Early report on feasibility and efficacy of percutaneous CT-guided cryoablation in pediatric patients

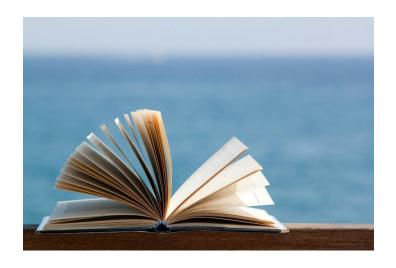
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Purpose

To state if percutaneous CT-guided cryoablation is technically feasible and clinically effective in **pediatric patients**



Inoue M. et al. **Percutaneous Cryoablation of Lung Tumors: Feasibility and Safety,** Journal of Vascular and Interventional Radiology, Volume 23, Issue 3, 2012, Pages 295-302, ISSN 1051-0443, https://doi.org/10.1016/j.jvir.2011.11.019.

Kujak, J.L. et al. Early experience with percutaneous cryoablation of extra-abdominal desmoid tumors. Skeletal Radiol **39**, 175–182 (2010). https://doi.org/10.1007/s00256-009-0801-z

Ma Y. et al. Percutaneous Image-Guided Ablation in the Treatment of Osseous Metastases from Non-small Cell Lung Cancer. Cardiovasc Intervent Radiol 41, 726–733 (2018). https://doi.org/10.1007/s00270-017-1843-6



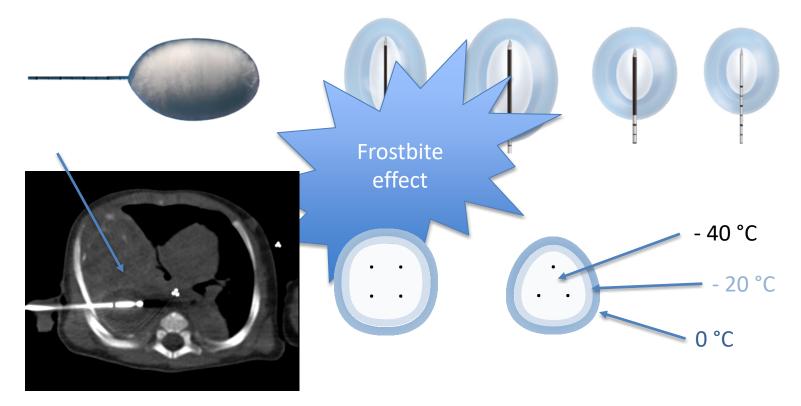
Multidisciplinary Oncological Team

Palliation (Palliation (Pallia

Pediatric Surgeons



Cryoablation





Materials & Methods

Patients with benign and malignant lesions treated with CT-guided cryoablation from January 2019 to January 2022

Demographic data, radiological and clinical issues were collected

The procedure was performed with two cycles of 10 minutes each from -20°C to -40°C core temperature, followed by 5 minutes of thawing.

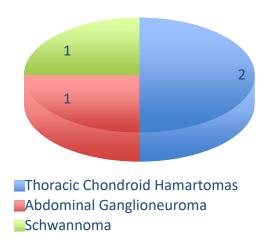


Results

8 patients (median age: **12.88** years; range 0.34-29.4 years)

10 lesions treated with CT-guided cryoablation

Benign Tumors



Malignant Tumors





Results

After median 5.47 months follow-up (range 0.77-18.20 months)

7 lesions presented *dimensional reduction* (median 37.78%; range 9.99-60.47%).

3 patients presented dimensional progression or pseudo-progression (35.71%; range 27.49-38.22%)

1 schwannoma

1 bilateral hamartoma

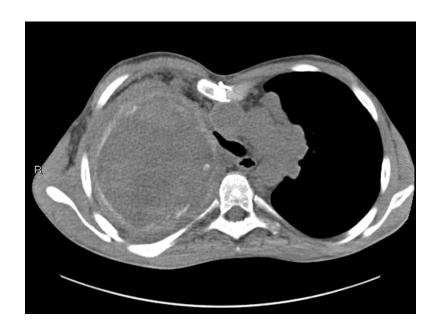
1 pulmonary sub-solid localization of embryonal rhabdomyosarcoma

