

## Pneumotórax Bilateral Secundário e Pazopanib

### *Bilateral Pneumothorax and Pazopanib*

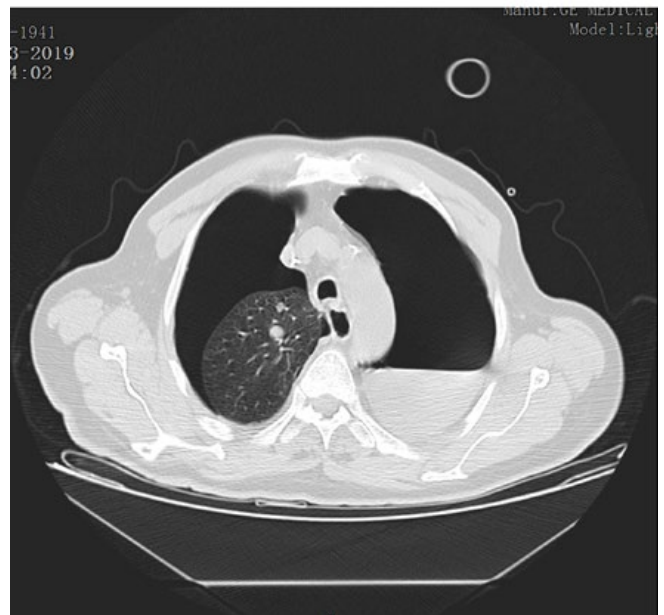
Marta Dalila Martins (<https://orcid.org/0000-0002-0633-2546>), Dalila Parente (<https://orcid.org/0000-0003-0566-9769>), Diana Pereira Anjos (<https://orcid.org/0000-0001-8788-6155>), Inês Ferreira (<https://orcid.org/0000-0003-3275-9532>)

**Palavras-chave:** Pazopanib/efeitos adversos; Pneumotórax/induzido quimicamente.

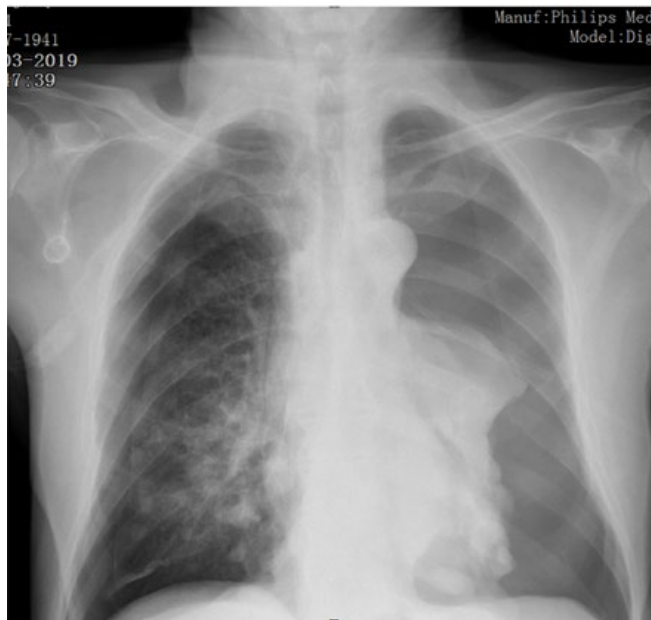
**Keywords:** *Pneumothorax/chemically induced; Pazopanib/adverse effects.*

Secondary spontaneous pneumothorax is defined as pneumothorax that presents as a complication of underlying lung disease.<sup>1</sup>

Caucasian male, 77-years-old with history of synovial sarcoma with pulmonary metastasis, treated with pazopanib 400 mg/day for six months. Admitted to the emergency department complaining of dyspnoea. On examination: respiratory distress, hypoxia (peripheral oxygen saturation with high concentration mask of 96%), high blood pressure (BP: 219/119 mmHg), prolonged expiratory time and decreased vesicular murmur globally on pulmonary auscultation. Chest x-ray showed a bilateral pneumothorax (Fig. 1). The computed tomography (CT) confirmed the diagnosis and revealed a pleural



**Figure 2:** Axial CT scan of the chest.



**Figure 1:** Postero-anterior chest X-ray.

effusion on the left side (Fig. 2). Two thoracic drains were then placed, with improvement of the dyspnoea, but due to persistent air leak, bilateral pleurodesis was performed. The patient showed a progressive clinical improvement, and the chest tubes were removed, without relapse of the pneumothorax. One year later, the patient ended up dying.

