

# **Cryoablation of 2.3cm RCC Following Previous Contralateral Partial Nephrectomy**

Dr. de Baere

Results from case studies are not necessarily predictive of results in other cases. Results in other cases may vary.

*This case highlights the efficacy and rapid scarring* process of the ablation zone typically seen after cryoablation.



### PRESENTATION

- 72-year-old male
- Left nephrectomy five years previously for renal cell carcinoma (RCC)
- CT revealed arterially enhancing nodule of 2.3cm in right kidney with washout in the venous phase A
- Patient refused another partial nephrectomy and after consultation agreed to renal ablation
- The renal tumour could not be depicted on ultrasound examination or non-contrast-enhanced CT



Image A: Contrast-enhanced CT (venous phase) a few days before treatment shows thehypodense 2.3cm right kidney tumour (arrow)



#### TREATMENT

- Super-selective injection of Lipiodol™ into tumour-feeding arteries to 'mark' the target tumour **B**
- Pone IceSphere™ 1.5 needle was inserted into the upper pole of the renal tumour C
- A second IceSphere<sup>™</sup> 1.5 needle was inserted so the target tumour was surrounded using the 'chopstick' approach  $\mathbf{D}$

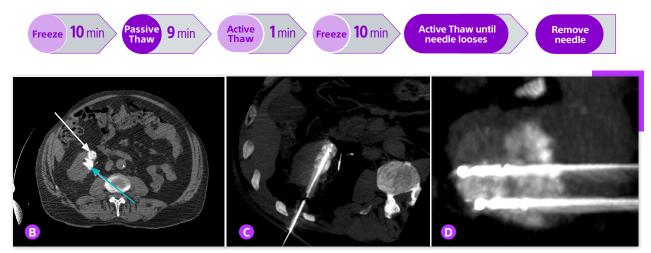


Image B: Non-contrast CT (axial view) immediately after super-selective injection IceSphere™ 1.5 needle inserted into the of Lipiodol<sup>™</sup> in tumour-feeding arteries upper pole of the renal tumour shows 'marking' of the target tumour (white arrow) and some collected Lipiodol™ in the adjacent renal parenchyma (blue arrow)

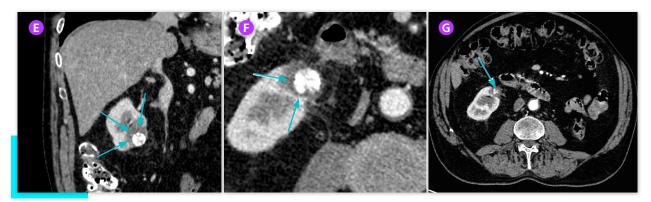
Image C: CT (axial plane) shows an

Image D: CT (parasagittal plane) shows two IceSphere<sup>™</sup> 1.5 needles enclosing the target tumour using the 'chopstick' approach



#### OUTCOME

- One-month follow-up CT scan showed the cryoablation zone with 'safety' margins around the Lipiodol<sup>™</sup> marker in the tumour. The Lipiodol<sup>™</sup> had been reabsorbed into the healthy renal parenchyma (E) (F)
- Three years post cryoablation:
  - CT shows there is a reduction in the size of the ablation zone G
  - Patient remains tumour-free with preserved renal function



**Outcome**:One-month follow-up CT in coronal (left) and axial (right) views show cryoablation zone with 'safety' margins (arrows) around the Lipiodol<sup>TM</sup> marker in the tumour. Note that the Lipiodol<sup>TM</sup> in the healthy renal parenchyma seen in **B** has been reabsorbed

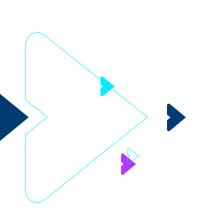
**Outcome**: Three-year follow-up CT shows a reduction of the ablation zone (arrow)



## CONCLUSION

Cryoablation of small renal tumours non visible on ultrasound or CT is possible with the help of intra-arterial injection of Lipiodol<sup>™</sup>. Lipiodol<sup>™</sup> can remain for a very long period of time even after complete ablation

Combination of intra-arterial embolisation and cryoablation allows for accurate targeting in difficult cases.





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