

References

- [1] Nakayama DK, Burd RS, Newman KD. Pediatric surgery workforce: supply and demand. *J Pediatr Surg* 2009;44:1677-82.
- [2] Surgical Advisory Panel, American Association of Pediatrics. Guidelines for referrals to pediatric surgical subspecialists. *Pediatrics* 2002;110(1):187-91.
- [3] Stolar CJ, American Pediatric Surgical Association, Workforce Committee. Best practice for infant surgery: a position statement from the American Pediatric Surgical Association. *J Pediatr Surg* 2008;43:1585-6.

Minimal invasive technique in mesenchymal hamartoma of the chest wall: use of radiofrequency thermoablation

To the Editor,

We read with great interest the article by Sodhi and colleagues [1] in the February 2009 issue of *Journal of Paediatric Surgery* describing an infant with mesenchymal hamartoma of the chest wall and a literature review.

Reviewing the English literature, the authors noted 3 cases of multiple unilateral masses [1-5] besides the case presented in their article. Mesenchymal hamartoma is a rare benign chest wall lesion. Management may be surgical, by complete resection, followed by prosthetic mesh repair of chest wall or using a more conservative approach, depending on the clinical presentation. The main complications encountered with surgical treatment include significant chest wall deformity and progressive scoliosis with a degree of curvature related to the number of ribs resected.

In December 2007, we described another case of multiple unilateral mesenchymal hamartoma of the right chest wall [6] that was not mentioned in the report of Sodhi et al (Fig. 1). Besides the conservative and the surgical approaches commonly described, in our case, we suggested a third management option: a minimal invasive using with radiofrequency thermoablation (RFT; Fig. 2). We decided to use RFT in chondroid hamartoma because it is histologically similar to osteoid osteoma and epiphyseal chondroblastoma [7] that have already been treated with that technique.

This treatment modality brings on coagulative necrosis in the pathologic portion of the lesion that is gradually reabsorbed, without impairment to the surrounding (adjacent) normal bone.

We have been following our patient for 4 years (Fig. 3) with excellent results because neither chest wall deformity (secondary scoliosis) nor respiratory complications have occurred.

Radiofrequency thermoablation is a relatively noninvasive, percutaneous, and repeatable technique, performed under computed tomography (CT) guidance, which is able to ablate areas of pathologic tissue. As fully reported in articles by Sung et al and Donkol et al [8-10], the radiofrequency effects do not impair the surrounding (adjacent) normal bone.



Fig. 1 Chest x-ray of right multifocal mesenchymal hamartoma of the chest wall.

Concerning diagnosis, Sodhi and colleagues [1] describe using fine-needle aspiration of the lesion. In contrast, because we avoid complete surgical excision, we prefer a CT-guided biopsy with a tru-cut needle to be performed in different sites of the mass (because such lesions are composed of a varying admixture of mesenchymal tissues endogenous to the chest wall) for histologic examination before treatment.

Extensive chest wall surgery has related complications, including hemorrhage and postsurgical scoliosis especially if an en bloc excision has been performed. Using RFT has allowed us to effectively treat in a minimally invasive way a rather extensive lesion, localized in a site that is difficult to reach, in a 1-year-old girl.

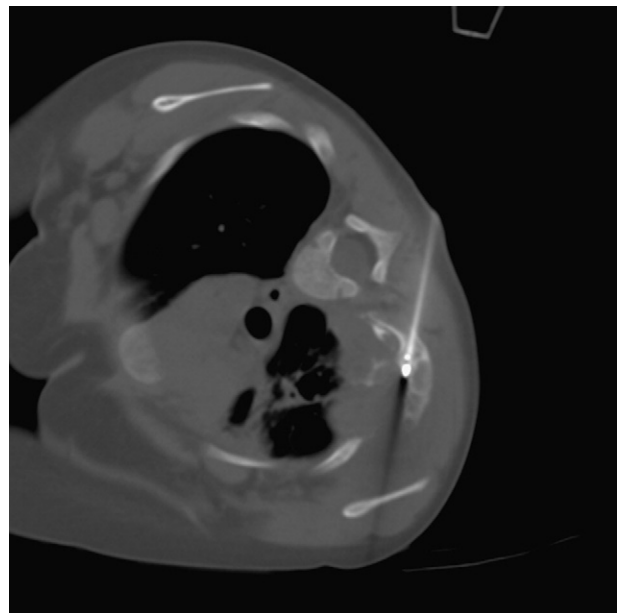


Fig. 2 Radiofrequency thermoablation of the lesion under CT guidance.

