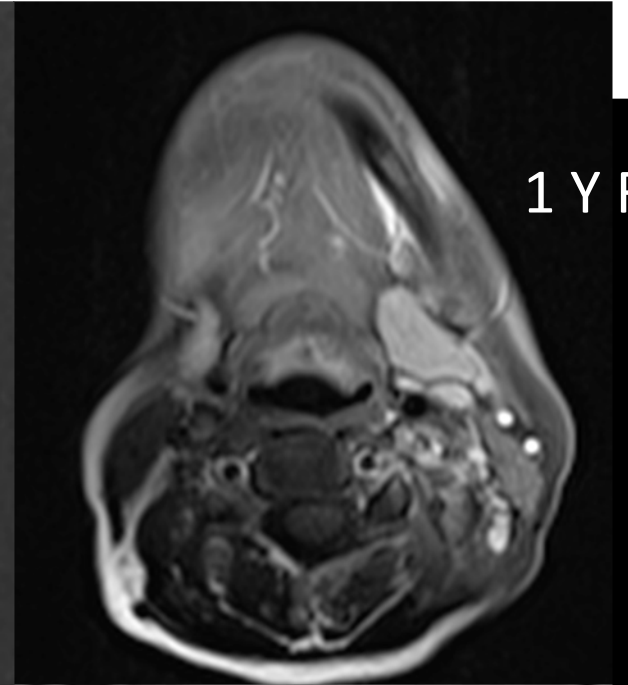
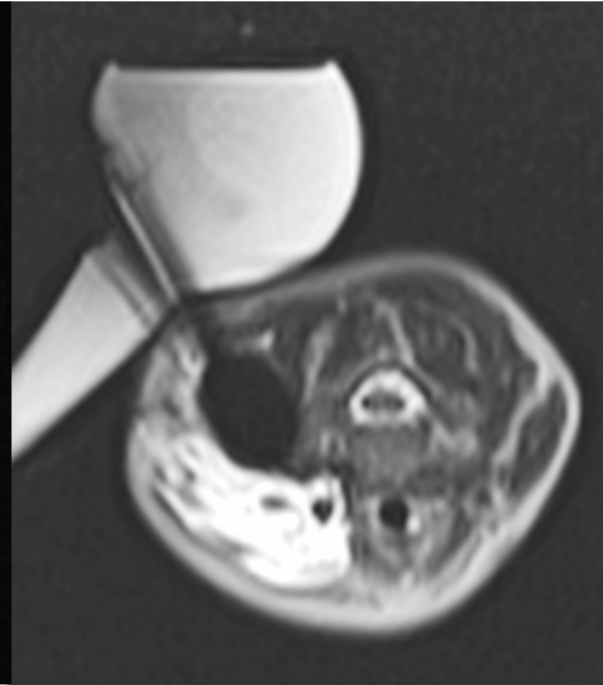
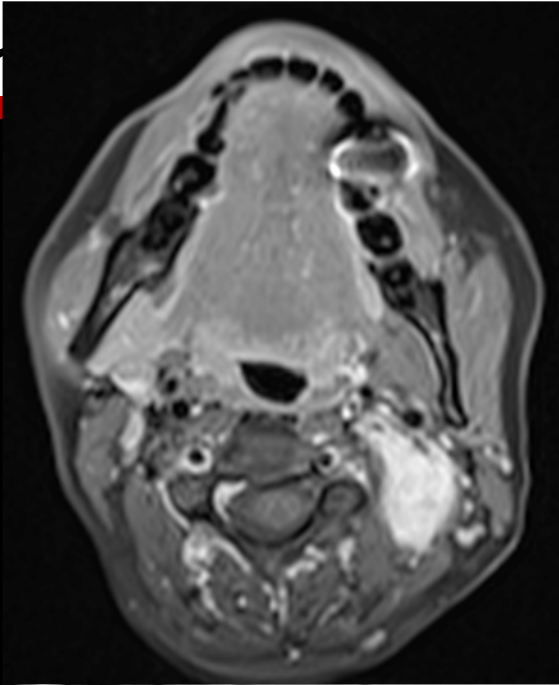




