

made of gold, although they can be silver or stainless steel. The number of fragments varies and can be in the thousands.

In general, acupuncture needle fragments do not cause complications and appear as incidental findings on imaging examinations. They present as small, straight, curvilinear, or semi-circular objects, of similar sizes, and can be confused with metallic sutures or clips. Occasionally, these structures can form foreign body granulomas and can even migrate, especially in patients without much subcutaneous fat<sup>(4)</sup>.

Although rare, complications resulting from traditional Chinese acupuncture have been the subject of two systematic reviews<sup>(5,6)</sup>. When such complications are severe, they are usually attributable to improper manipulation at sites where there is a high risk of injury to the adjacent organs and structures, which can result in pneumothorax, cardiac tamponade, or spinal injury<sup>(5)</sup>. They can also be related to the incidental breaking of a needle, which requires surgical removal in some cases<sup>(6)</sup>.

A review of the literature on acupuncture needle fragments remaining in the body of patients identified 29 articles on the topic. Those articles describe fragments that have migrated to numerous sites, such as the urinary bladder, shoulder girdle, spinal cord, right ventricle, L5 nerve root, bulb, carpal tunnel, liver, pancreas, stomach, colon, lungs, and kidneys<sup>(7)</sup>. In cases in which the patients underwent surgery for the removal of the fragments, there were no major postoperative complications. Acupuncture has also been shown to increase bone activity on scintigraphy.

The true prevalence of acupuncture needle fragments remaining in the body is unknown. It is possible that the condition is underdiagnosed because many affected individuals never

undergo imaging examinations of the areas treated. Likewise, the prevalence of complications associated with acupuncture remains unknown. To date, there have been few studies of this specific topic. When acupuncture needle fragments appear as incidental findings on imaging examinations, they are regarded as a medical curiosity. Therefore, knowledge of their imaging aspects can be quite useful for radiologists.

REFERENCES

1. Park SM, Shim WJ. A hedgehog-like appearance resulting from Hari acupuncture. *CMAJ*. 2011;183:E1038.
2. Yoo HG, Yoo WH. Images in clinical medicine. Acupuncture with gold thread for osteoarthritis of the knee. *N Engl J Med*. 2013;369:e37.
3. Galbraith PJ, Richardson ML. Permanently retained acupuncture needles: radiographic findings and case report. *Radiol Case Rep*. 2015;1:120–2.
4. Studd RC, Stewart PJ. Images in clinical medicine. Intraabdominal abscess after acupuncture. *N Engl J Med*. 2004;350:1763.
5. Zhang J, Shang H, Gao X, et al. Acupuncture-related adverse events: a systematic review of the Chinese literature. *Bull World Health Organ*. 2010;88:915–21C.
6. Wu J, Hu Y, Zhu Y, et al. Systematic review of adverse effects: a further step towards modernization of acupuncture in China. *Evid Based Complement Alternat Med*. 2015;2015:432467.
7. Lewek P, Lewek J, Kardas P. An acupuncture needle remaining in a lung for 17 years: case study and review. *Acupunct Med*. 2012;30:229–32.

Lilian Fonseca Lima<sup>1</sup>, Pablo Rydz Pinheiro Santana<sup>1</sup>, Antonio Carlos Portugal Gomes<sup>1</sup>

1. Hospital Beneficência Portuguesa de São Paulo – Medimagem, São Paulo, SP, Brazil. Mailing address: Dra. Lilian Fonseca Lima. Hospital Beneficência Portuguesa de São Paulo – Medimagem. Rua Maestro Cardim, 769, Bela Vista. São Paulo, SP, Brazil, 01323-900. E-mail: lilian.fl87@gmail.com.

<http://dx.doi.org/10.1590/0100-3984.2015.0142>

Squamous cell carcinoma of the paranasal sinuses: cutaneous metastases with bone involvement

Dear Editor,

In 2014, a 29-year-old female, diagnosed with squamous cell carcinoma of the floor of the frontal sinus, was submitted to surgical excision of the lesion and to radiotherapy. The following year, there was recurrence of the lesion, after which complete remission was not achieved. In 2016, she developed multiple vegetative, ulcerated lesions affecting the scalp, some provoking discrete bone involvement (Figures 1A and 1C). Magnetic resonance imaging (MRI) revealed expansile, heterogeneous lesions that showed predominantly hypointense signals in T1-weighted sequences and isointense or hypointense signals in T2-weighted sequences, with heterogeneous gadolinium enhancement and restricted diffusion (Figures 1B and 1D), aspects similar to those of the primary tumor. These findings, taken together with

the clinical history, were suggestive of secondary neoplastic involvement of the skin, which was confirmed by the histopathological study.

