



# Traitement des Métastases Osseuses

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Certains hommes parlent pendant leur  
sommeil.

Les conférenciers parlent pendant le  
sommeil des autres.

Albert Camus

# Introduction

- Tumeurs Primitives rare
- Métastases osseuses 60% des patients avec un cancer
  - 50% – 80% des cancers du sein
  - 20% – 40% des cancers du poumon
  - 5% des cancer Colo- rectal

# Stratégie Thérapeutique

- Stratégie Thérapeutique dépend de 4 points :
  1. Prolonger la survie
  2. Optimisation confort
  3. Optimisation fonctionnelle
  4. Soulager la douleur

Multidisciplinaire



# Les Procédures dans le traitement focal des métastases osseuses

- Bloc neuroregional
- Action Directe
  - Cimentoplastie
  - Ablation tumorale





The Mattress Professionals

**Gangi**

**PLUMBING & HEATING**

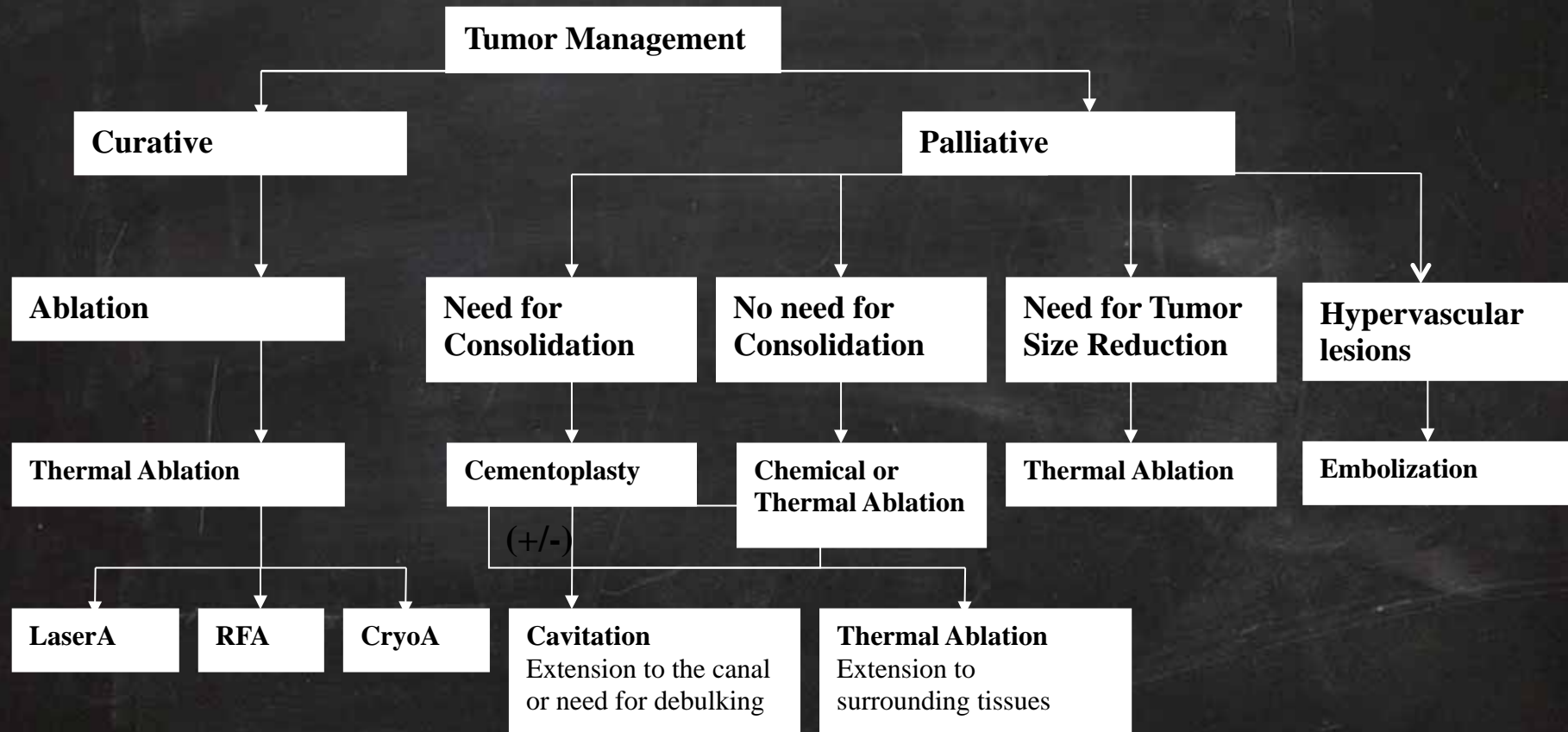
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**680-8100**

RADIO DISPATCHED

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# Tumor Management therapeutic option algorithm

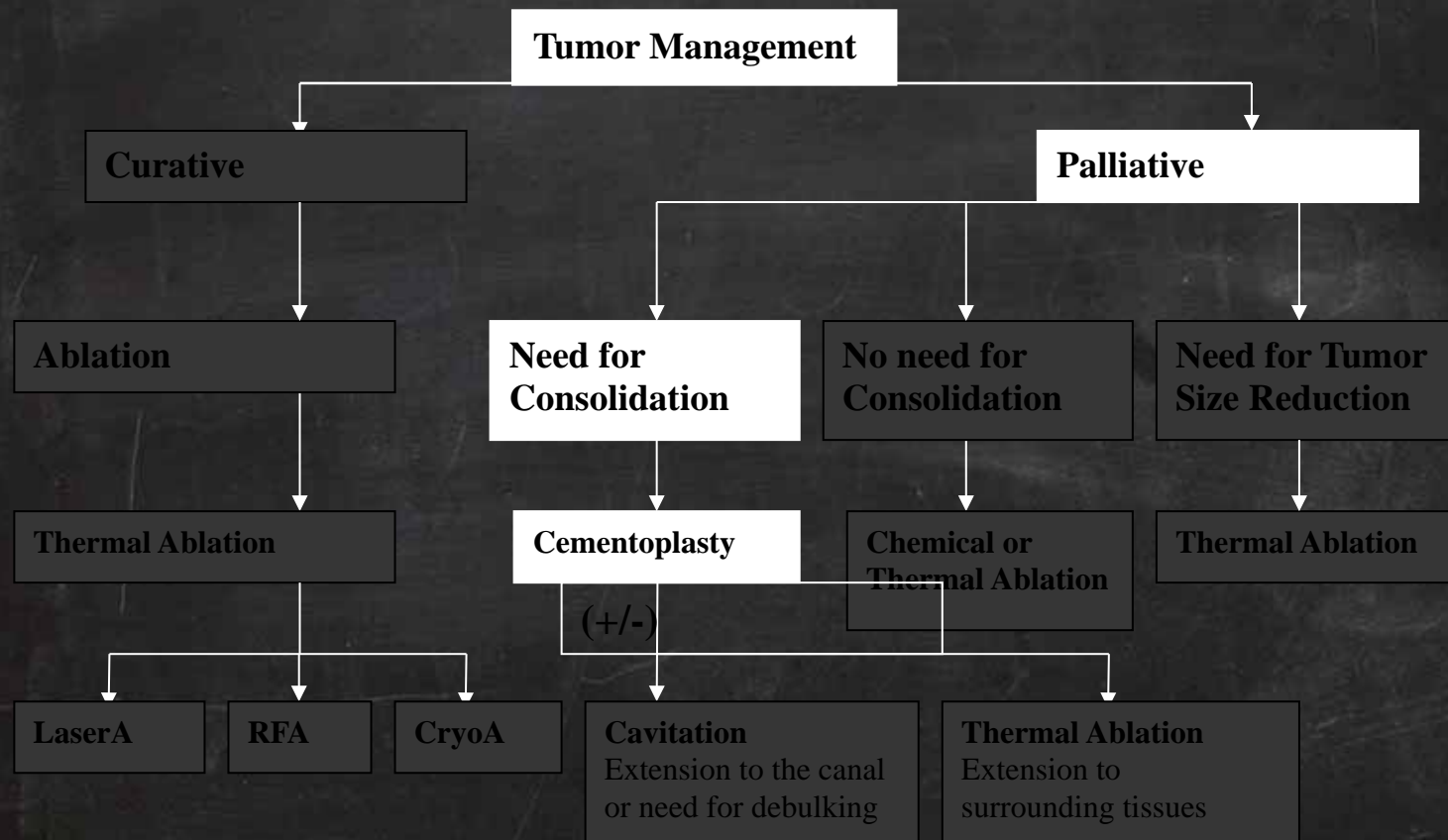


# Effets thérapeutiques des différentes techniques

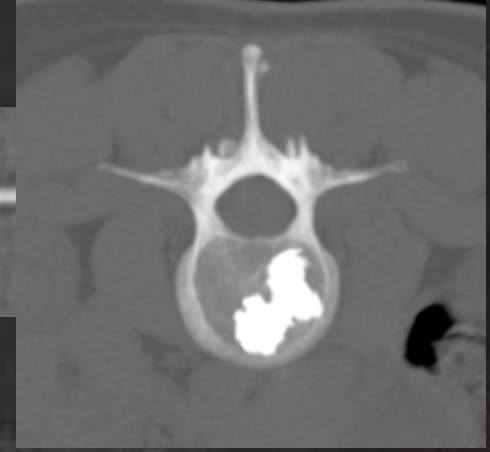
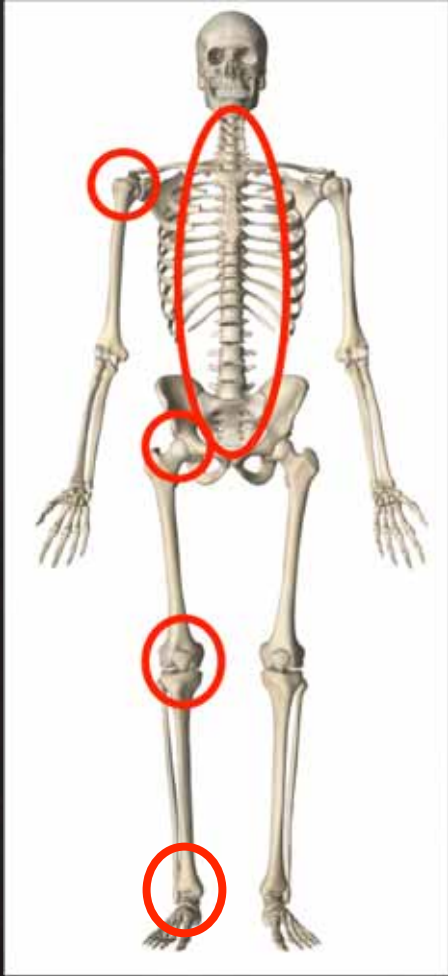
- Cimentoplastie = consolidation, antalgie
- Ablation Thermique (AT) = ablation tumorale, antalgie
- Cimentoplastie + AT = combinaison des deux effets thérapeutiques
- Embolisation



# Tumor Management therapeutic option algorithm



consolider l'os si nécessaire



# INTRODUCTION

- Injection de la colle acrylique
- Consolidation + Analgésie

# Métastases osseuses. Douleurs?





81% of the patients are satisfied or very satisfied with the procedure

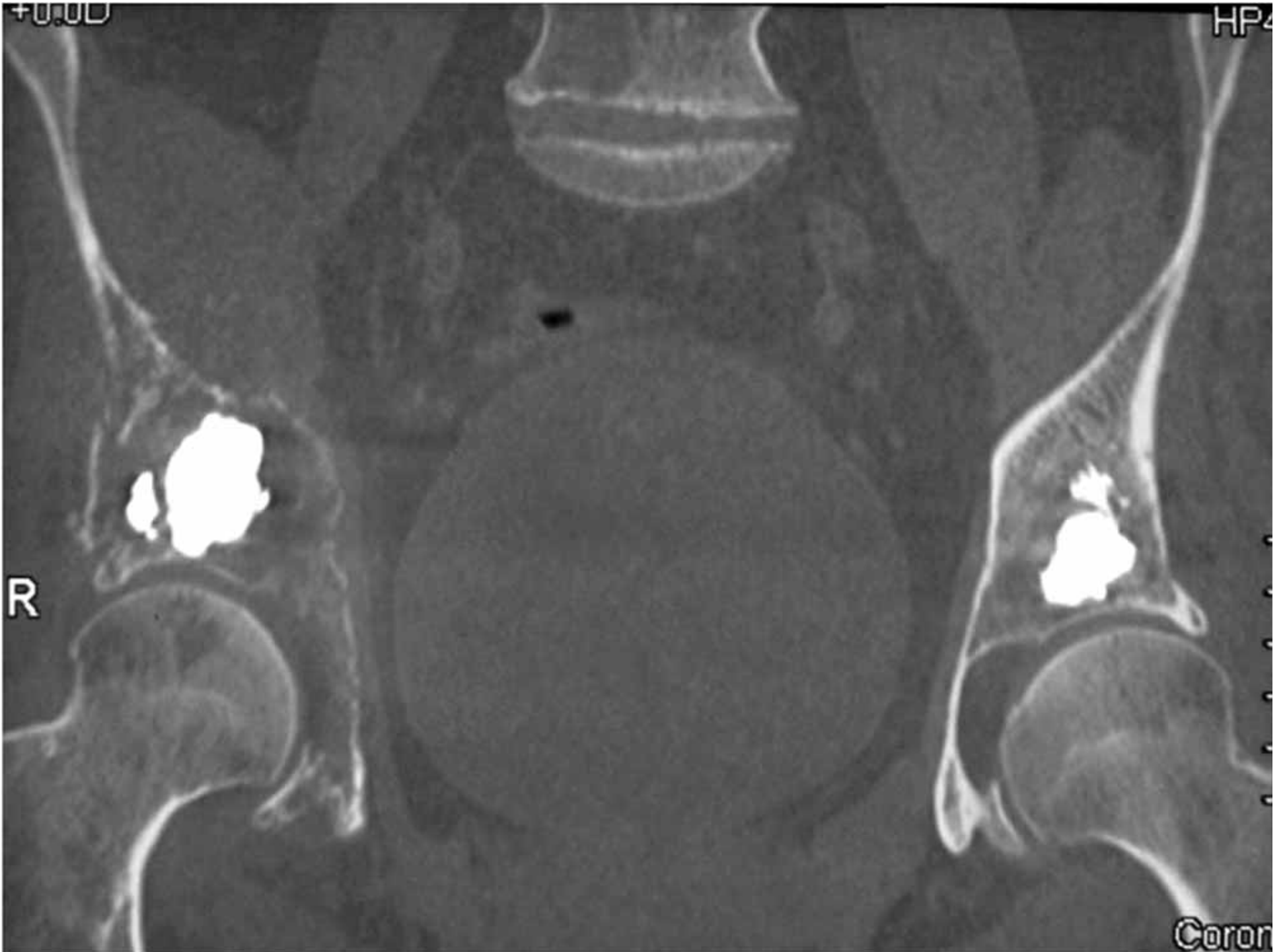
Alvarez L, Pérez-Higueras A, Quiñones D, Calvo E, Rossi RE. Vertebroplasty in the treatment of vertebral tumors: postprocedural outcome and quality of life. *Eur Spine J.* 2003

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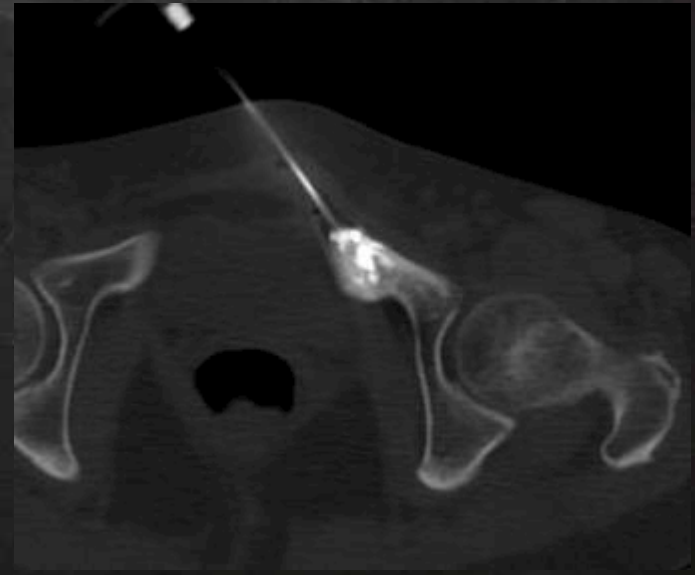
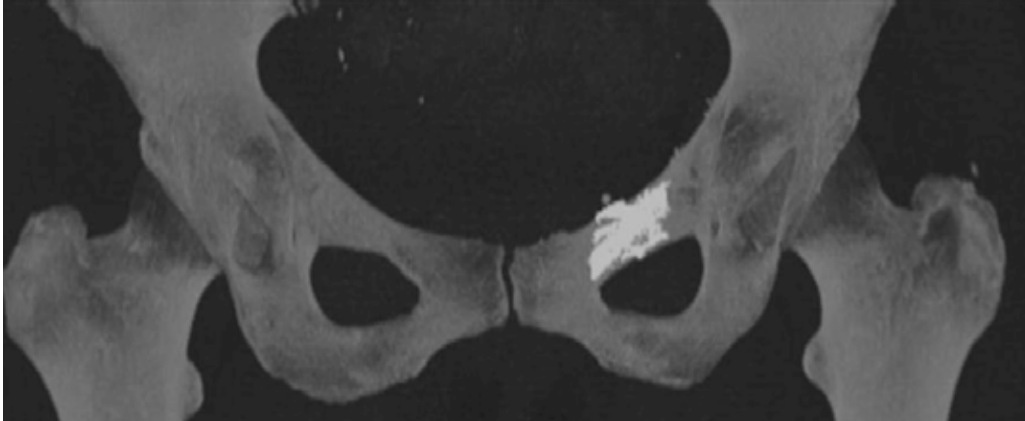
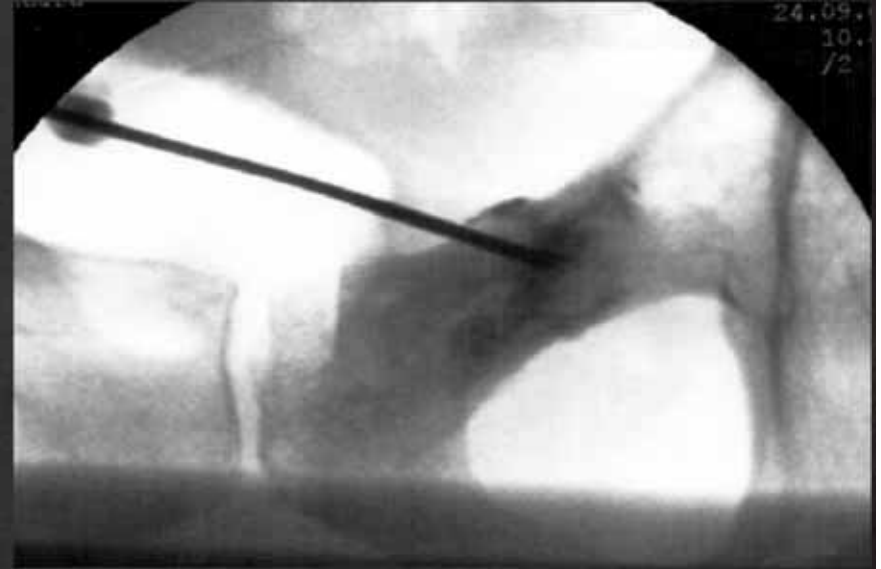
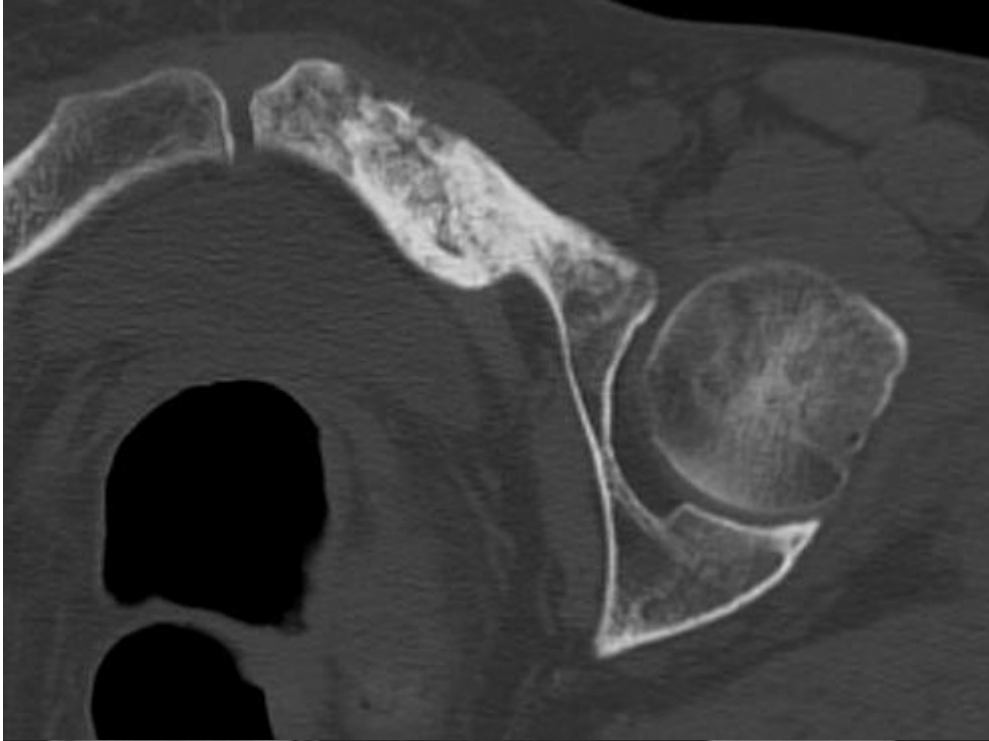
HP4