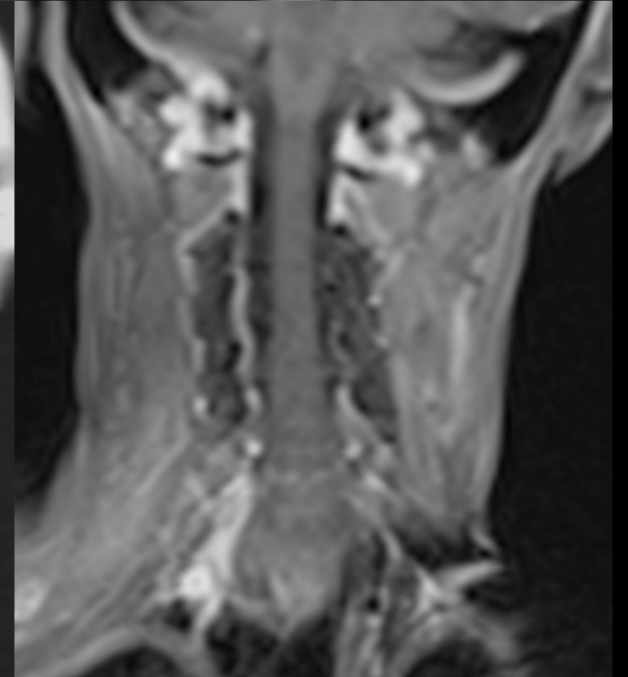
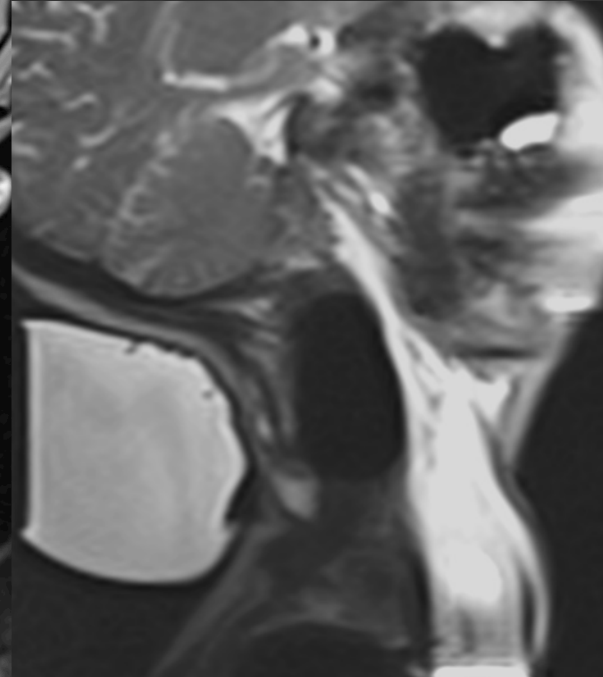
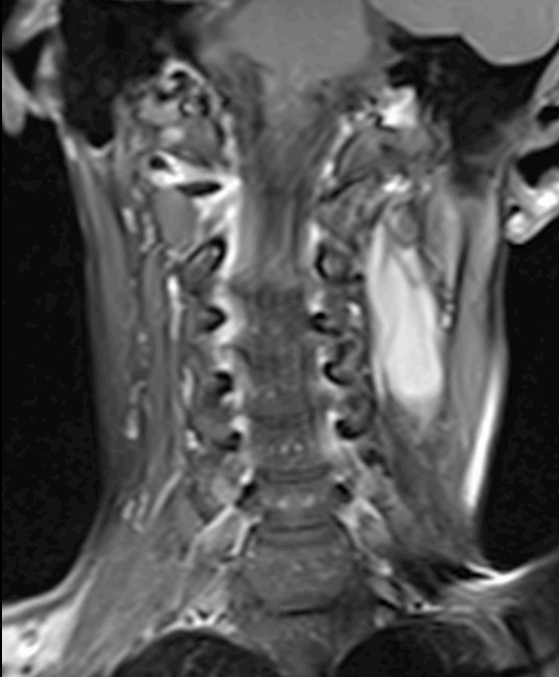
MR Guided Interventions



Desmoid Tumour