Recent studies in the radiology literature have emphasized the importance of MRI in improving the diagnosis of lesions of the head and neck<sup>(1–4)</sup>. Squamous cell carcinoma is derived from suprabasal keratinocytes. The incidence of the disease is highest in individuals between 50 and 70 years of age, and it affects men more often than women. Risk factors depend on the site, cigarette smoking and alcoholism being the main risk factors in cases of mucosal lesions, whereas the main risk factors in cases of cutaneous lesions are ultraviolet radiation, chronic ulcers, and fistulas. Among malignant neoplasms of the head and neck, squamous cell carcinoma is the most common, accounting for 5% of all cases of cancer<sup>(3)</sup>. The metastatic dissemination of such carcinomas is typically to the lymph nodes, although the lungs, bones, and liver can also be affected<sup>(5)</sup>.

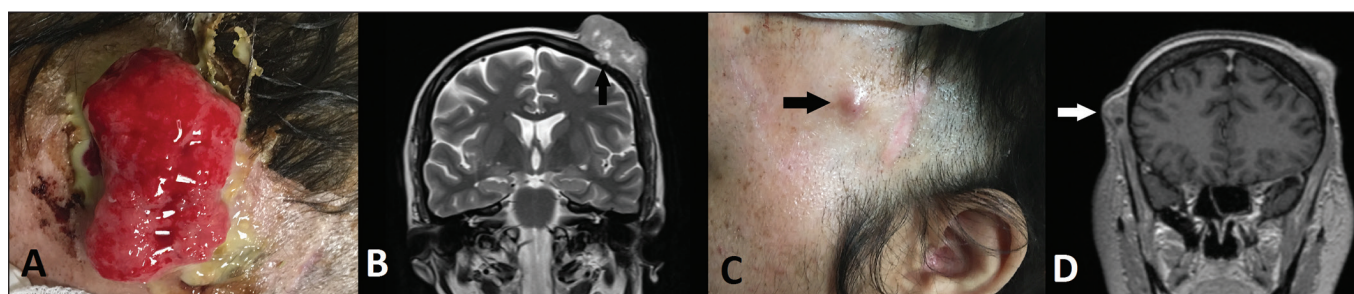


Figure 1. A: Vegetative, ulcerated lesion affecting the scalp. B: Coronal T2-weighted MRI sequence showing an expansile lesion affecting the parietal region, with a predominantly isointense or hypointense signal, provoking discrete bone involvement (arrow). C: Synchronous vegetative lesion affecting the temporal region (arrow). D: Coronal T1-weighted MRI sequence showing a synchronous lesion, with heterogeneous enhancement, in the right temporal region (arrow).

The frequency of metastases to the skin is rare, ranging from 0.7% to 9%<sup>(6)</sup>, such metastases occurring mainly in advanced-stage lung and breast cancers, predominantly affecting the scalp, neck, forearm, thigh, or penis<sup>(6,7)</sup>.

To our knowledge, there have been no studies discussing the imaging characteristics of squamous cell carcinoma metastases to the skin. In the case presented here, the lesions were similar to the primary tumor, with hypointense signals in T1-weighted sequences and isointense or hypointense signals in T2-weighted sequences, as well as heterogeneous gadolinium enhancement and restricted diffusion. Recent studies highlight the use of diffusion-weighted sequences in the evaluation of head and neck lesions, showing that apparent diffusion coefficient values below  $1.22 \times 10^{-3} \text{ mm}^2/\text{s}$  are suggestive of malignancy<sup>(3,4,8)</sup>. In our case, the apparent diffusion coefficient value was  $0.78 \times 10^{-3} \text{ mm}^2/\text{s}$ , thus corroborating those previous findings.

The differential diagnosis of cutaneous lesions is extensive, including hemangiomas, pilomatrixomas, tuberculosis, leishmaniasis, lymphomas, and sarcomas. Although imaging methods can help in distinguishing among the causes, the diagnosis is typically made through histopathological analysis.

Cutaneous metastases are uncommon and do not present specific imaging characteristics. They should nevertheless be considered among the diagnostic possibilities in cases of cutaneous lesions, particularly when there is a known history of neoplasia.

## REFERENCES

1. Niemeyer B, Marchiori E. Giant pilomatrixoma: conventional and diffusion-weighted magnetic resonance imaging findings. *Radiol Bras.* 2015;48:63–4.
2. Niemeyer B, Salata TM, Antunes LO, et al. Desmoplastic fibroma with perineural spread: conventional and diffusion-weighted magnetic resonance imaging findings. *Radiol Bras.* 2015;48:266–7.
3. Niemeyer B, Bahia PRV, Oliveira ALVSM, et al. Lethal midline granuloma syndrome: a diagnostic dilemma. *Radiol Bras.* 2012;45:353–5.
4. Gonçalves FG, Ovalle JP, Grieb DFJ, et al. Diffusion in the head and neck: an assessment beyond the anatomy. *Radiol Bras.* 2011;44:308–14.
5. Calhoun KH, Fulmer P, Weiss R, et al. Distant metastases from head and neck squamous cell carcinomas. *Laryngoscope.* 1994;104:1199–205.
6. Sawali H, Yunus MRM, Ai OC, et al. Cutaneous metastases from nasopharyngeal carcinoma: a rare manifestation. *PJOHNS.* 2010;25:32–5.
7. Luk NM, Yu KH, Choi CL, et al. Skin metastasis from nasopharyngeal carcinoma in four Chinese patients. *Clin Exp Dermatol.* 2004;29:28–31.
8. Wang J, Takashima S, Takayama F, et al. Head and neck lesions: characterization with diffusion-weighted echo-planar MR imaging. *Radiology.* 2001;220:621–30.