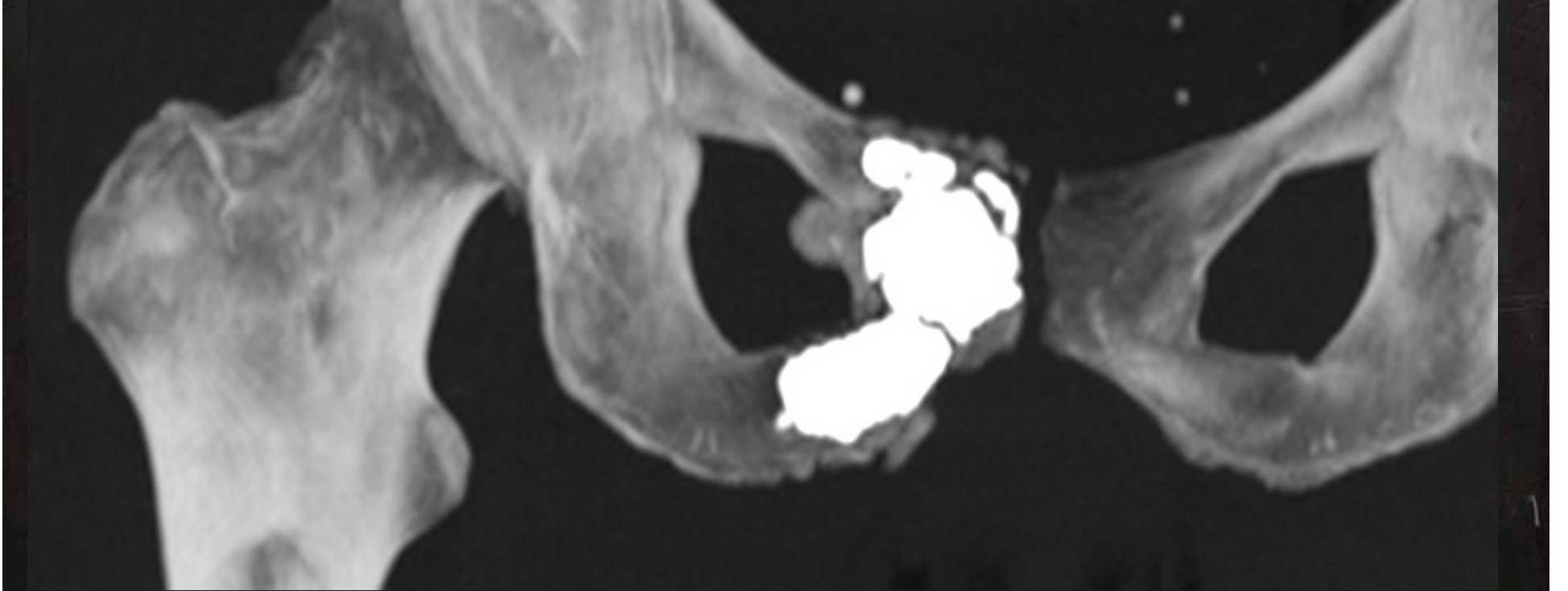
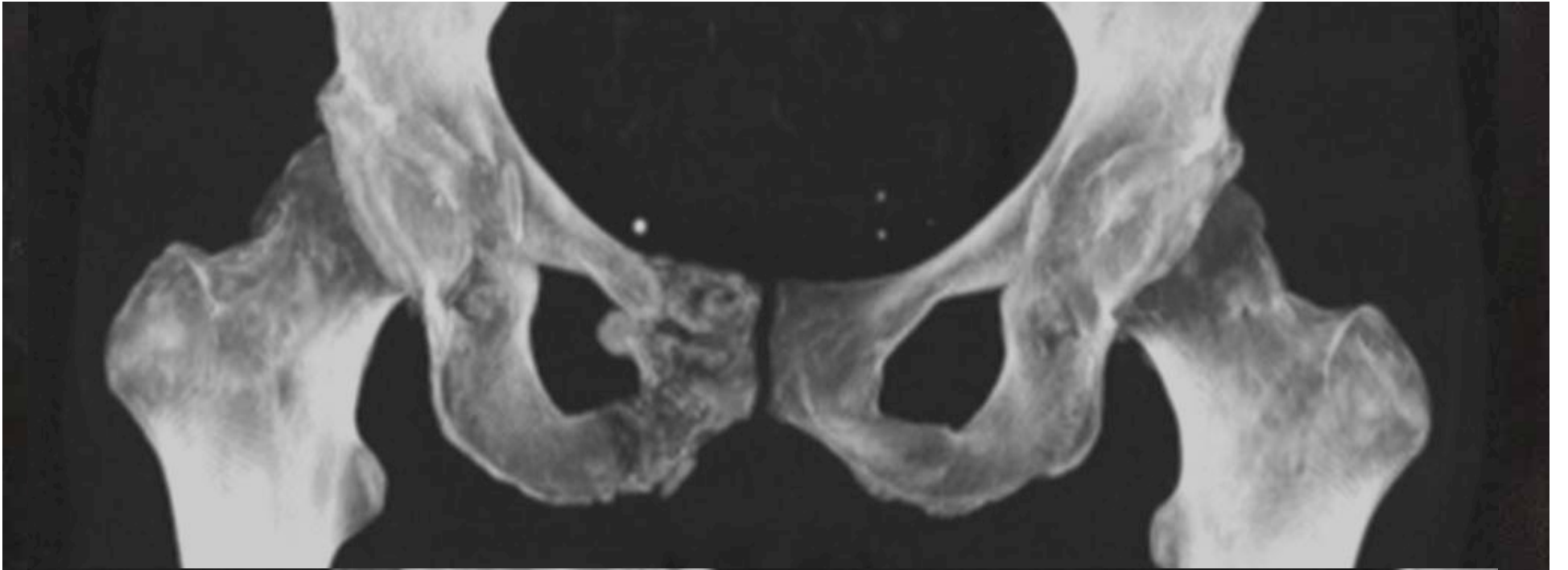
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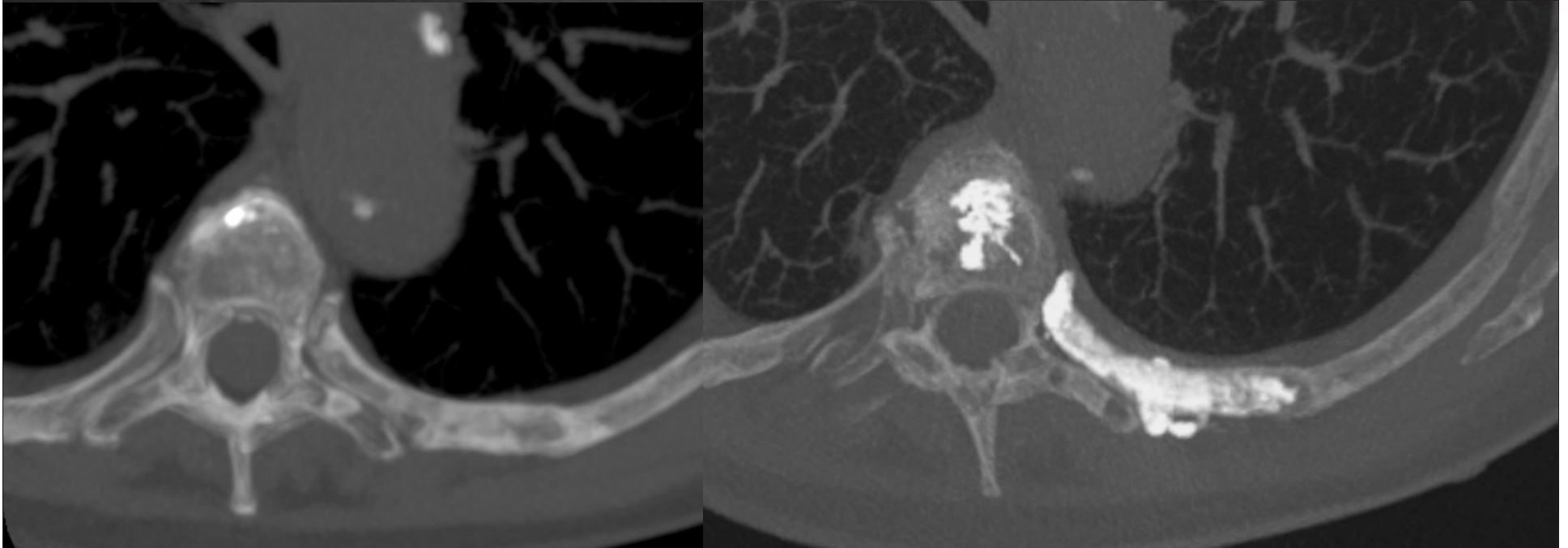
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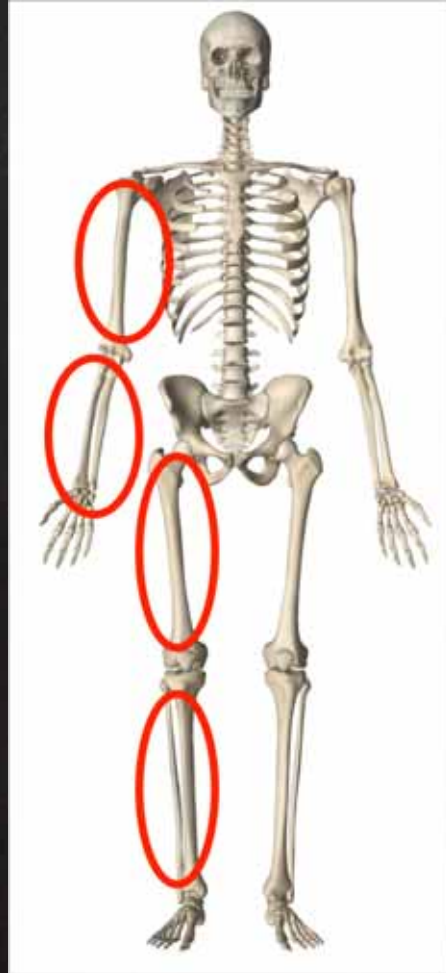