No Major or Minor complications were reported



Schwannoma



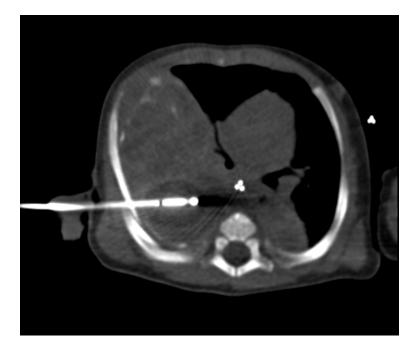


> 38,7 %



Bilateral Thoracic Chondroid Hamartoma

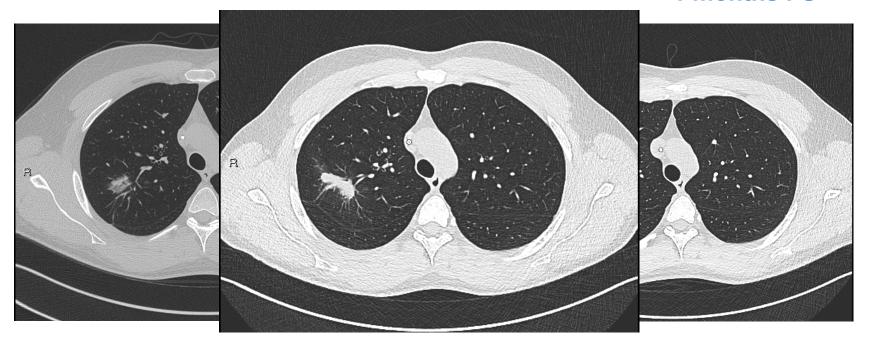






Gluteal Embryonal Rhabdomyosarcoma

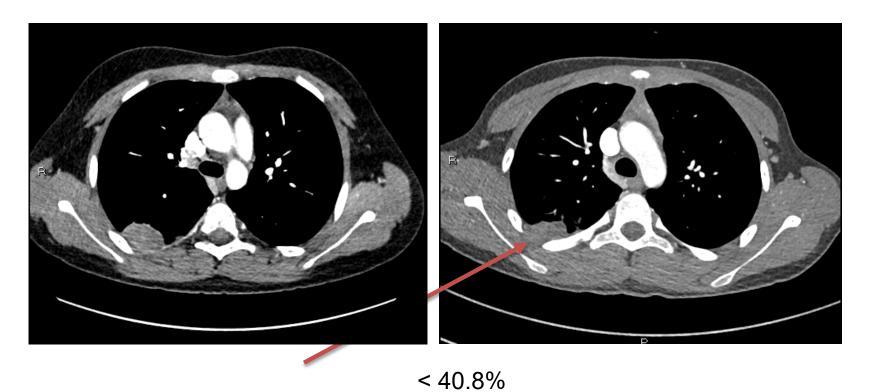
6 months FU



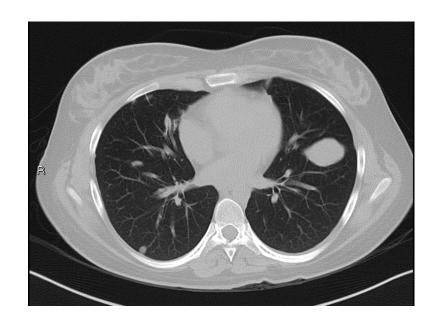
> 35 % pseudo-progression

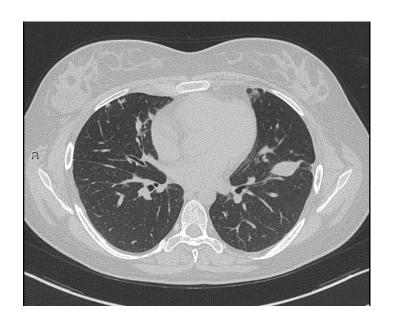


Ewing sarcoma



Clear-cell sarcoma of the foot



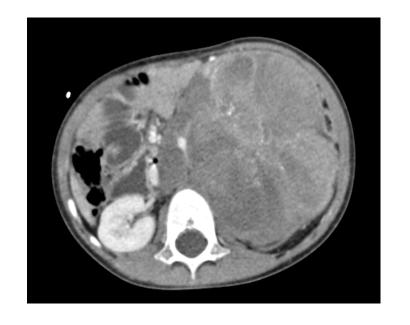


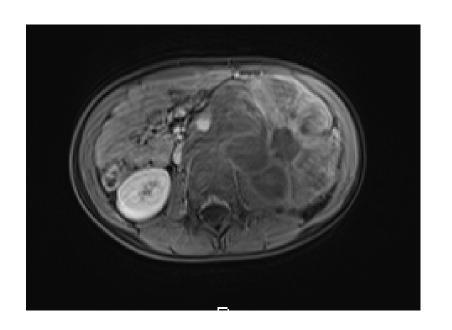
< 60.4%



Abdominal Ganglioneuroma





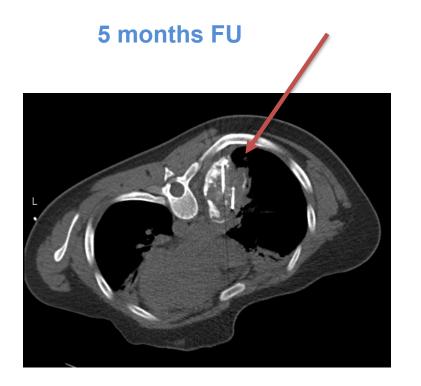


< 9,9%



Thoracic Chondroid Hamartoma





< 20 %



Conclusions

Better results with Malignant lesions compared to Bening ones

SAFE



Reduce lesions and symptoms

Supportive tool in multimodal treatments