1 Y FU

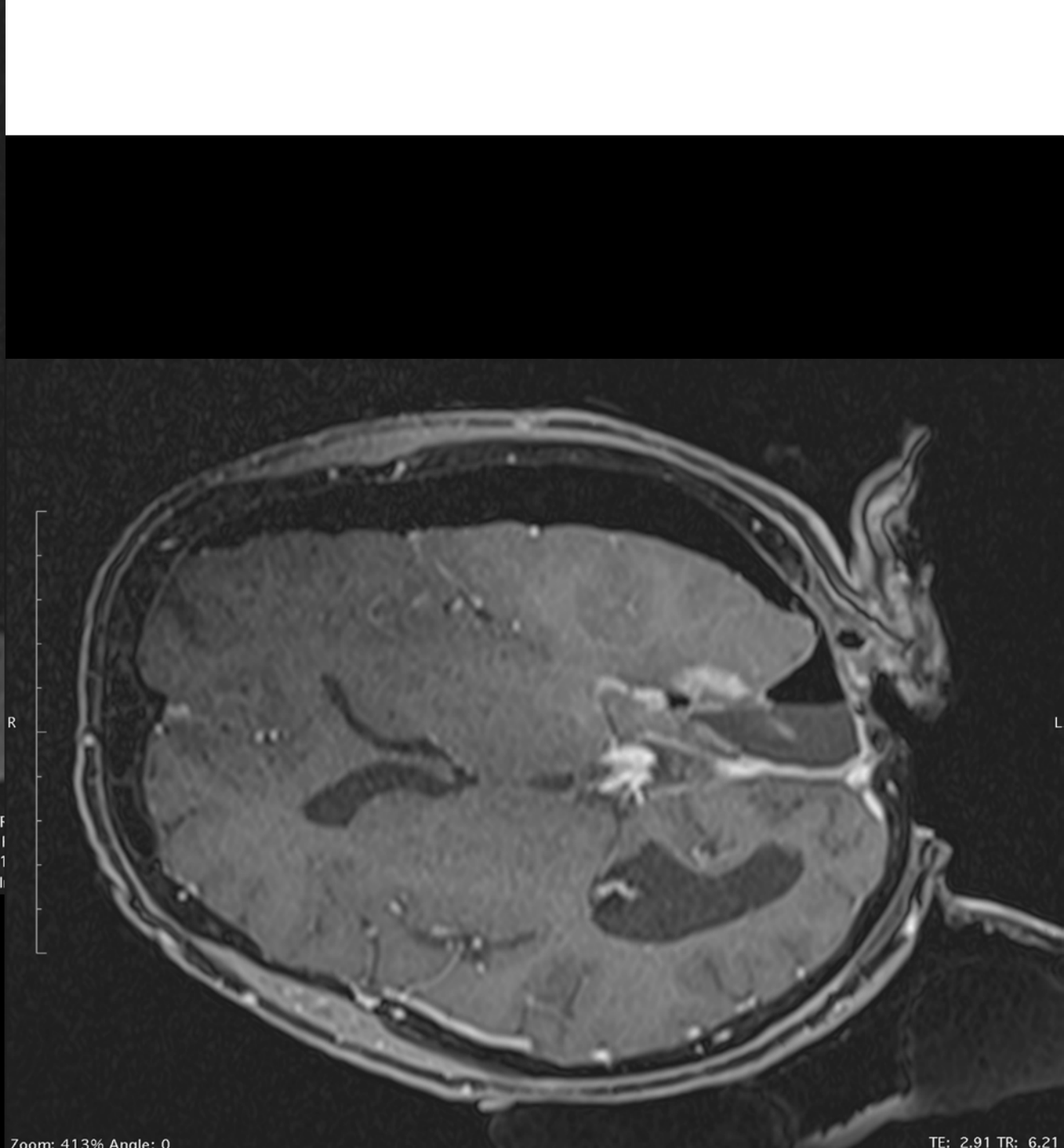
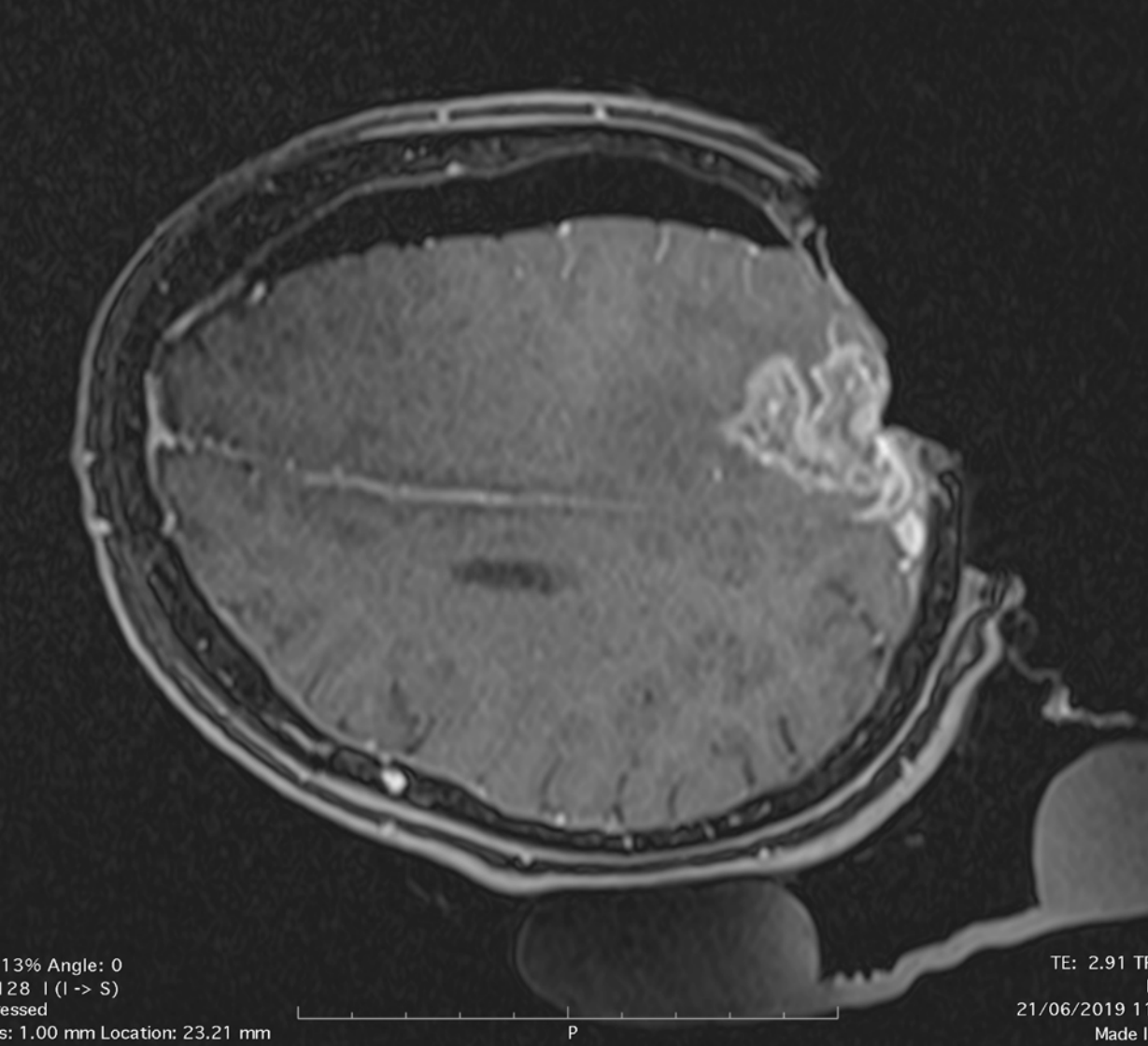


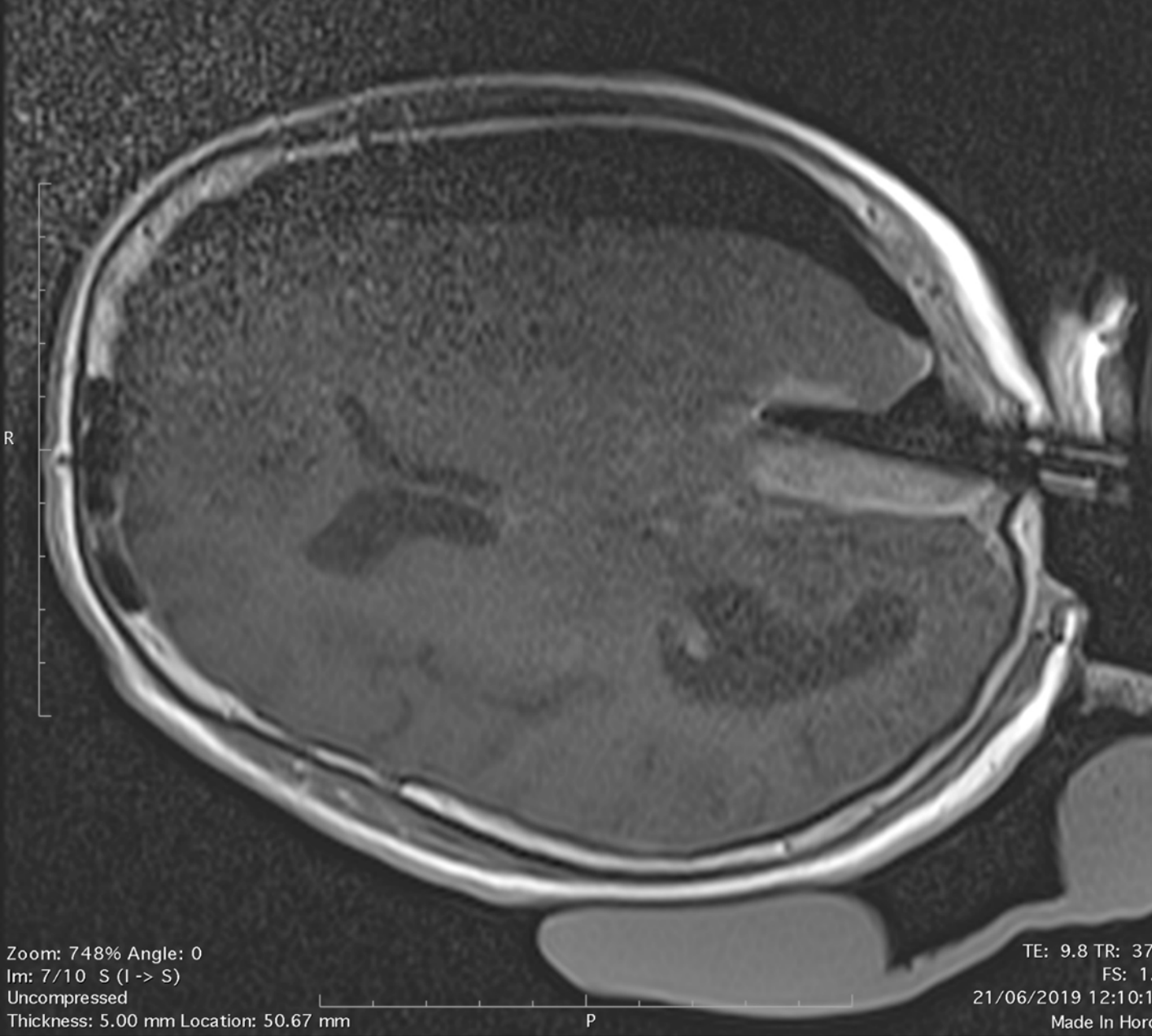