# Métastase douloureuse Costale

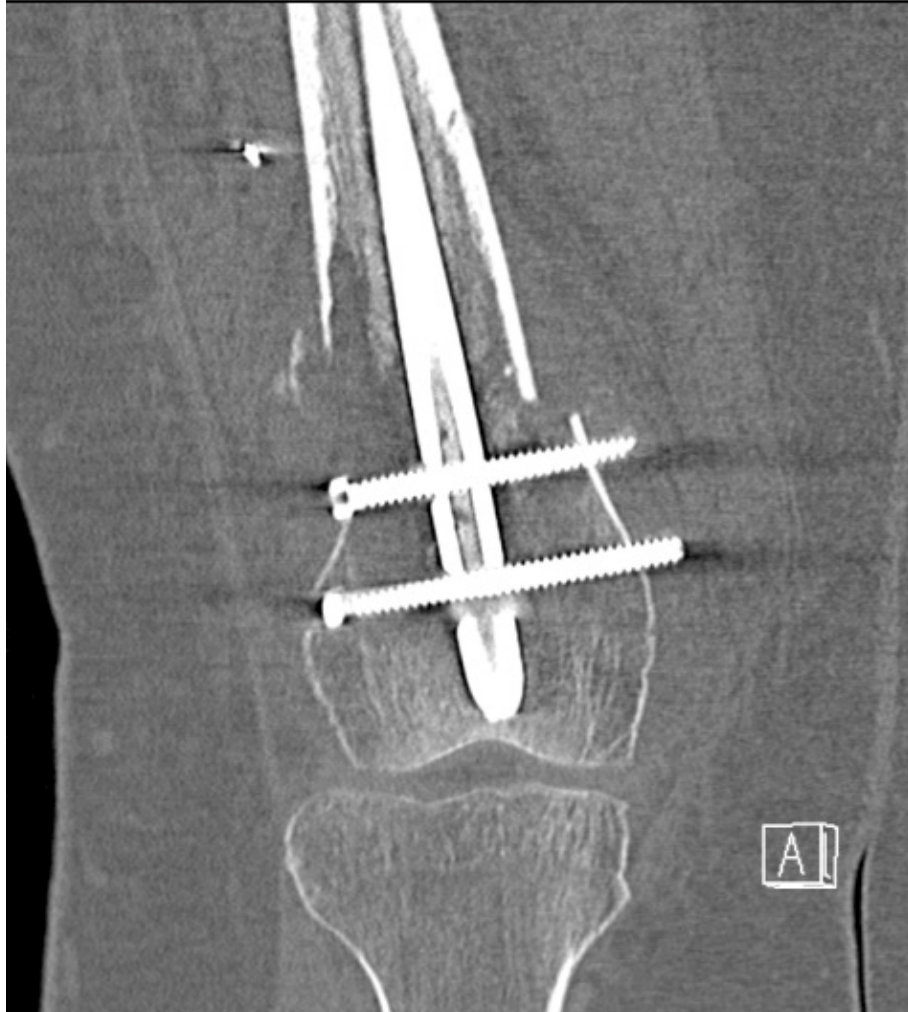


consolider l'os si nécessaire

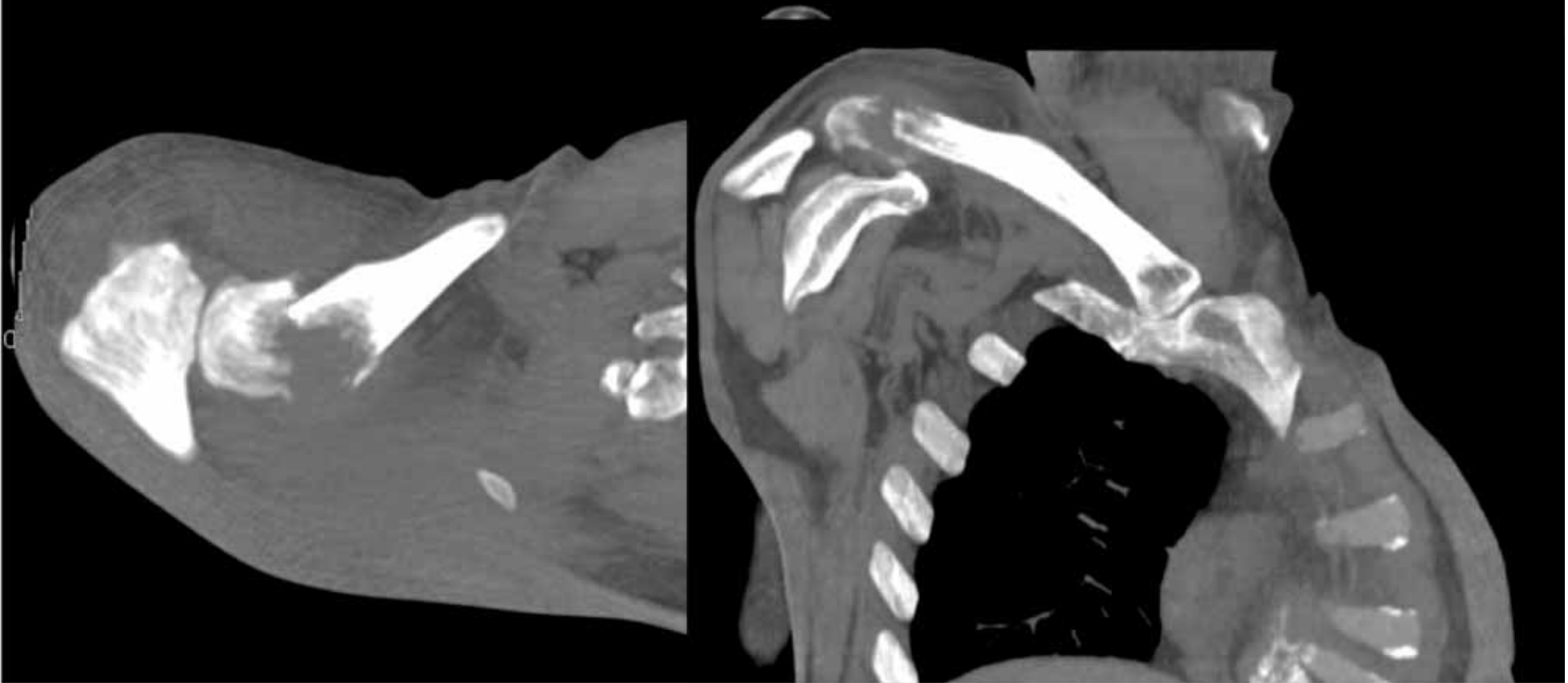


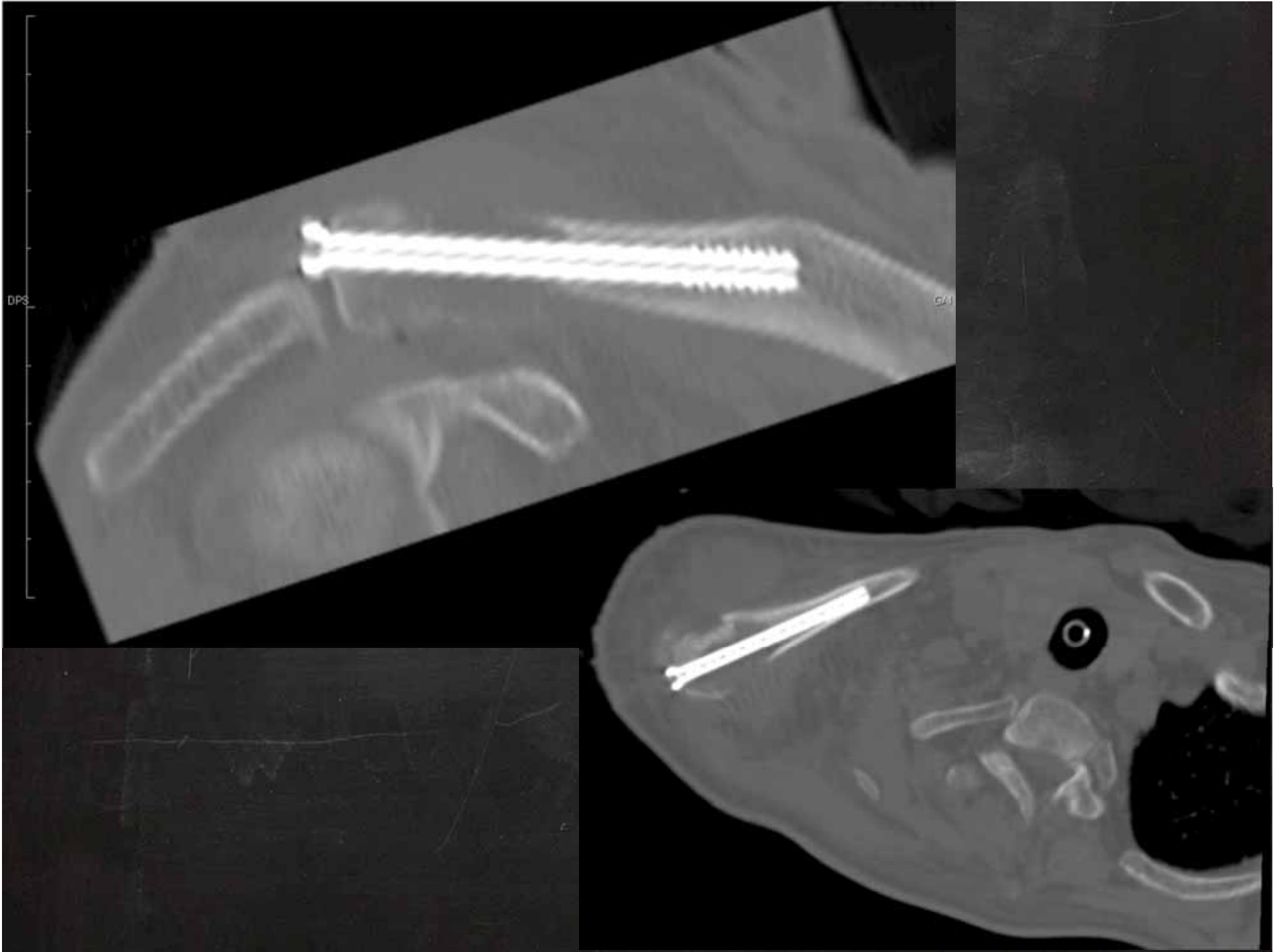
*Freitas et al. CIRSE 2013*

# Chirurgie et extension tumorale Douleuruse

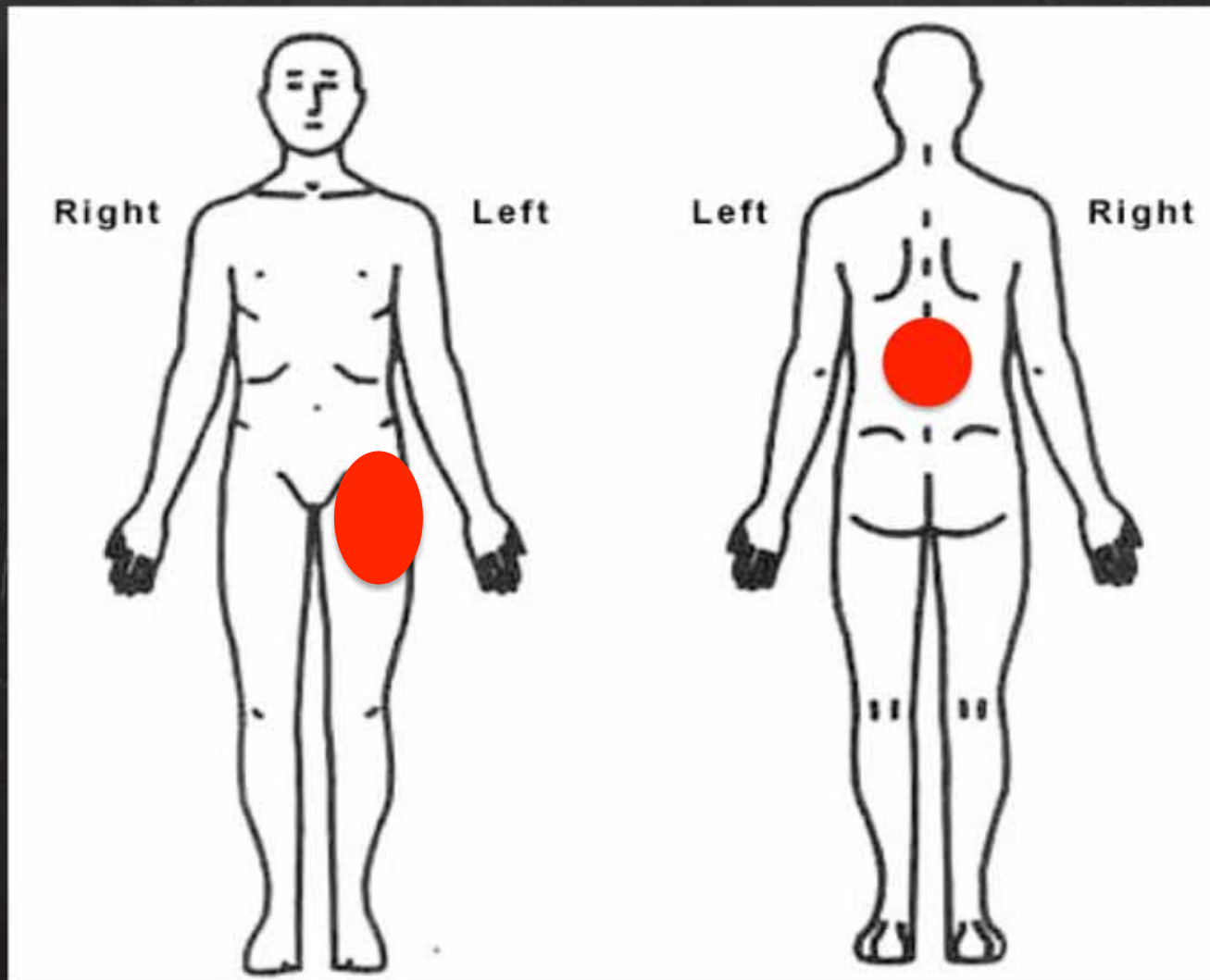


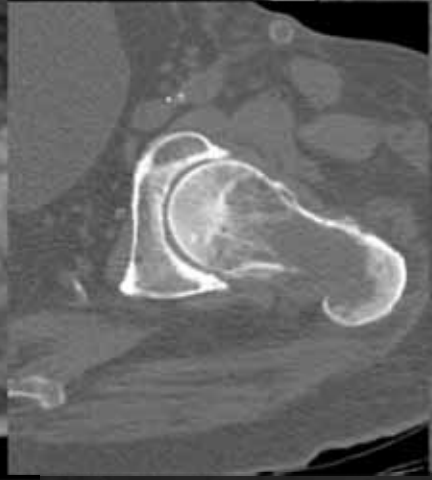
# Fracture Clavicule. Douleurs Intense. Propositions Thérapeutiques?