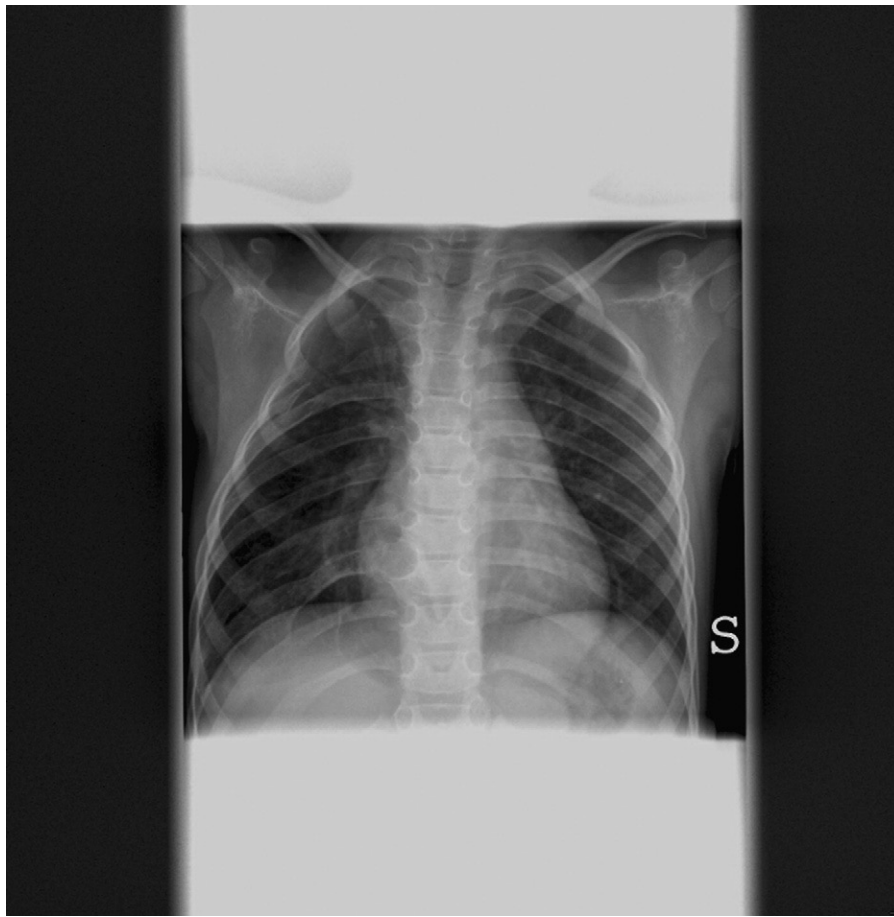


Fig. 3 Chest x-ray. Four-year follow-up.

The treatment is well tolerated in the pediatric age group. It stops the growth of the lesion, avoiding the symptoms of pulmonary or mediastinal compression, and obviates the risk of postoperative progressive skeletal deformity.

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References

- [1] Sodhi KS, Aiyappan SK, et al. Unilateral multifocal mesenchymal hamartoma of the chest wall: a case report and review of literature. *J Pediatr Surg* 2009;44(2):464-7.
- [2] Lisle DA, Ault DJ, Earwaker JW. Mesenchymal hamartoma of the chest wall in infants: report of three cases and literature review. *Australas Radiol* 2003;47(1):78-82.
- [3] Oakley RH, Carty H, Cudmore RE. Multiple benign mesenchymomata of the chest wall. *Pediatr Radiol* 1985;15(1):58-60.
- [4] Dounies R, Chwals WJ, et al. Hamartomas of the chest wall in infants. *Ann Thorac Surg* 1994;57(4):868-75.
- [5] Troum S, Dalton ML, et al. Multifocal mesenchymal hamartoma of the chest wall in infancy. *J Pediatr Surg* 1996;31(5):713-5.
- [6] Bertocchini A, Falappa P, et al. Radiofrequency thermoablation in chest wall mesenchymal hamartoma of an infant. *Ann Thorac Surg* 2007;84(6):2091-3.
- [7] Tins B, Cassar-Pullicino V, et al. Radiofrequency ablation of chondroblastoma using a multi-tined expandable electrode system: initial results. *Eur Radiol* 2006;16(4):804-10 [Epub 2005 Nov 3].
- [8] Sung KS, Seo JG, et al. Computed-tomography-guided percutaneous radiofrequency thermoablation for the treatment of osteoid osteoma—2 to 5 years follow-up. *Int Orthop* 2009;33(1):215-8 [Epub 2007 Nov 22].
- [9] Donkol RH, Al-Nammi A, Moghazi K. Efficacy of percutaneous radiofrequency ablation of osteoid osteoma in children. *Pediatr Radiol* 2008;38(2):180-5 [Epub 2007 Nov 27].
- [10] Rosenthal DI, Hornicek FJ, et al. Osteoid osteoma: percutaneous treatment with radiofrequency energy. *Radiology* 2003;229(1):171-5 [Epub 2003 Aug 27].