Glioblastoma

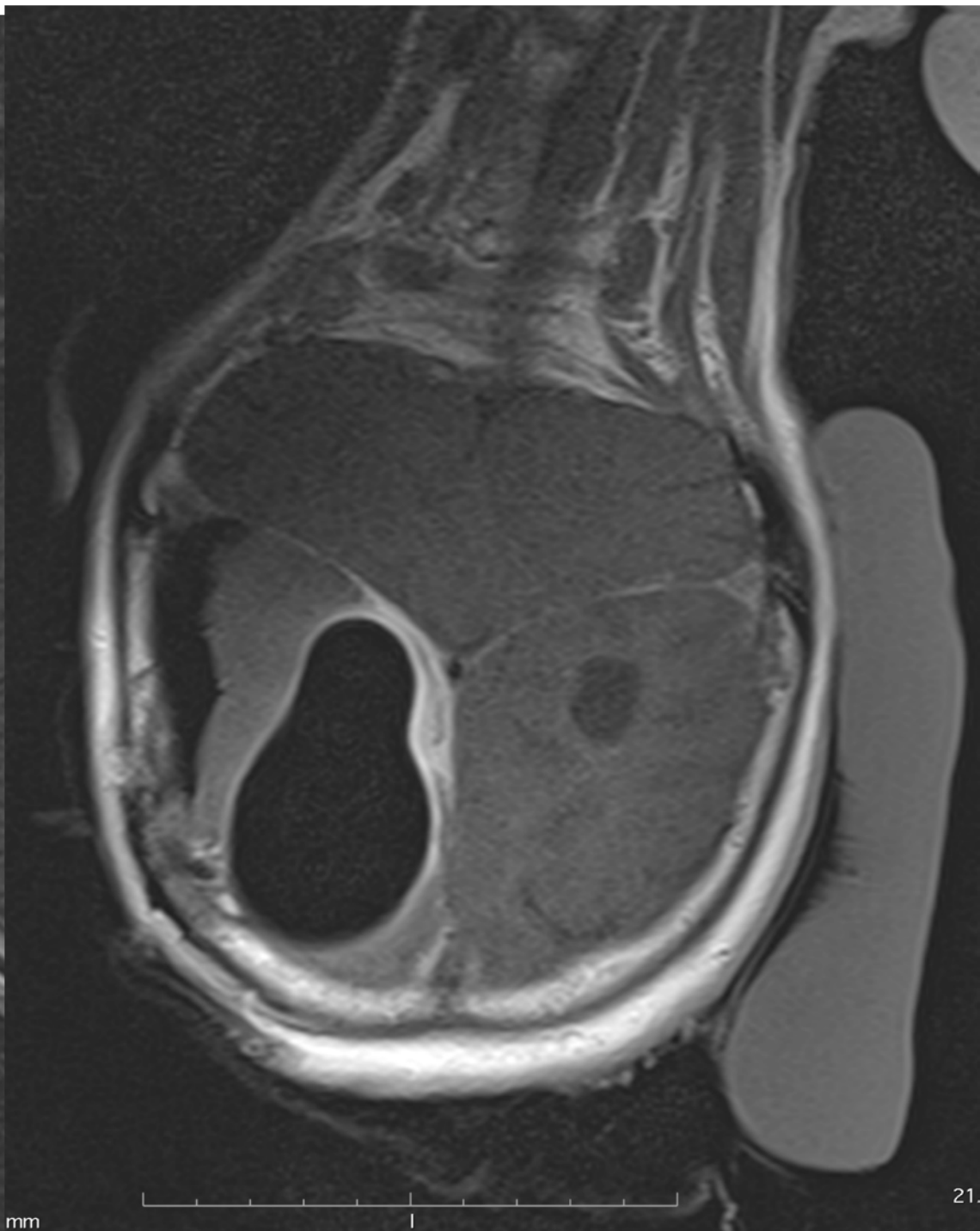
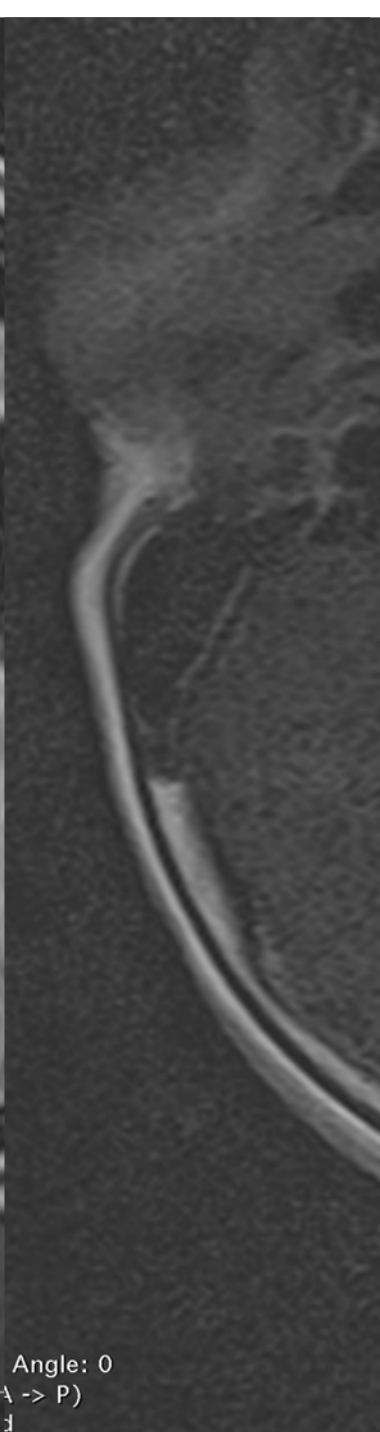
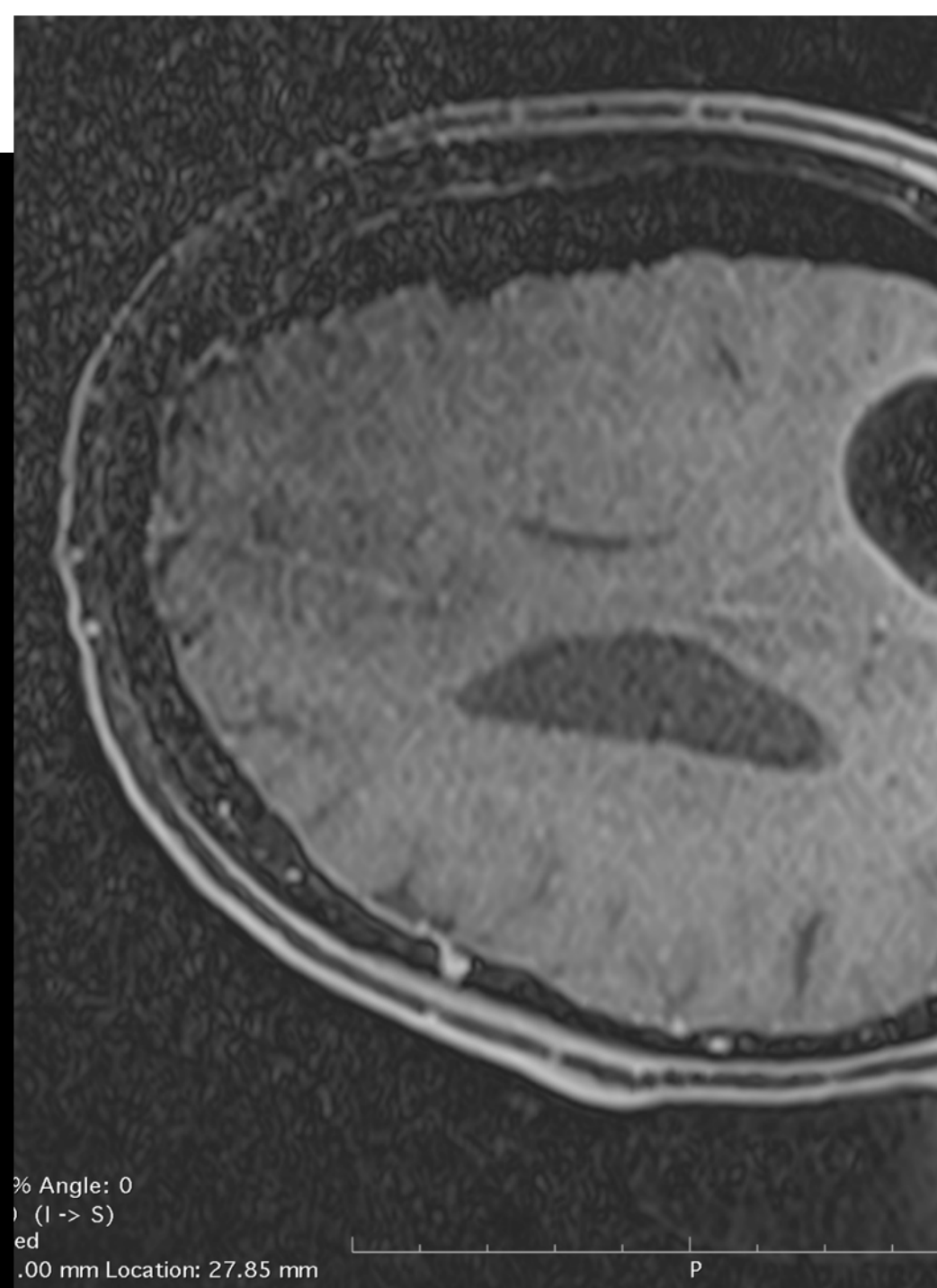
- 6 patients with recurrent glioblastoma
- Age range 54 to 70 YO, Gender ratio 1:1
- Tumor location: Frontal in 4 cases, Temporal one case, parietal one case
- A single freeze protocol
- Median OS was 22.5 months.
- At present two patients remain alive after 12 and 17 months.

Glioblastoma recurrence 71YO lady patient number 4

Previous surgery and radiotherapy







CONCLUSION

IR is one of the fastest growing clinical speciality