# Cas : Homme de 67 ans, stade avancé de cancer pulmonaire métastatique

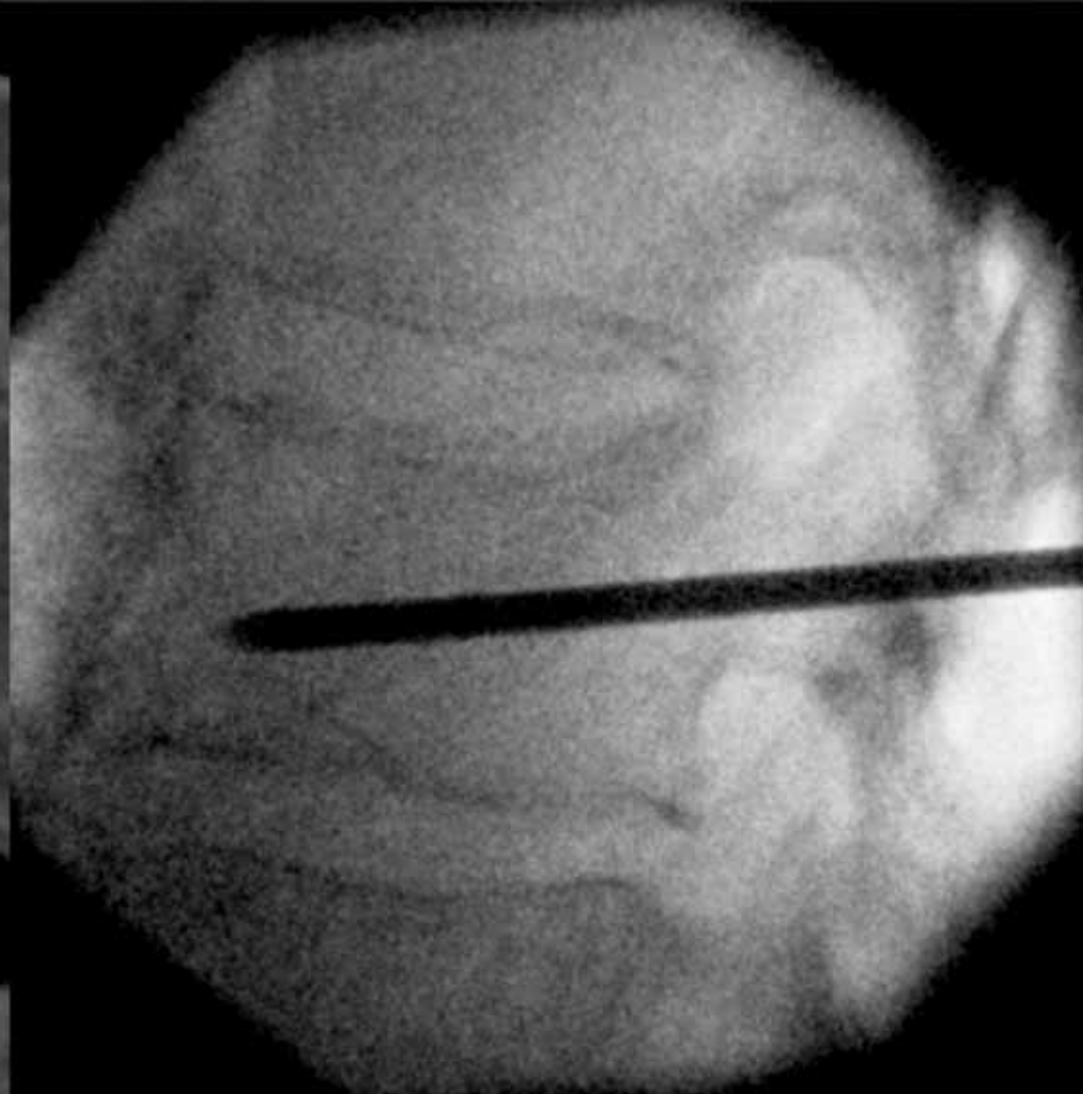




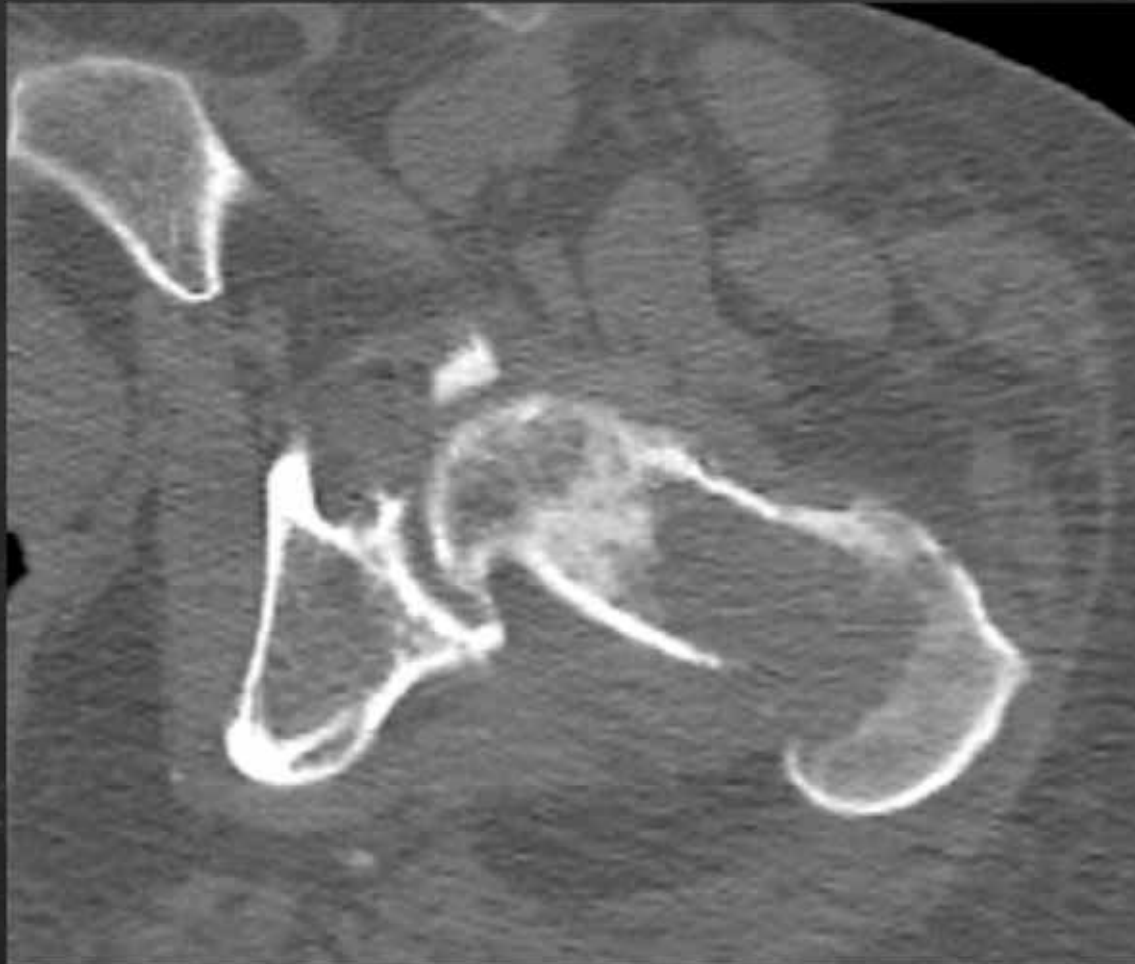


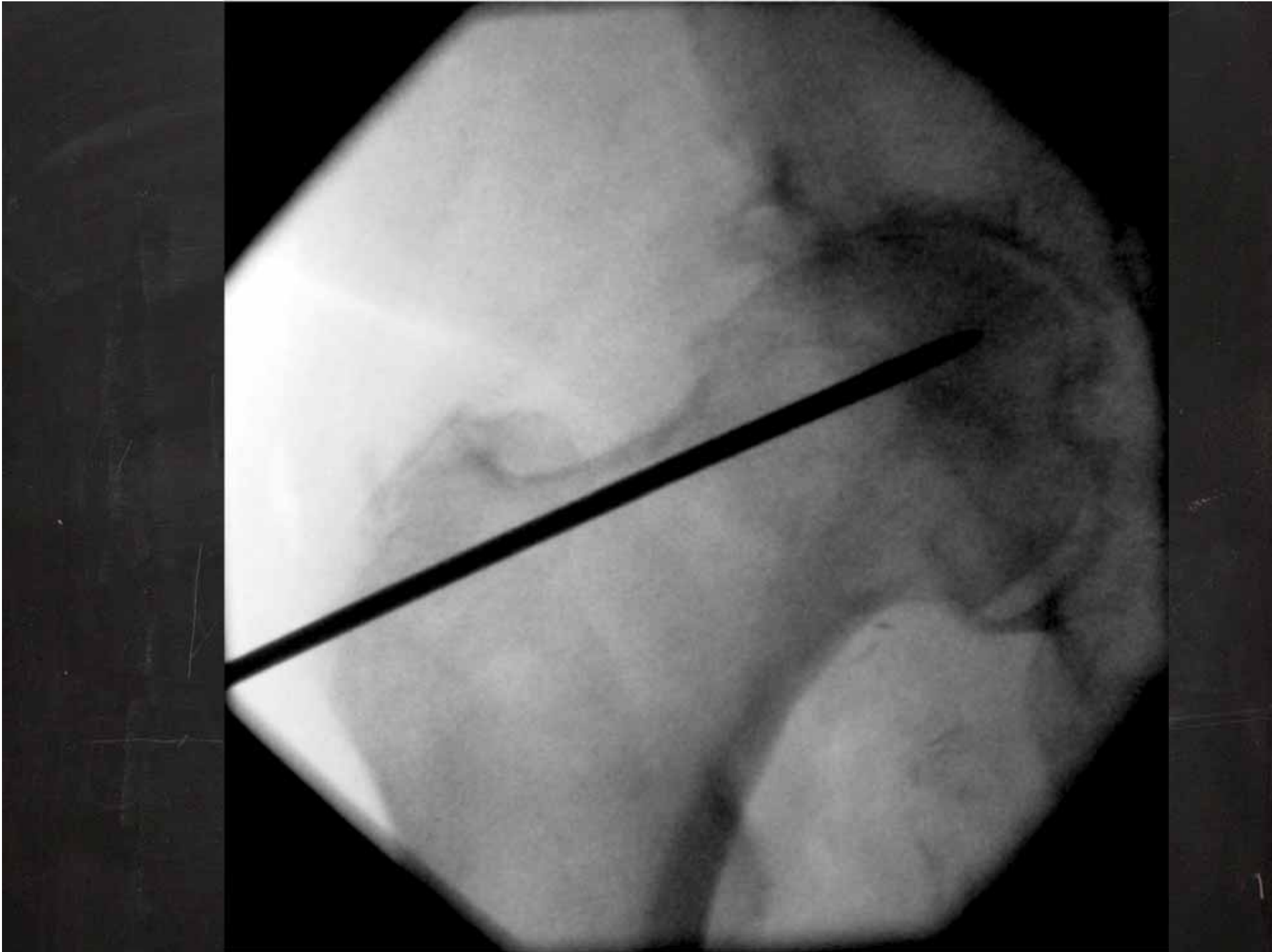


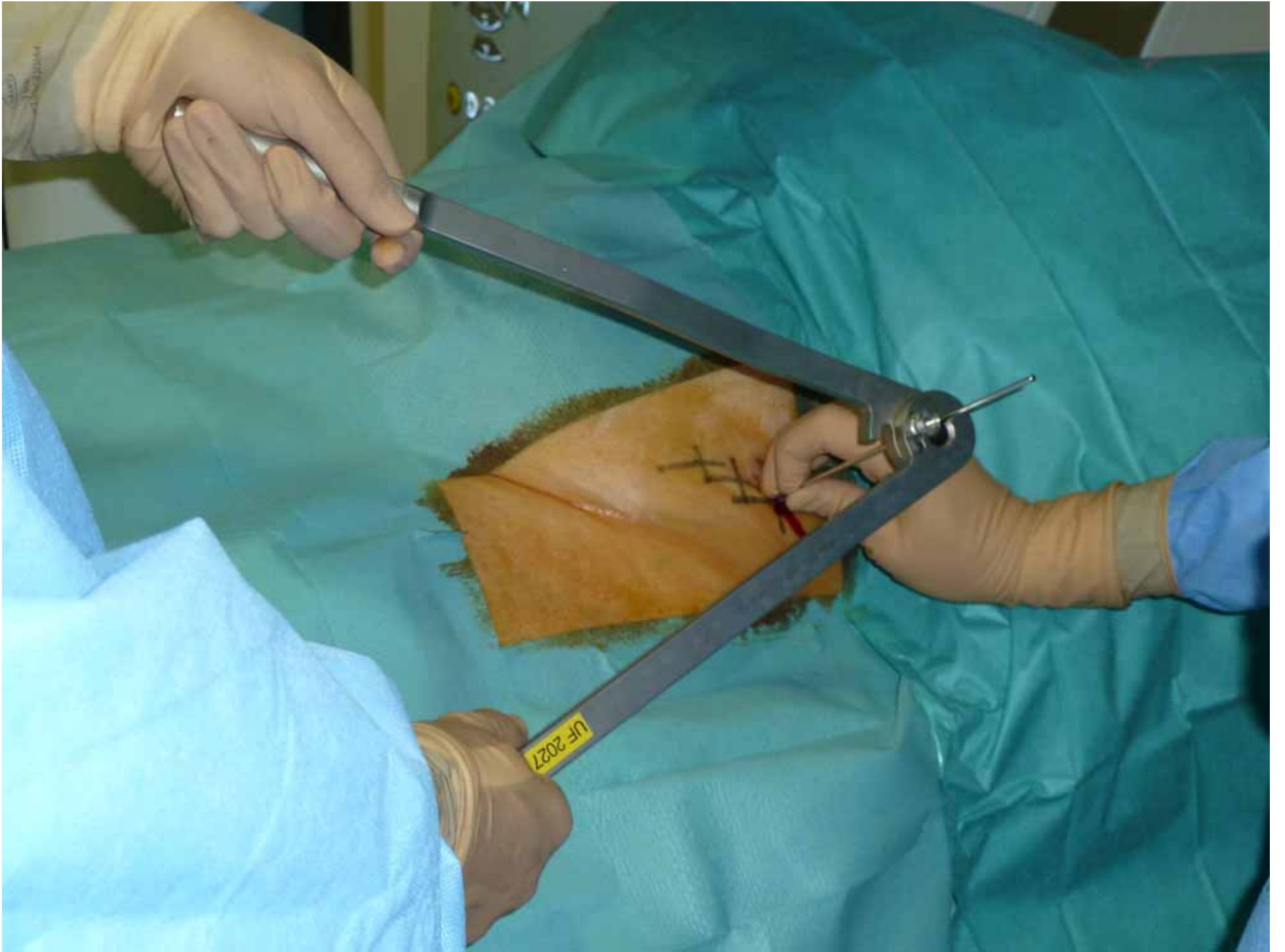
# Vertébroplastie



Col fémoral?