**Bruno Niemeyer de Freitas Ribeiro<sup>1</sup>, Bernardo Carvalho Muniz<sup>2</sup>, Tiago Medina Salata<sup>2</sup>, Diogo Goulart Corrêa<sup>2</sup>, Edson Marchiori<sup>3</sup>**

1. Instituto Estadual do Cérebro Paulo Niemeyer, Rio de Janeiro, RJ, Brazil. 2. Hospital Casa de Portugal – 3D Diagnose, Rio de Janeiro, RJ, Brazil. 3. Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, RJ, Brazil. Mailing address: Dr. Bruno Niemeyer de Freitas Ribeiro. Instituto Estadual do Cérebro Paulo Niemeyer – Departamento de Radiologia. Rua do Rezende, 156, Centro. Rio de Janeiro, RJ, Brazil, 20231-092. E-mail: bruno.niemeyer@hotmail.com.

<http://dx.doi.org/10.1590/0100-3984.2016.0113>

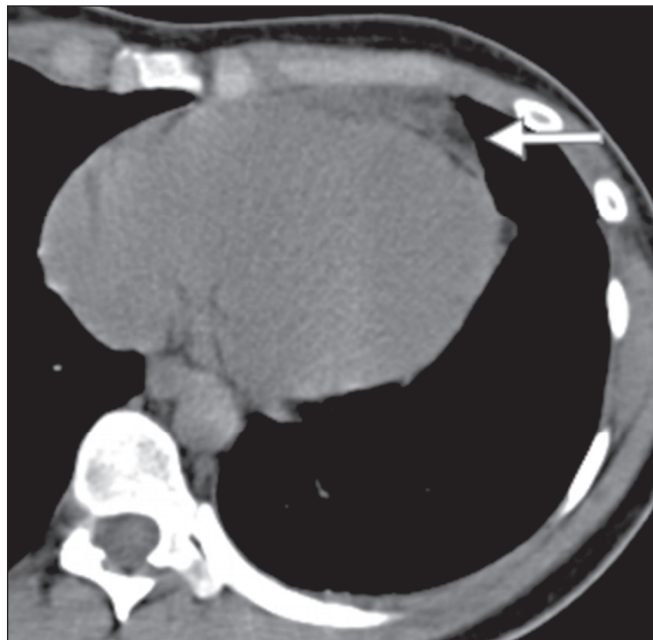
#### Epipericardial fat necrosis: increasing the rate of diagnosis by disseminating knowledge within a single institution

Dear Editor,

Epipericardial fat necrosis (EFN), an inflammatory process that occurs within the epipericardial fat and leads to encapsulated fat necrosis, has long been described as a rare entity<sup>(1)</sup>. However, since 2012—when the first case was reported in Brazil<sup>(2)</sup>—the number of reports have been increasing worldwide. In fact, there were only 23 cases reported between 1957 and 2010, in comparison with 26 new cases reported between 2011 and 2015<sup>(3)</sup>. What could explain this increase? Analyzing the data from a retrospective analysis of EFN at a quaternary hospital in the city of São Paulo, Brazil, and its impact on the diagnosis of the entity, we have made some assumptions.

From 2011 to 2014, 20 cases of EFN were diagnosed on the basis of chest computed tomography (CT) scans performed in the emergency department (ED) of our institution. That was the focus of a previous retrospective analysis<sup>(1)</sup>, in which 11 cases of EFN were initially described from 3604 CT scans analyzed by two thoracic radiologists<sup>(1)</sup>. Scans were considered positive for EFN—described as “a soft, round, fatty attenuating lesion in the epipericardial fat, with or without pericardial thickening”<sup>(4)</sup>, as depicted in Figure 1—if both radiologists agreed. The authors of a case series analyzing previous reports suspected that EFN is, in fact, an underdiagnosed condition, and a subsequent study retrospectively analyzed 7463 CT scans, comparing clinical and laboratory data of the patients with those of control subjects<sup>(3)</sup>. The study described 20 cases and reported the incidence of EFN in ED patients with acute atypical chest pain<sup>(5)</sup> to be 2.15% at the institution.

In 2013, the radiology department of our institution decided to disseminate information regarding the clinical and radiological features of EFN, in order to make radiologists aware



**Figure 1.** CT scan of a 29-year-old female with acute pleuritic chest pain showing a soft, round, fatty attenuating lesion in the epipericardial fat, the pain and the lesion both being features that are characteristic of EFN.

of the entity, which was formerly considered to be extremely uncommon. The information was disseminated by the presentation of cases and lectures in multidisciplinary meetings, as well as in meetings of the radiology residence program. The radiological features of EFN were also presented to the radiologists of the ED. The data of the study were further analyzed in order to determine whether the radiologist had previously diagnosed the entity correctly in the formal report.