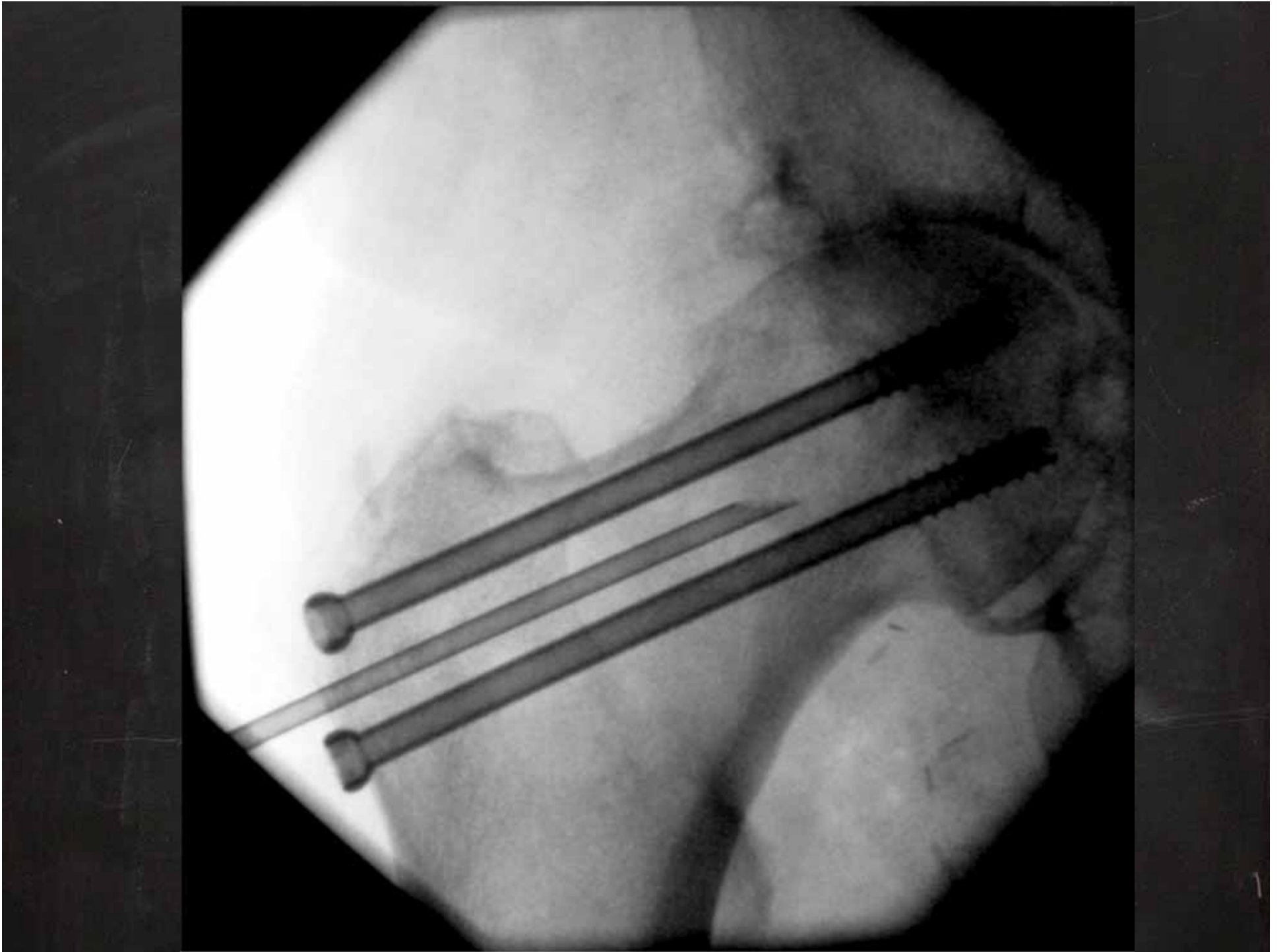




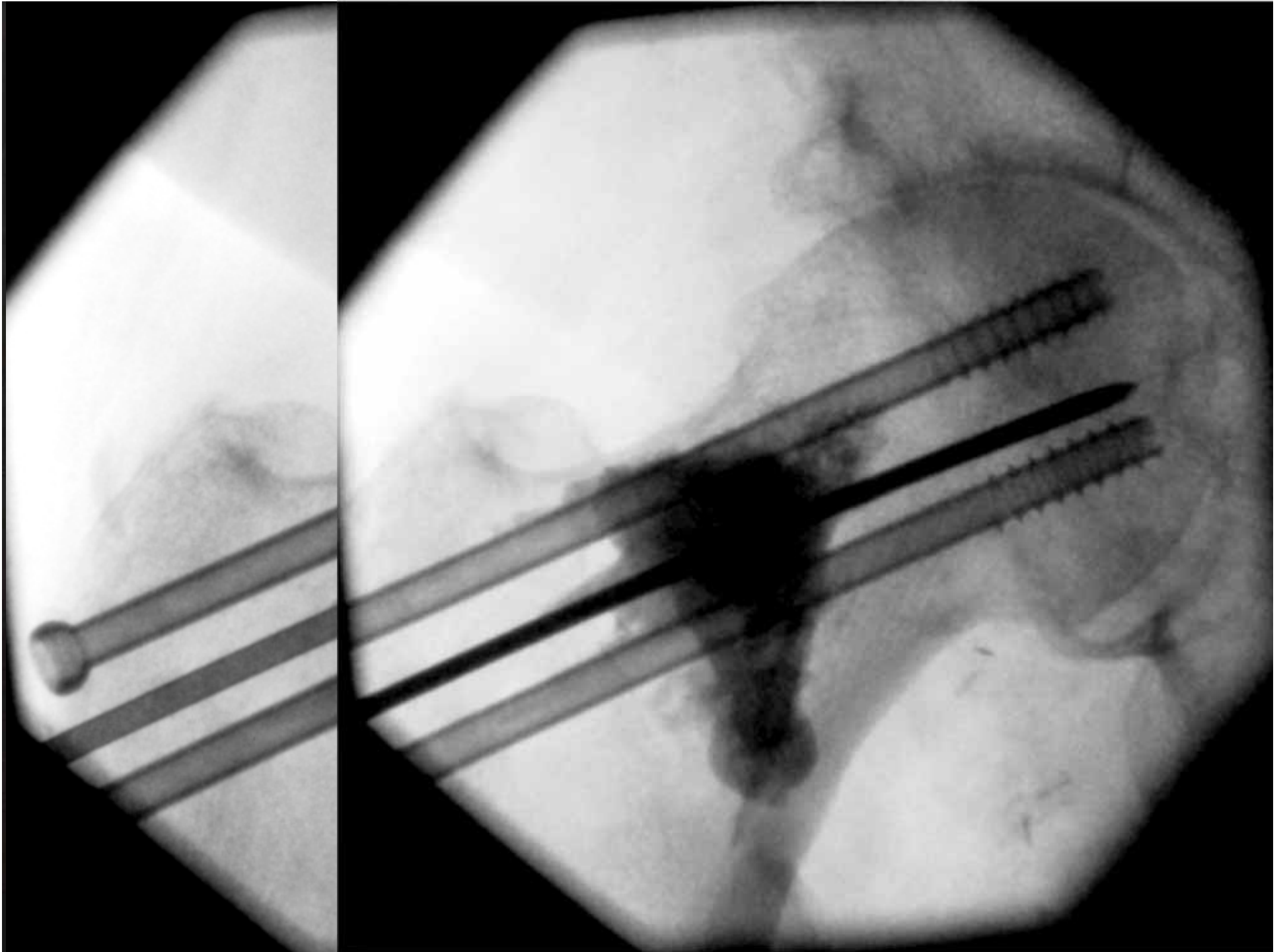




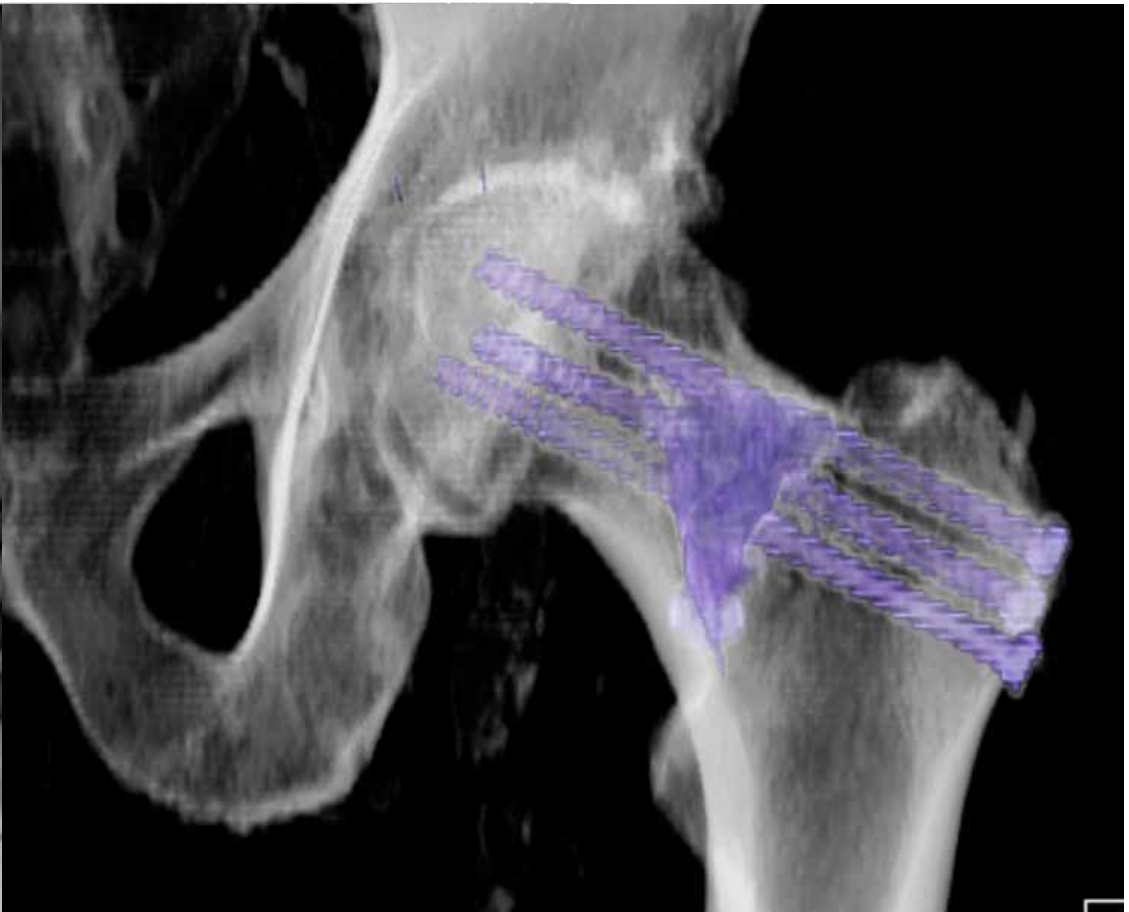








la vue : 877 x 877  
10 LF : 47046



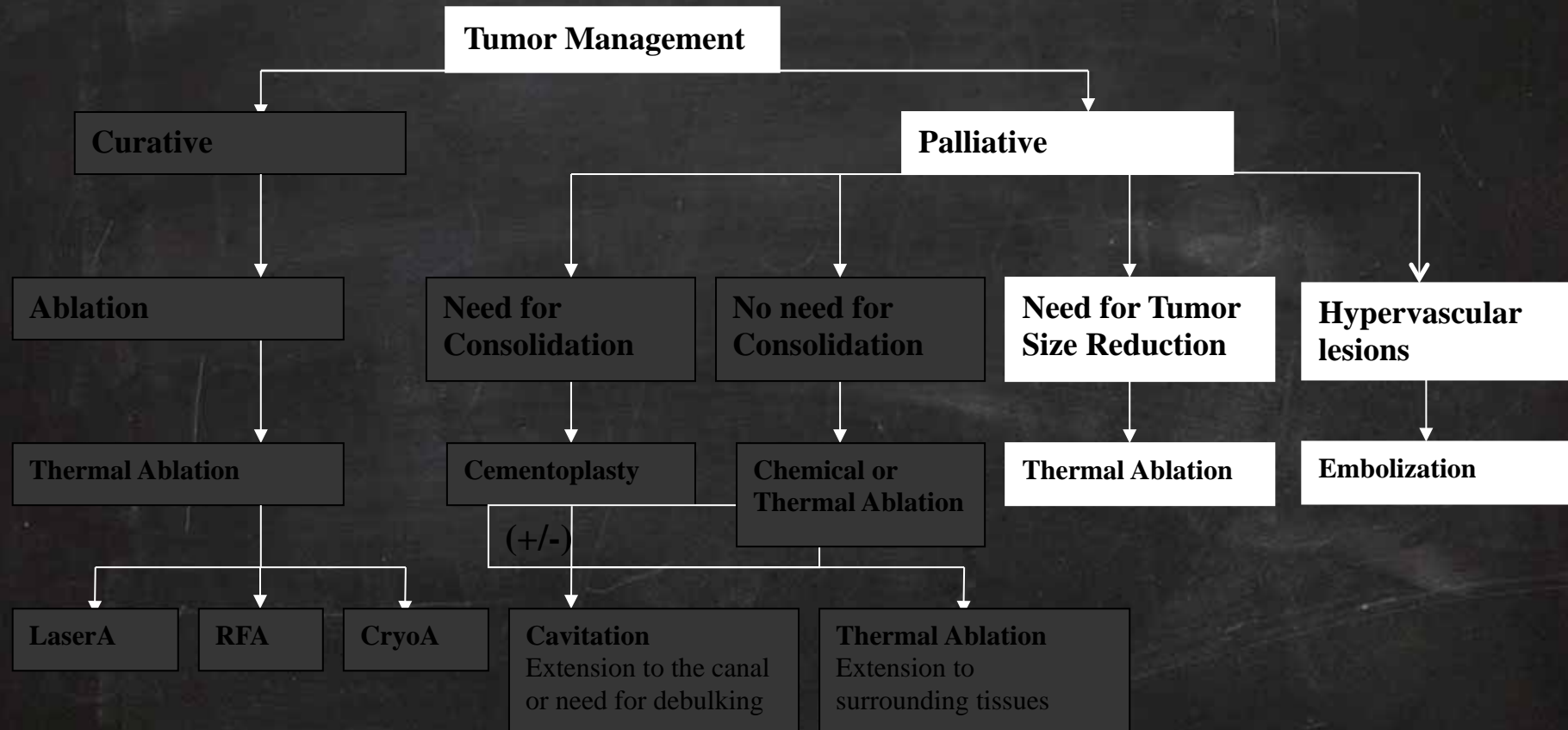
86% Angle : 0

pressé

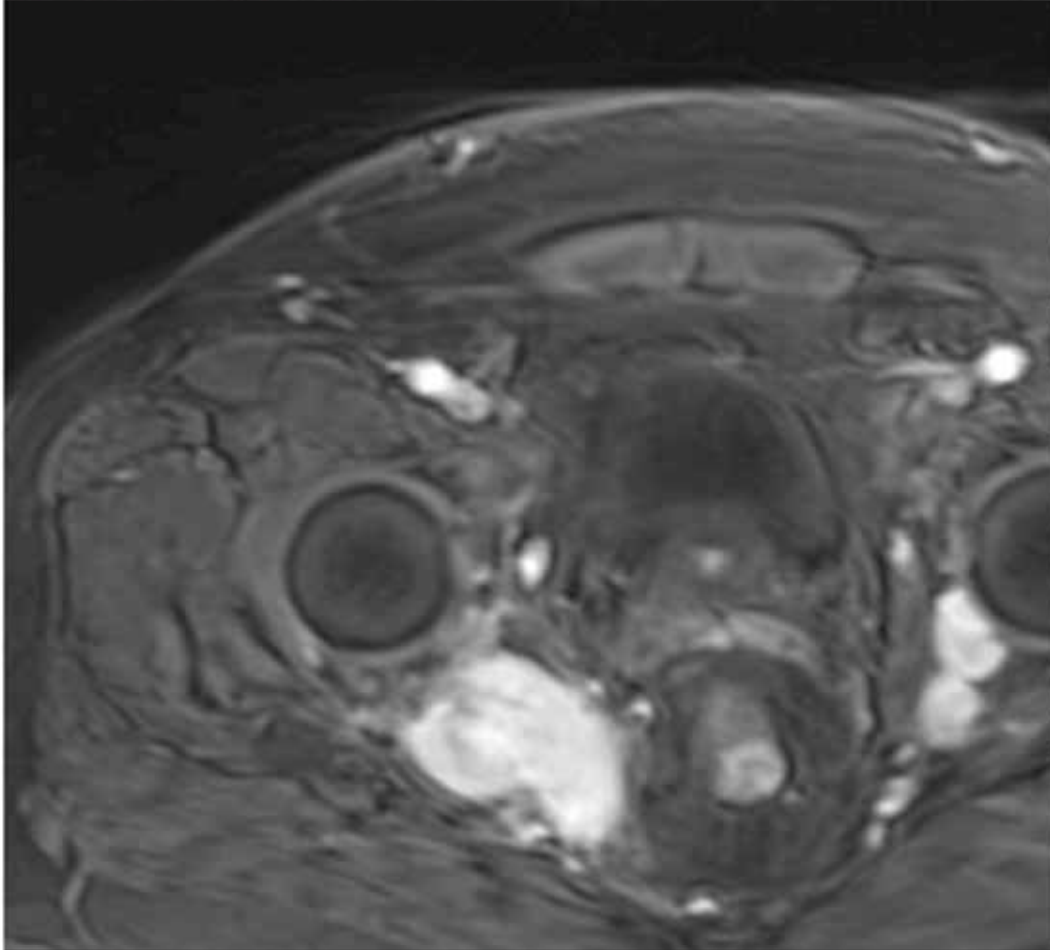
# RESULTATS

- Plus de 85% à 95% de résultats satisfaisants en cas de douleurs bien focalisées

# Tumor Management therapeutic option algorithm



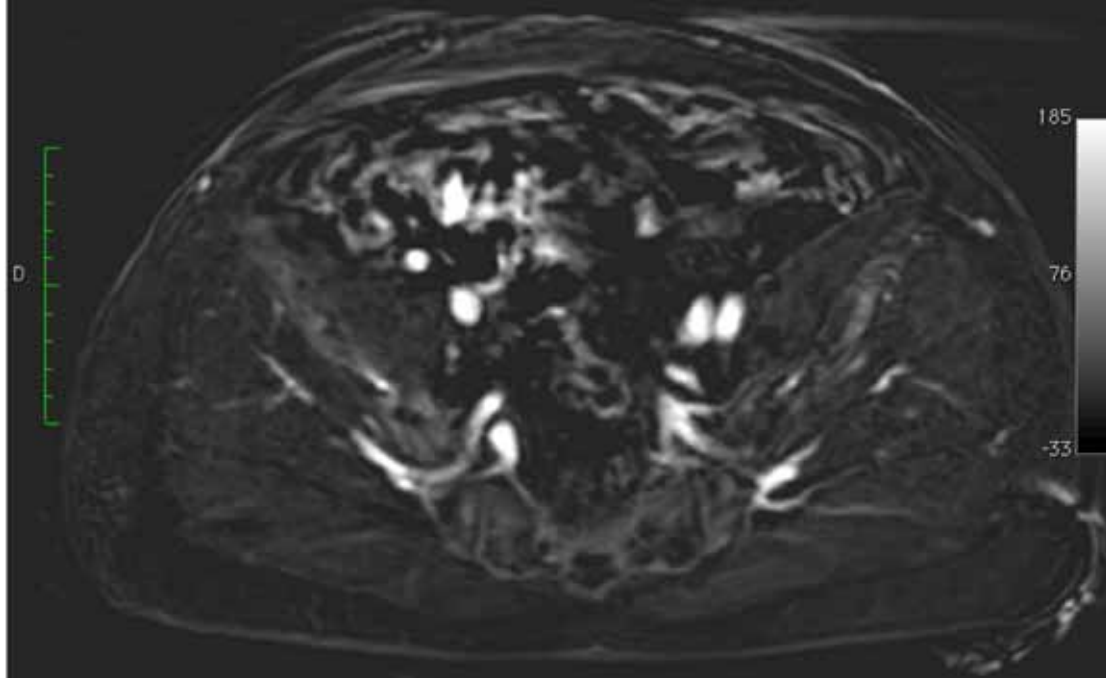
Case: 64 ans Métastase  
Hypervasculaire



# Embolisation & Ablation

Taille de l'image : 320 x 320  
Taille de la vue : 881 x 881  
NF : 76 LF : 218

1253481 ( 64 y , 64 y )  
Subtraction - SOUS 1MIN  
A10070937350  
14



185  
76  
-33



Zoom : 275% Angle : 0  
Im : 13/96 S (S -> I)  
Non compressé  
Epaisseur : 2.60 mm Position : 49.82 mm

TE : 1.6 TR : 4.2  
FS : 1.5  
17/01/13 15:45:46  
Made in OsirX

Taille de l'image : 1024 x 1024  
Taille de la vue : 1247 x 881  
NF : 563 LF : 683

1253481 ( 64 y , 63 y )  
Thorax.Fort. 2D Scopic 7.5 Is - - - - - Pouxons 3 Is  
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8

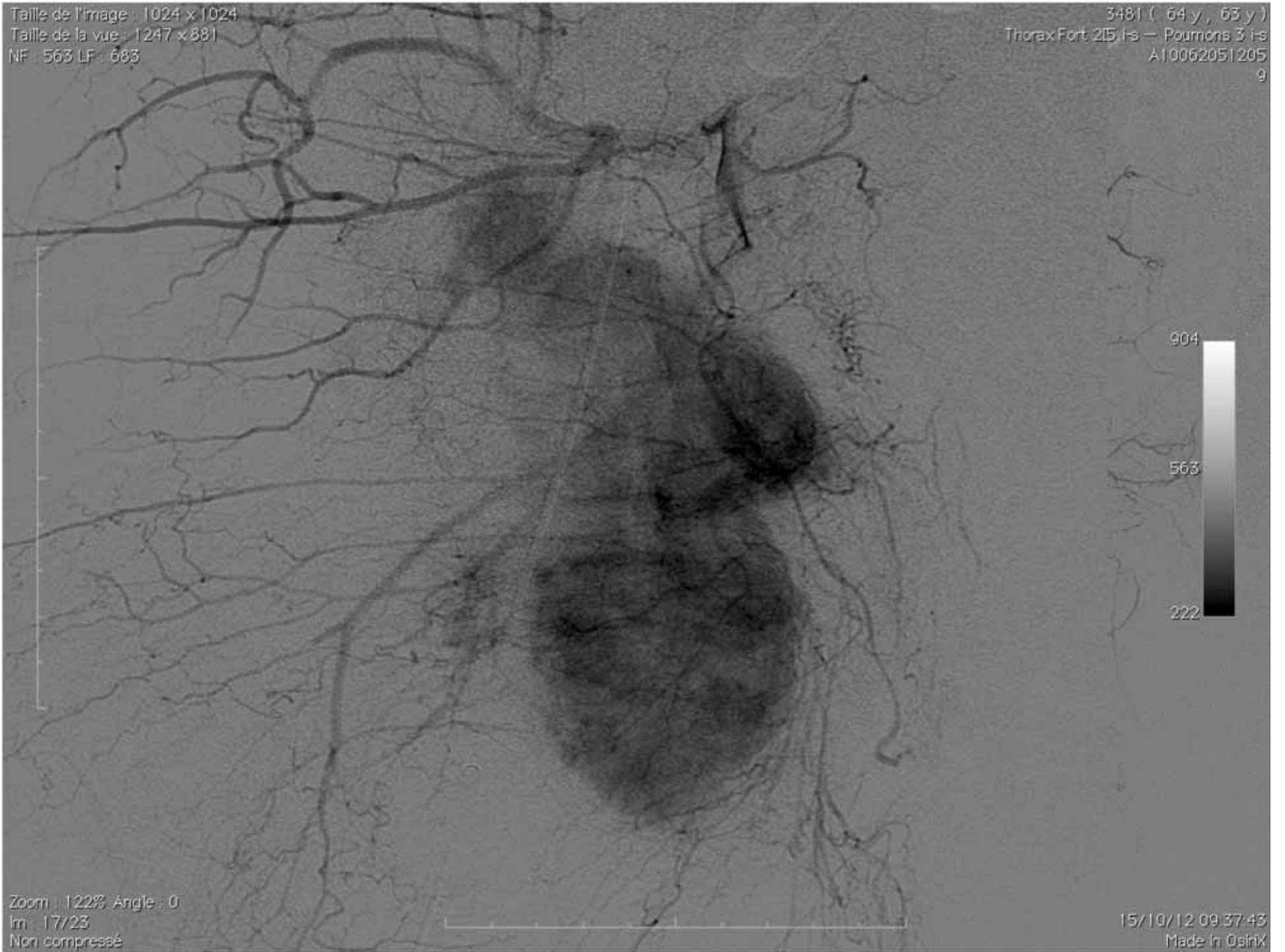


Zoom : 122% Angle : 0  
Im : 1/23  
Non compressé

15/10/12 09:36:00  
Made in OstrIX

Taille de l'image : 1024 x 1024  
Taille de la vue : 1247 x 881  
NF : 563 LF : 683

3481 ( 64 y , 63 y )  
ThoraxFort 215 i-s — Pouxmons 3 i-s  
A10062051205  
9



Zoom : 122% Angle : 0  
Im : 17/23  
Non compressé

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Made in OsiriX



Taille de l'image : 1024 x 1024  
Taille de la vue : 881 x 881  
NF : 563 LF : 683

1253481 ( 64 y , 63 y )  
Thorax.Fort.2D Scope 7.5 I-s — Poursues 2 I-s  
A10012051205  
34



## CONTROLE POSTEMBOLISATION

Zoom : 86% Angle : 0  
Im : 1/28  
Non compressé

15/10/12 11:18:39  
Made In Osirix

Taille de l'image : 1024 x 1024  
Taille de la vue : 881 x 881  
NF : 563 LF : 683

1253481 ( 64 y , 63 y )  
Thorax Fort 2D Scope 7.5 I-s — Pouvons 2 I-s  
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CONTROLE POSTEMBOLISATION

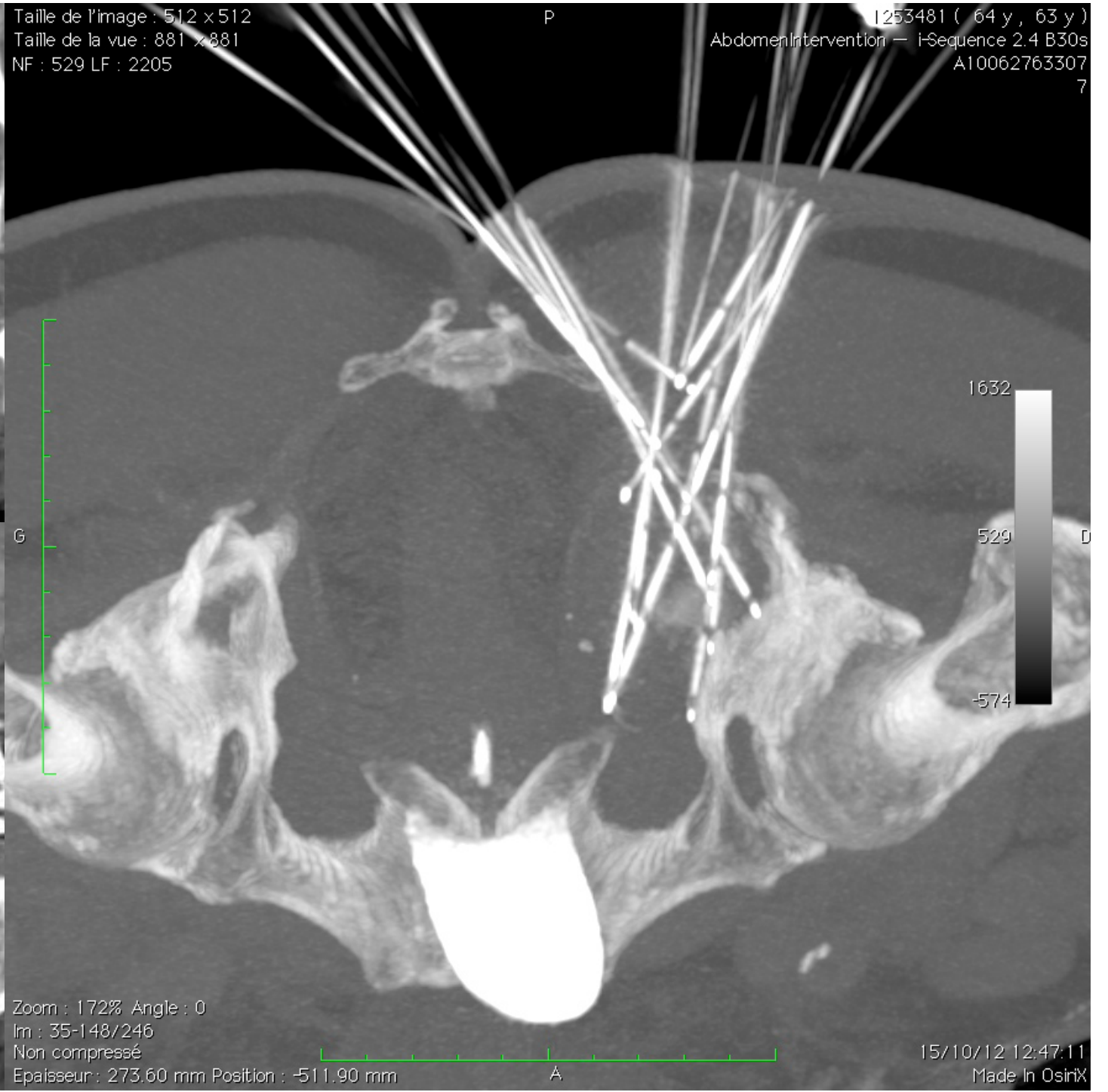
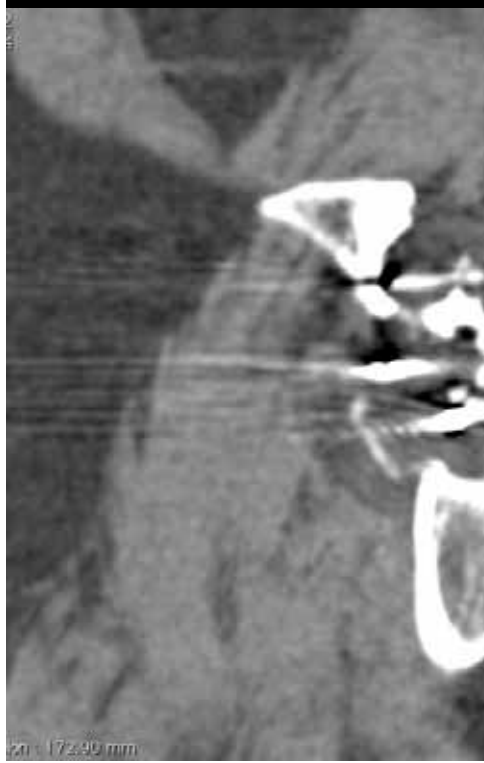
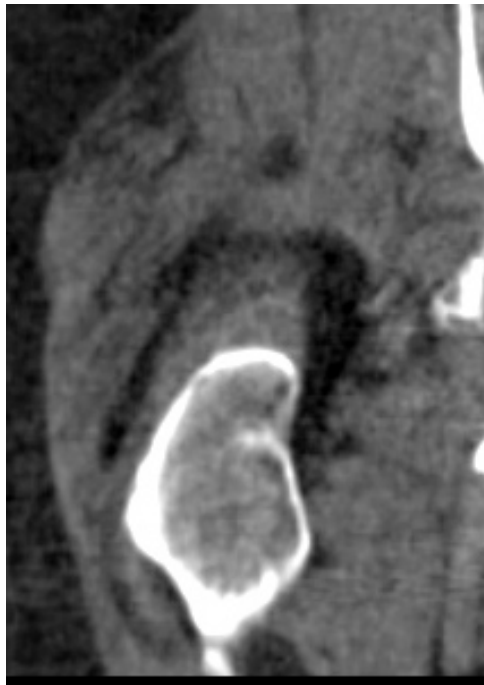
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Im : 14/28  
Non compressé

15/10/12 11:18:39  
Made in OsiriX



Taille de l'image : 512 x 512  
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NF : 529 LF : 2205

1253481 ( 64 y , 63 y )  
Abdomen Intervention — i-Sequence 2.4 B30s  
A10062763307  
7



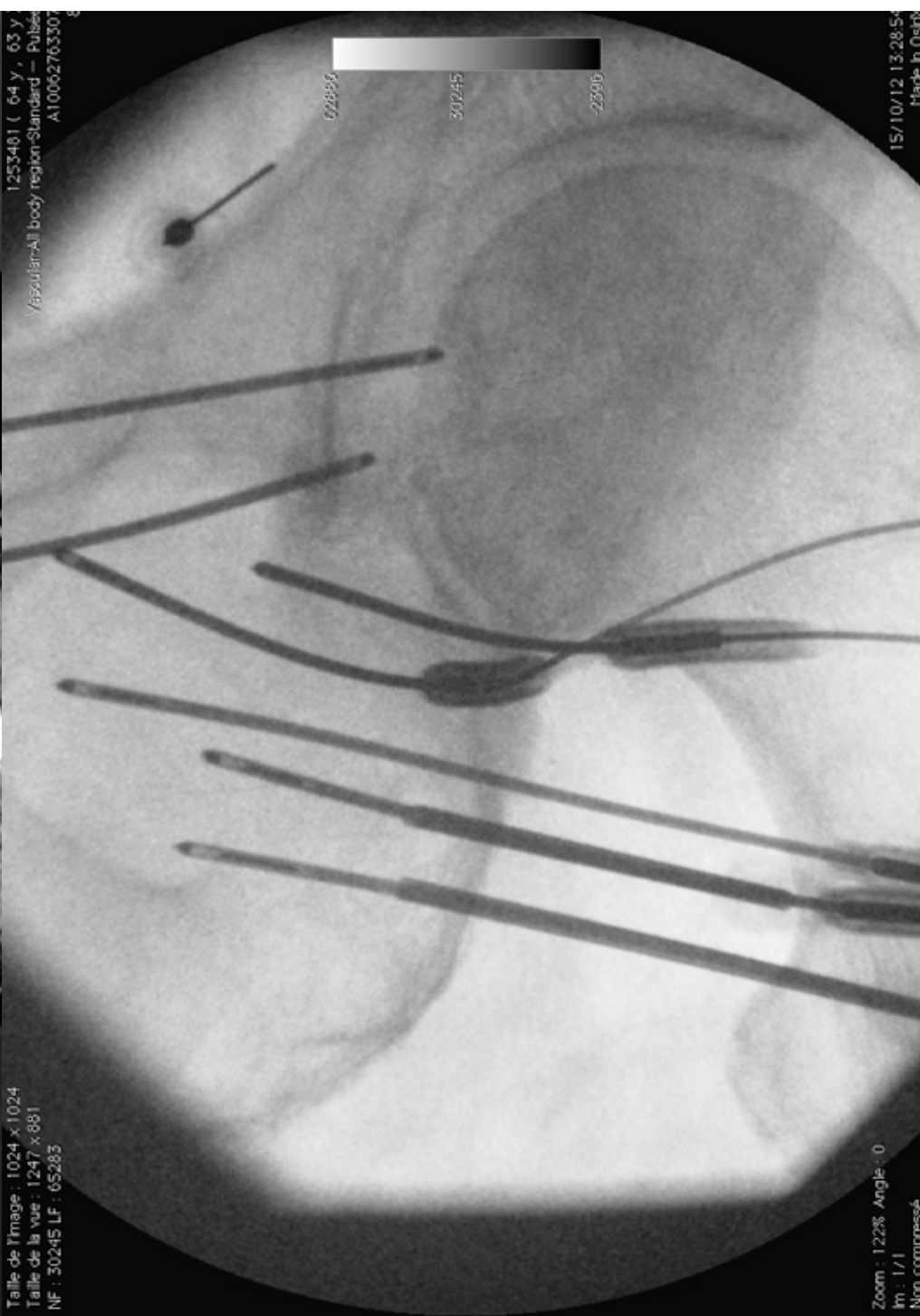
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Non compressé  
Epaisseur : 273.60 mm Position : -511.90 mm

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Made In OsiriX



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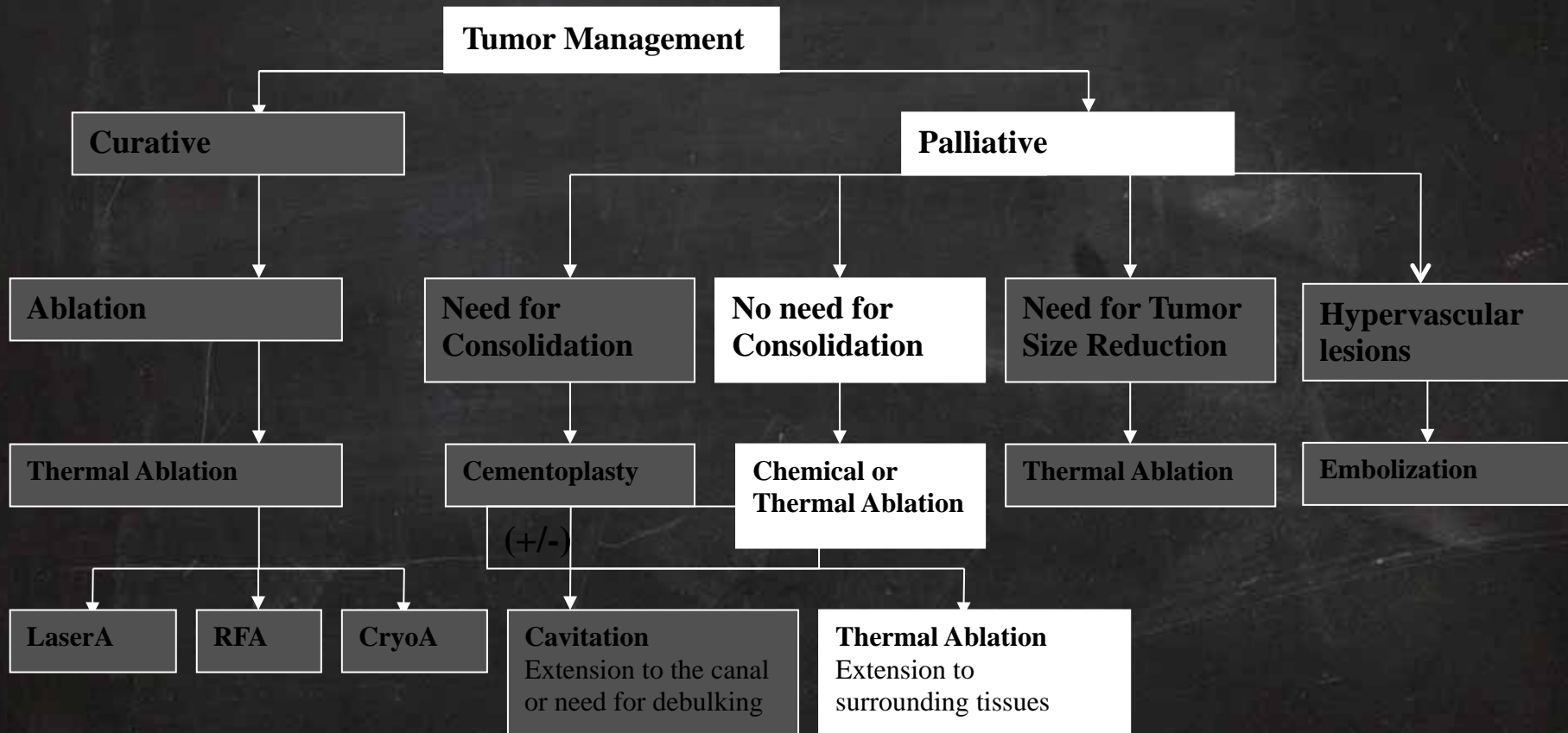
1253401 ( 64 y, 63 y )  
Vasculaire-All body region-Standard - Pulsé  
AI10062763307



Zoom : 122% Angle : 0  
Im : 1/1  
Non compressés

15/10/12 13:28:54  
Made in Océan

# Tumor Management therapeutic option algorithm



## 2. Traitement antalgique: Tumeur osseuse du squelette ou avec extension partie molle

⇒ **Ablation thermique** avec ou sans  
Cimentoplastie (selon nécessité de  
consolider

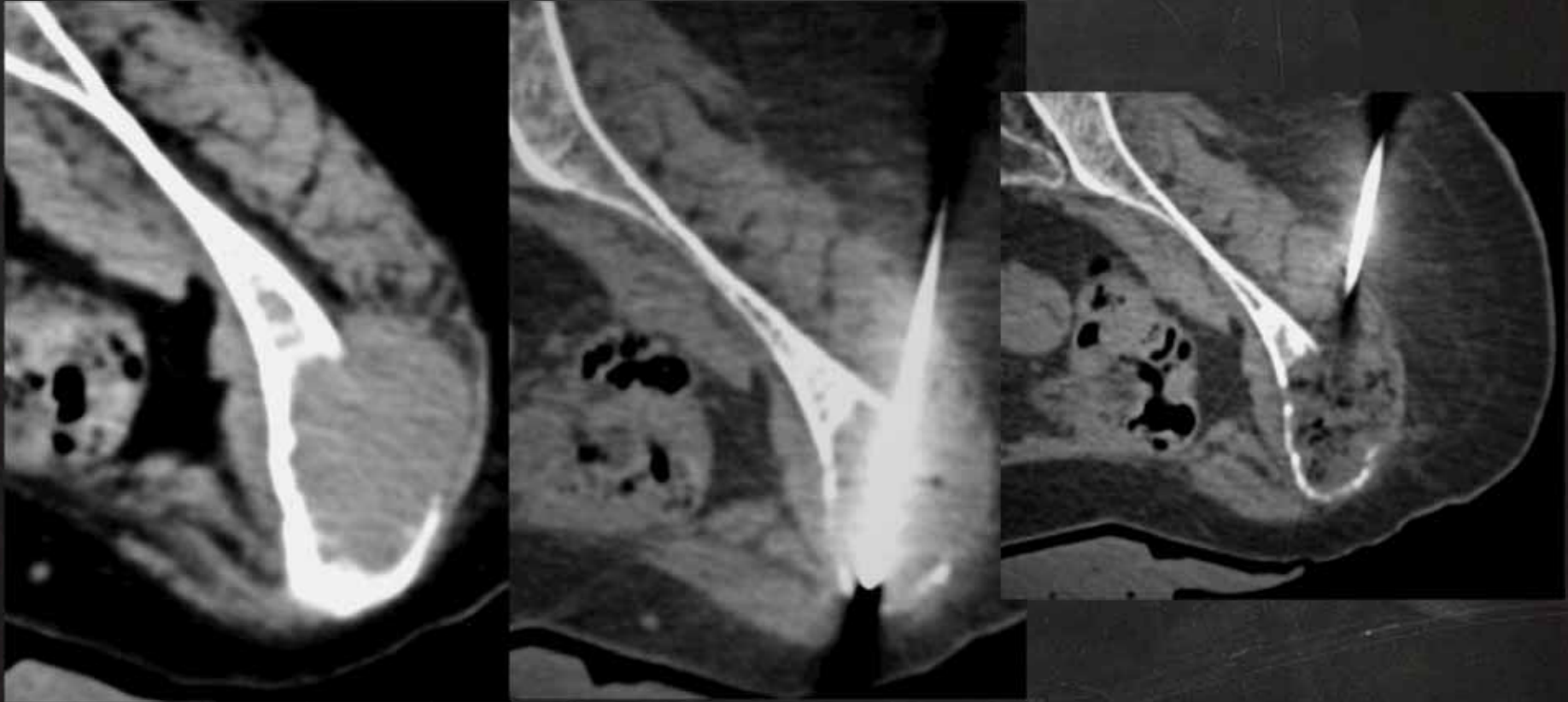
- Lorsque la tumeur douloureuse, sans risque fracturaire,
- l' ABLATION THERMIQUE peut apporter une solution antalgique efficace.
- RFA, MW, Cryo



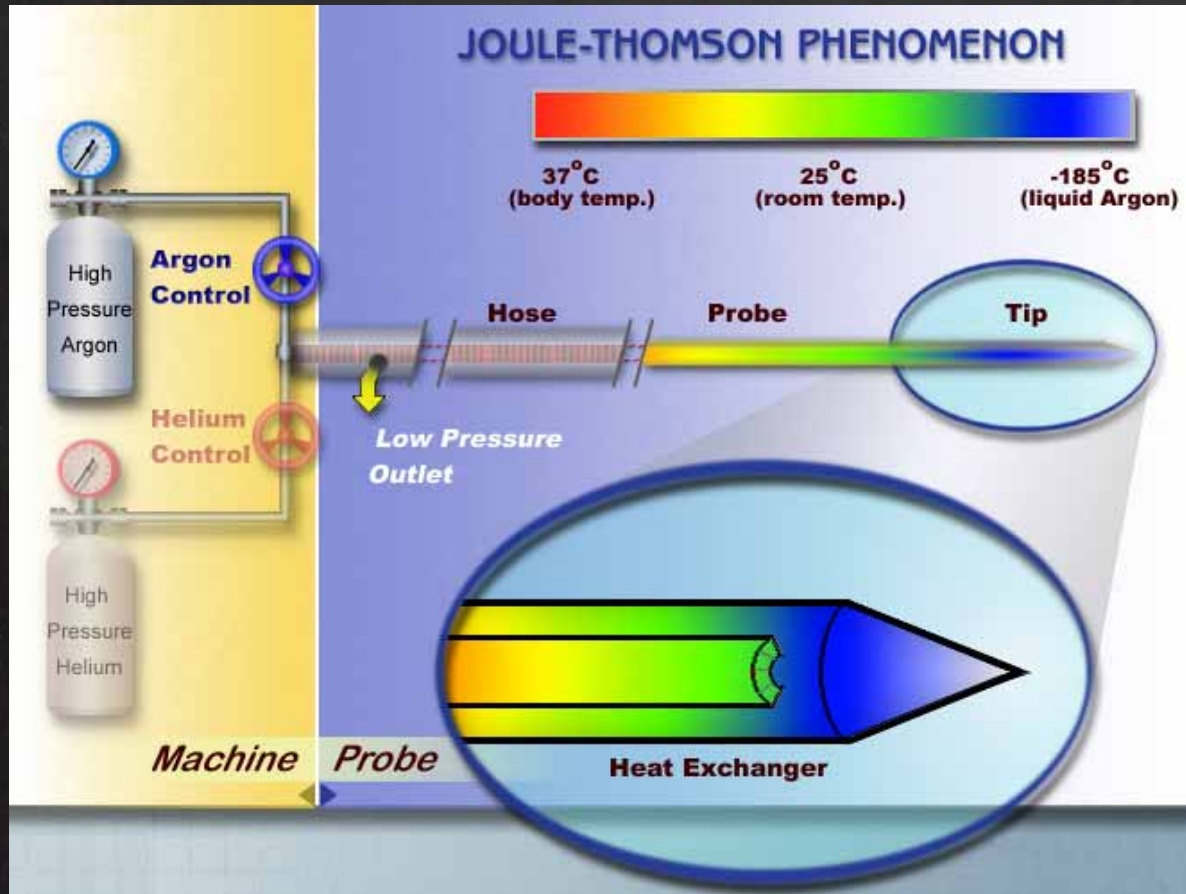
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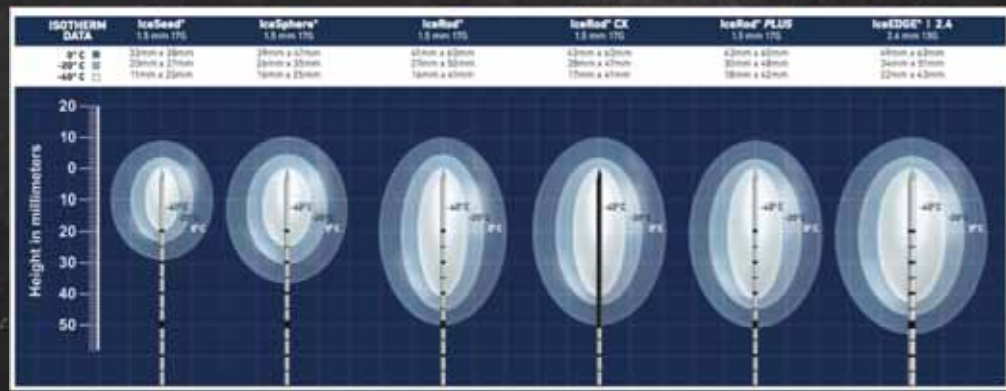
# RADIOFREQUENCE

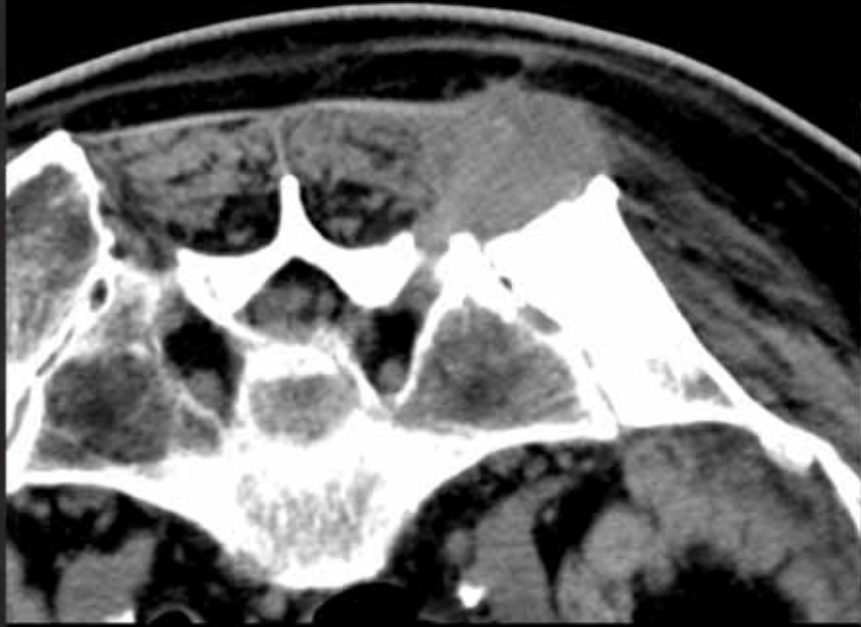


# CRYOTHERAPIE

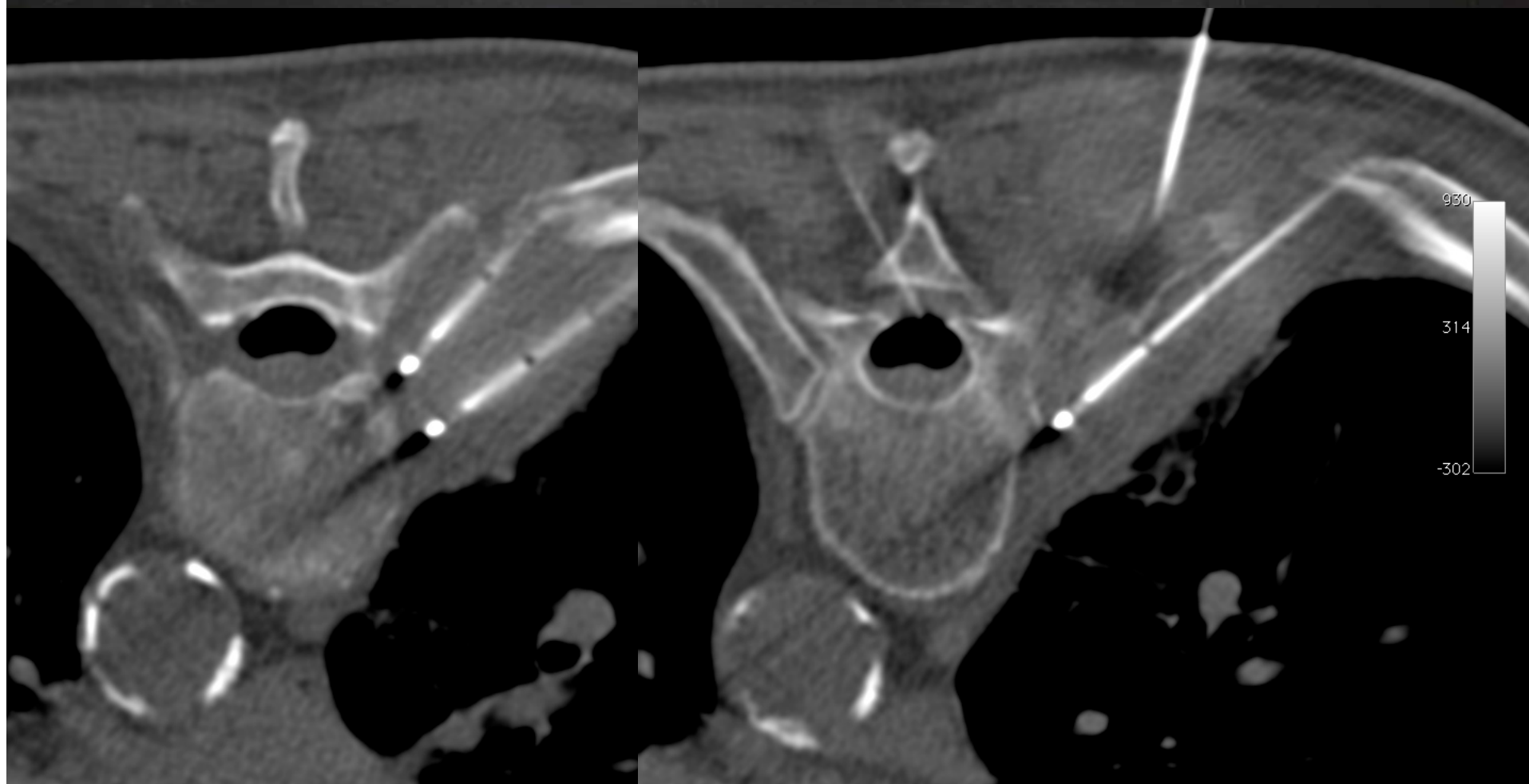


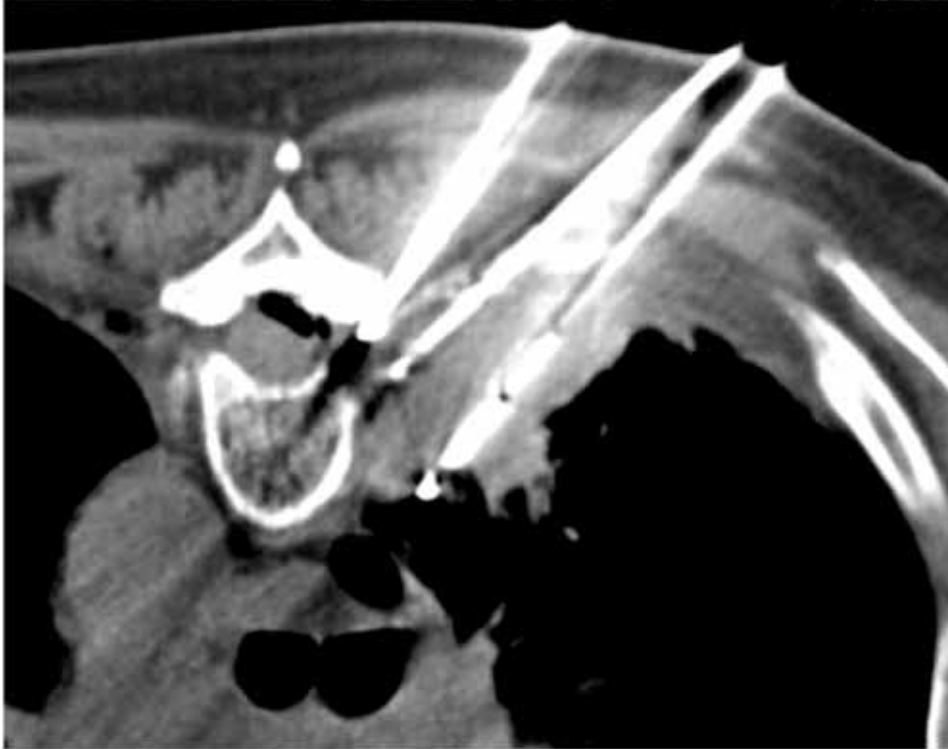
# CRYOTHERAPIE





# Traitement de la douleur

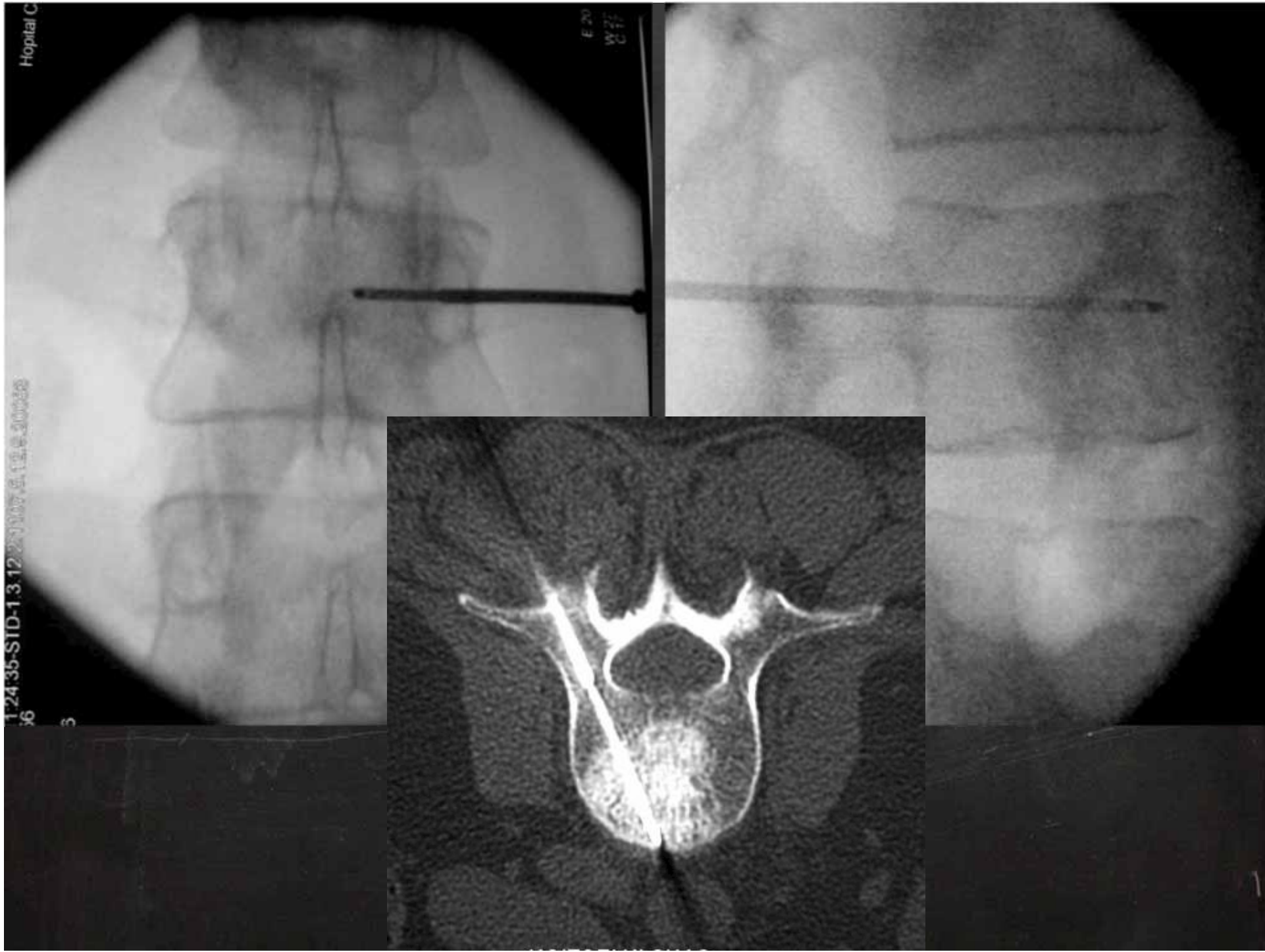




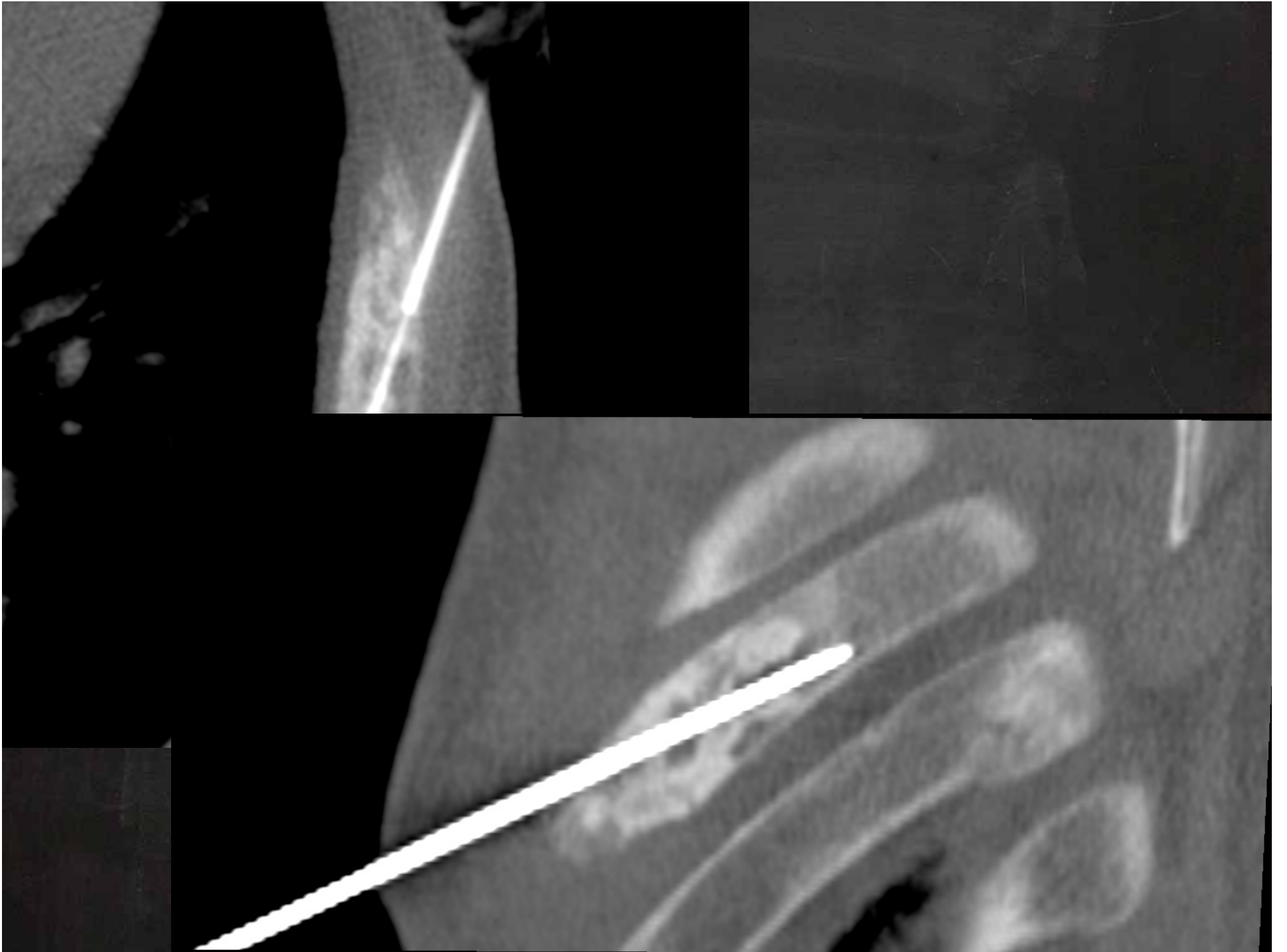
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Hopital C

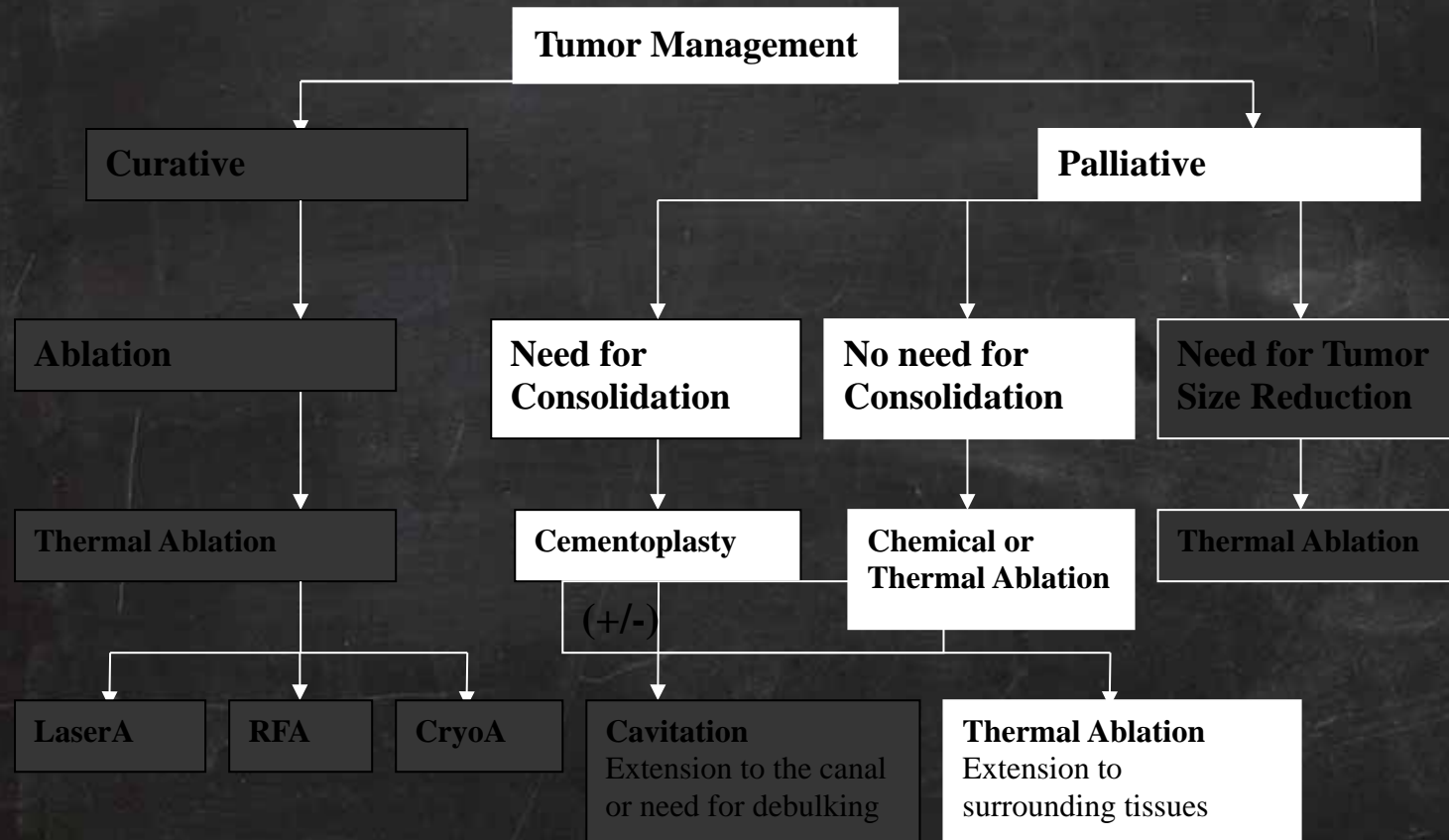
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W 27  
C 17



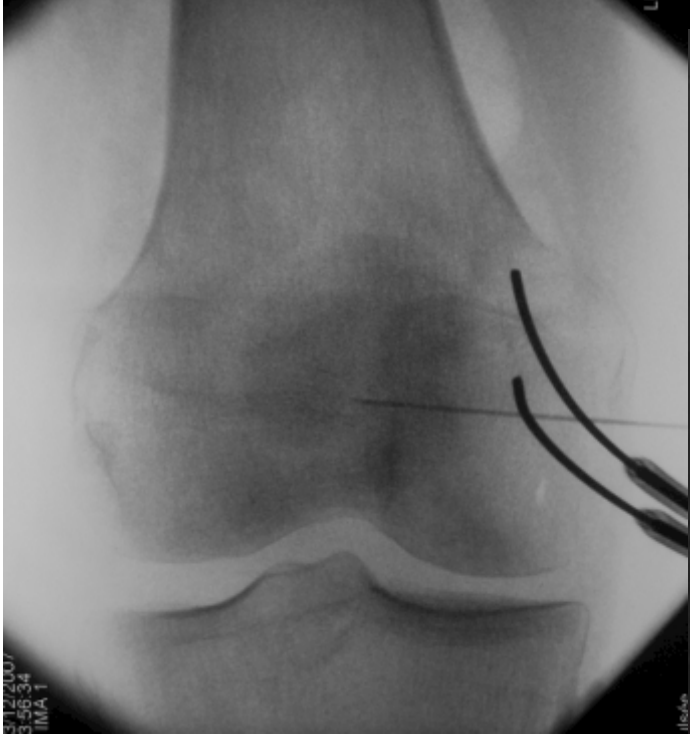




# Tumor Management therapeutic option algorithm







5/12/2007  
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TMA 1

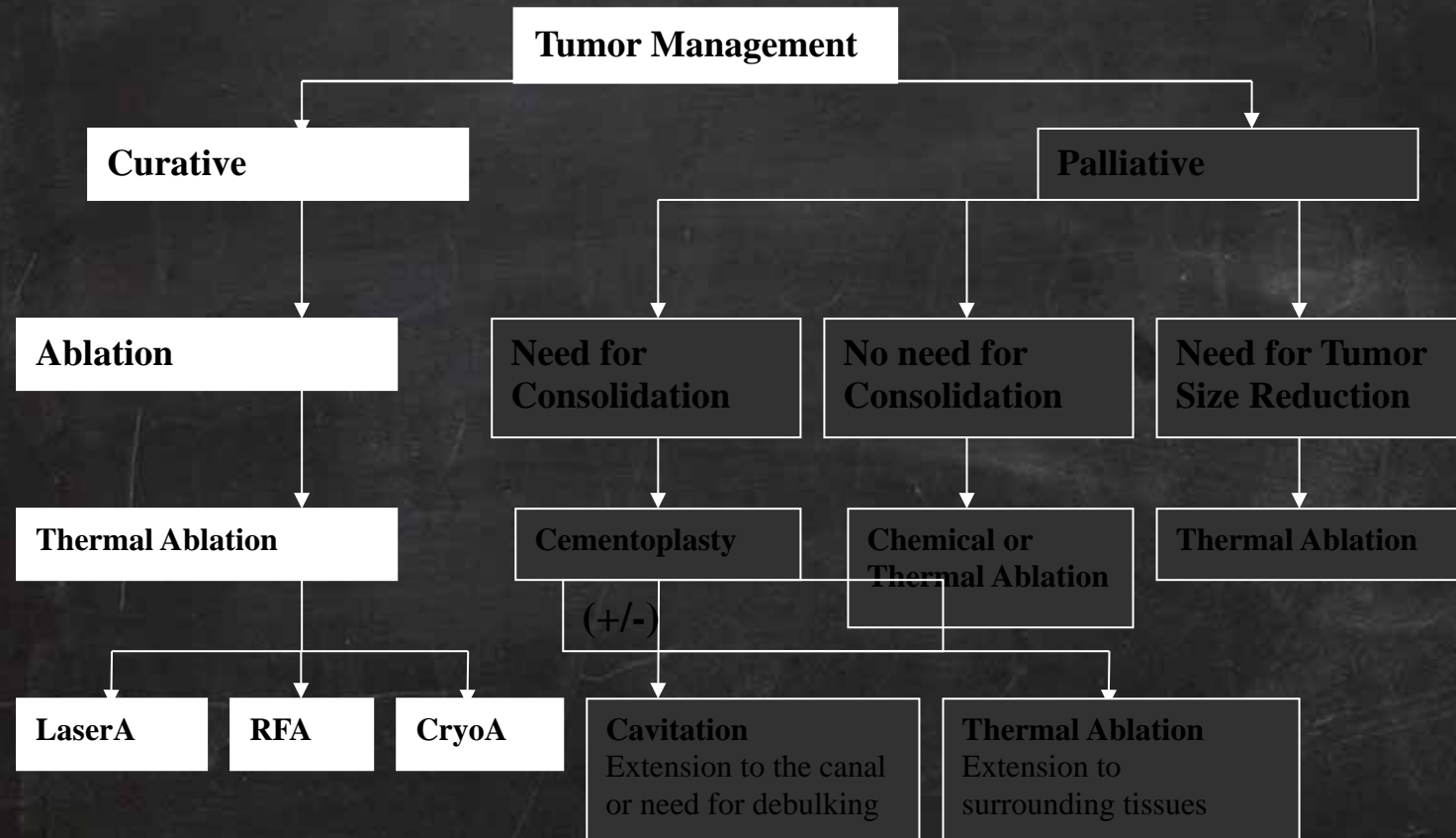
11/1/07



3. Traitement **curatif ou de clôture** : Tumeur unique ou nécessité de réduction tumorale

Ablation thermique avec ou sans Cimentoplastie (selon nécessité de consolider)

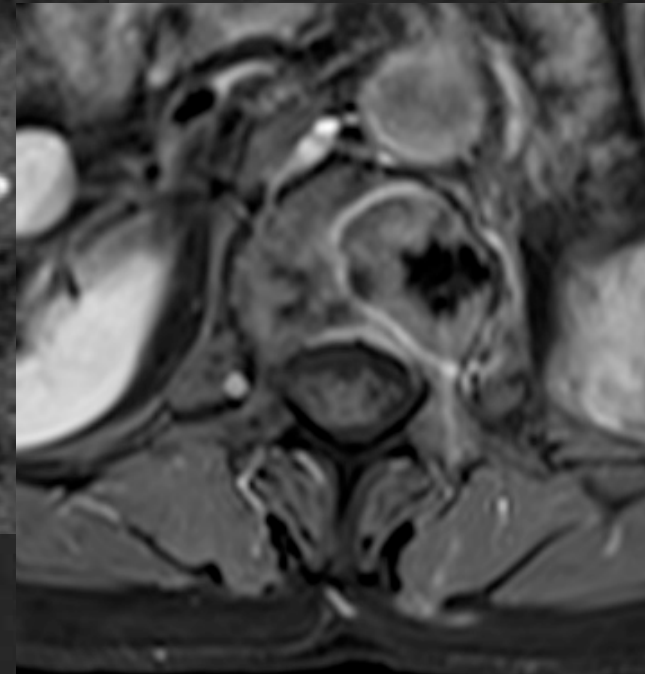
# Tumor Management therapeutic option algorithm



- Lorsque la tumeur osseuse est **unique** mais **non opérable**, l'objectif carcinologique peut orienter vers une **ablation complète**.
- Ce cas de figure reste rare. Si la tumeur implique le corps vertébral, une **vertébroplastie** sera systématiquement associée pour **prévenir une fracture** secondaire.

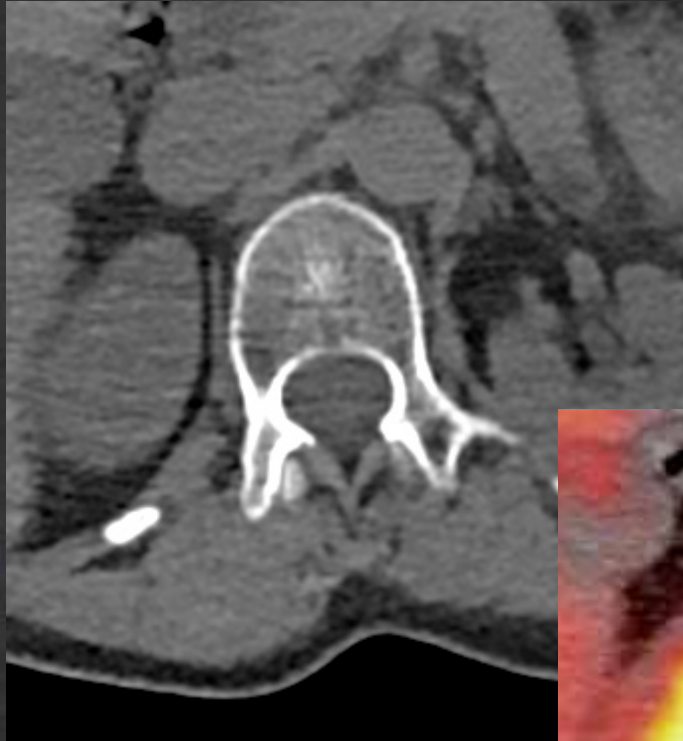
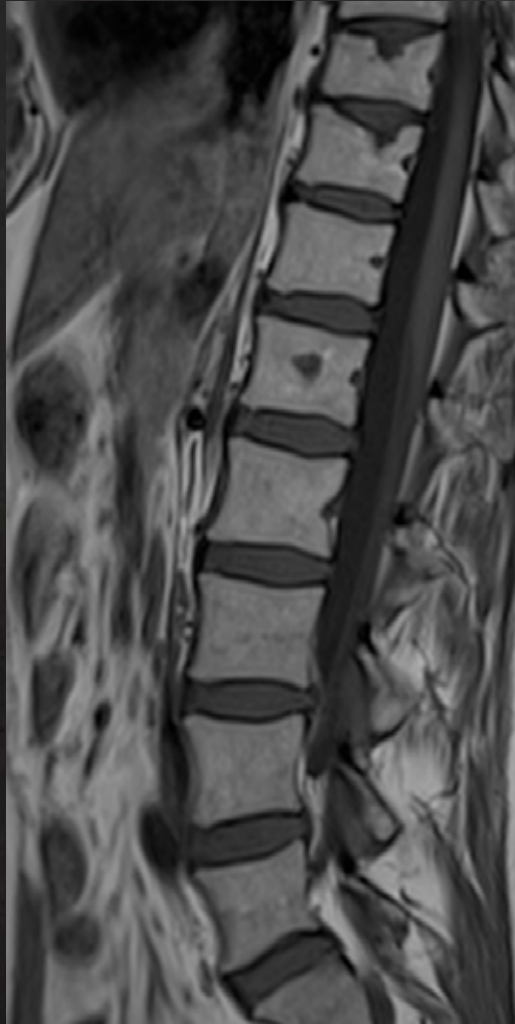


s'assurer que le traitement est complet

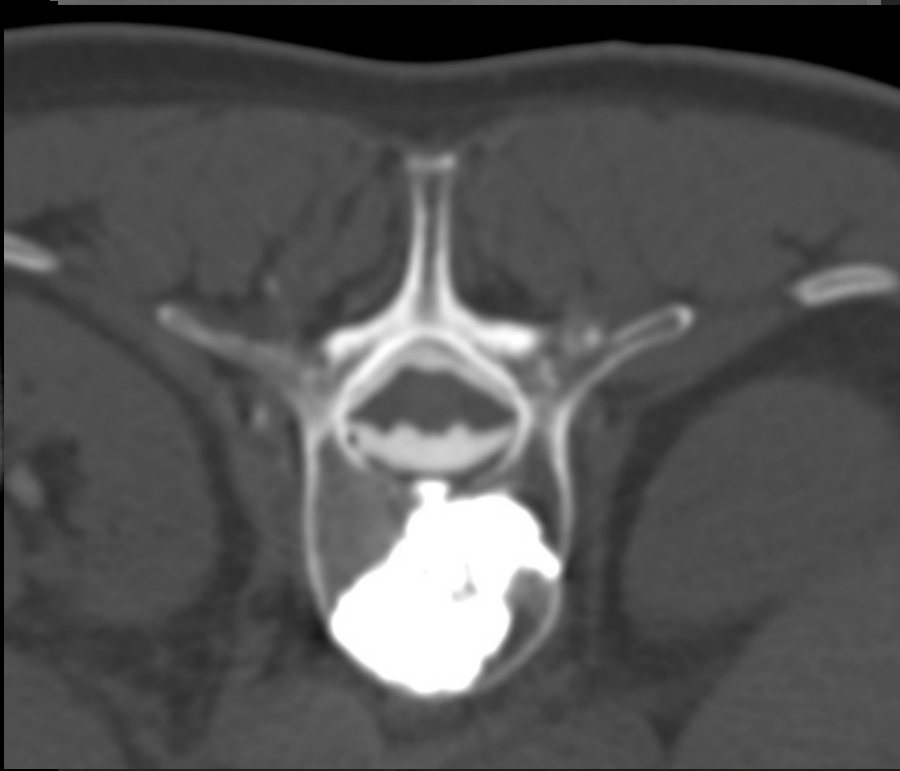
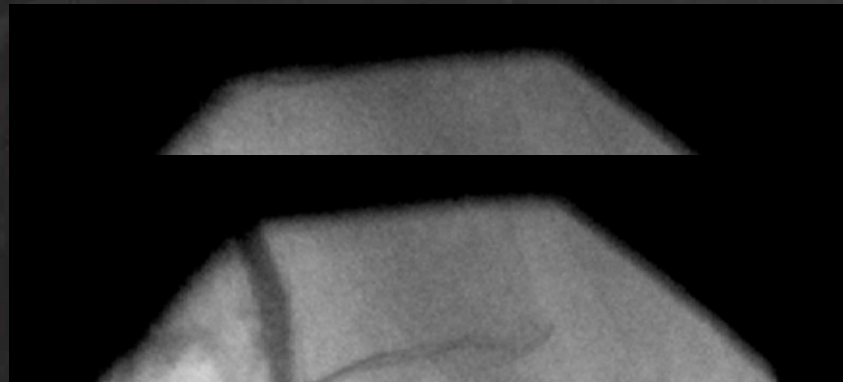


IRM +++

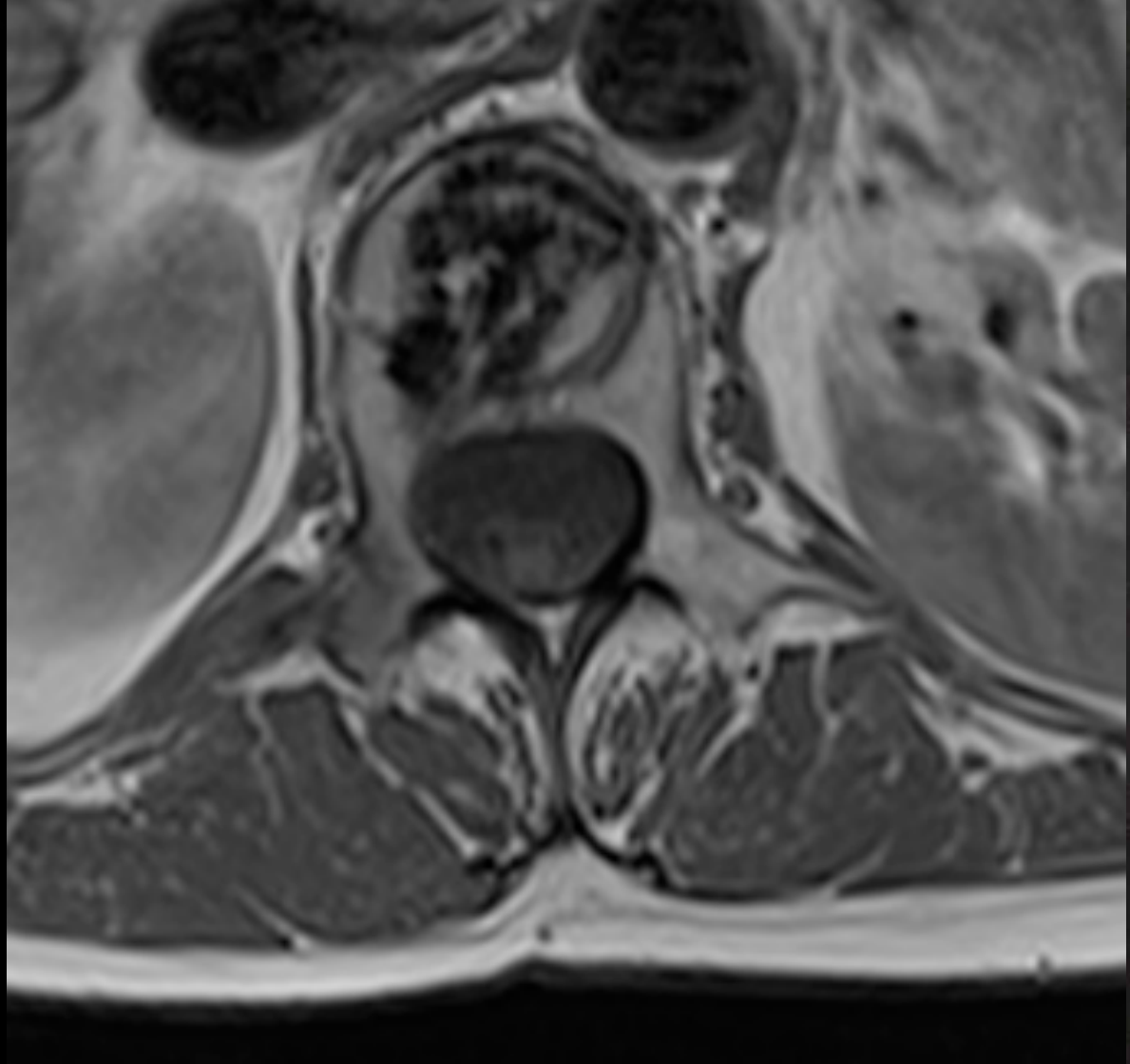
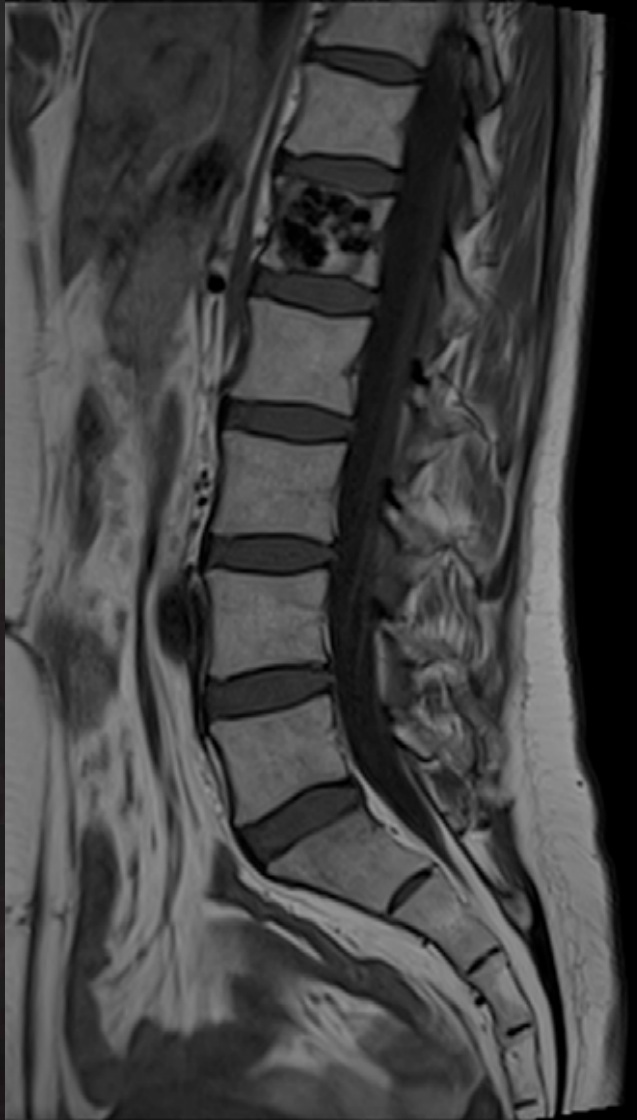
# métastase unique vertébrale



métastase unique vertébrale



# métastase unique vertébrale



# RESULTS Thermal Ablation

- During the first hours ( 6 to 48 hours ) patients presented **substantial amount of local pain** treated with narcotics and NSAID
  - Advantage of bloc technique for post procedural pain
- Mean VAS before **RFA**: 82mm
- Mean VAS one months after RFA : 28mm
- In our series of 147 cases, Satisfactory results (very Good to Fair) were obtained in **87%** of patients (n=128) based on the reduction of analgesics doses and VAS
- Mean Follow-up: 5.8 months

Simon CJ, Dupuy DE: Percutaneous minimally invasive therapies in the treatment of bone tumors: thermal ablation. Semin Musculoskelet Radiol. 2006.

Buy X, & al. Saline-infused bipolar radiofrequency ablation of high-risk spinal and par spinal neoplasms. AJR 2006.

Hoffmann RT, Jakobs TF, Trumm C, & al. Radiofrequency ablation in combination with osteoplasty in the treatment of painful metastatic bone disease. J Vasc Interv Radiol. 2008.

Callstrom MR, Charboneau JW. Image-guided palliation of painful metastases using percutaneous ablation. Tech Vasc Interv Radiol. 2007.

# Résultats Ablation Thermique

- Douleurs ( 6 à 48 heures ) œdème
- Moy. VAS avant RFA: 82mm
- Moy. VAS 1 mois après RFA : 28mm
- Séries de 147 cas, 87% de patients (n=128) baisse de plus de 3 points de VAS
- Suivie: 5.8 mois

Simon CJ, Dupuy DE: Percutaneous minimally invasive therapies in the treatment of bone tumors: thermal ablation. Semin Musculoskelet Radiol. 2006.

Buy X, & al. Saline-infused bipolar radiofrequency ablation of high-risk spinal and par spinal neoplasms. AJR 2006.

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Callstrom MR, Charboneau JW. Image-guided palliation of painful metastases using percutaneous ablation. Tech Vasc Interv Radiol. 2007.

# Complications ablation Thermique

- Douleurs Première heures
- Fièvre.
- Brulure cutanée: 3 cas
- Coagulation du nerf Fémoro-cutané
- Lésion thermique of S2-S4



# Conclusion

- \* Le choix du traitement dépend:
  - De l'état clinique du patient
  - Des possibilités anesthésiques
  - Du but à atteindre, consolidation, antalgie, traitement carcinologique
  - Enfin des facteurs économiques, les techniques les plus sophistiquées et coûteuses étant utilisées pour les cas les plus complexes





chirurgien



chirurgien



pneumologue



chirurgien

pneumologue

radiothérapeute



chirurgien

radiologue interventionnel

pneumologue

radiothérapeute







Merci

# CONCLUSION