The tyrosine kinase inhibitor pazopanib is used for urothelial tumours, renal cell carcinoma, pancreatic neuroendocrine tumour, and metastasis of cervical cancer, particularly for soft tissue sarcomas.<sup>2</sup> Recent studies have suggested that the use of pazopanib may lead to the development of pneumothorax, an unexpected adverse effect in patients with sarcoma metastatic to the chest.<sup>3</sup> In the literature, the rate of pneumothorax caused by pazopanib is about 10% to 14%.<sup>4</sup> Many questions remain regarding the casual relationship between the two as well as regarding the mechanism.<sup>5</sup>

In conclusion, the tyrosine kinase inhibitor pazopanib is used in the treatment of sarcomas, but recent studies have showed a higher incidence of pneumothorax as an adverse side effect, particularly when lung metastasis are present.<sup>6</sup> Although its mechanism remains unknown, the prognosis is poorer in this group of patients, with an one year mortality after pneumothorax of 75%.<sup>3</sup> Further studies are warranted to better select the patients suitable to undergo this treatment. ■

Serviço Medicina Interna, Centro Hospitalar Tâmega e Sousa, Penafiel, Portugal

<https://revista.spmi.pt> - DOI:10.24950/Imagem/22/20/3/2020

### Responsabilidades Éticas

Conflitos de Interesse: Os autores declaram a inexistência de conflitos de interesse na realização do presente trabalho.

Fontes de Financiamento: Não existiram fontes externas de financiamento para a realização deste artigo.

Confidencialidade dos Dados: Os autores declaram ter seguido os protocolos da sua instituição acerca da publicação dos dados de doentes.

Proteção de Pessoas e Animais: Os autores declaram que os procedimentos seguidos estavam de acordo com os regulamentos estabelecidos pelos responsáveis da Comissão de Investigação Clínica e Ética e de acordo com a Declaração de Helsínquia da Associação Médica Mundial.

Proveniência e Revisão por Pares: Não comissionado; revisão externa por pares.

### Ethical Disclosures

Conflicts of interest: The authors have no conflicts of interest to declare.

Financing Support: This work has not received any contribution, grant or scholarship

Confidentiality of Data: The authors declare that they have followed the protocols of their work center on the publication of data from patients.

Protection of Human and Animal Subjects: The authors declare that the procedures followed were in accordance with the regulations of the relevant clinical research ethics committee and with those of the Code of Ethics of the World Medical Association (Declaration of Helsinki).

Provenance and Peer Review: Not commissioned; externally peer reviewed.

© Autor (es) (ou seu (s) empregador (es)) e Revista SPMI 2020. Reutilização permitida de acordo com CC BY-NC. Nenhuma reutilização comercial.  
© Author(s) (or their employer(s)) and SPMI Journal 2020. Re-use permitted under CC BY-NC. No commercial re-use.

### Correspondence / Correspondência:

Marta Dalila Martins – 74029@chits.min-saude.pt

Serviço de Medicina Interna, Centro Hospitalar Tâmega e Sousa, Penafiel, Portugal

Avenida do Hospital Padre Américo, nº210, 4560-136, Guilhufe - Penafiel.

Received / Recebido: 27/02/2020

Accepted / Aceite: 17/06/2020

Publicado / Published: 28 de Setembro de 2020

### REFERENCES

1. Sahn SA, Heffner JE. Spontaneous pneumothorax. *N Engl J Med*. 2000;342:868.
2. Celik B, Surucu ZP et al. A case report of secondary simultaneous bilateral pneumothorax due to pazopanib treatment. *Turk Thorac J*. 2018; 19: 45-51.
3. Sabath B, Muhammad HA, Balagani A, Ost DE, Vakil E, Ahmed T, et al. Secondary spontaneous pneumothorax in patients with sarcoma treated with Pazopanib, a case control study. *BMC Cancer*. 2018;18:937. doi: 10.1186/s12885-018-4858-8.
4. Nakano K, Motoi N, Tomomatsu J, Gokita T, Ae K, Tanizawa T, et al. Risk factors for Pneumothorax In advanced and/or metastatic soft tissue sarcoma patients during pazopanib treatment: a single-institute analysis. *BMC Cancer*. 2016. ;16:750. doi: 10.1186/s12885-016-2786-z.
5. Nakahara Y, Fukui T, Katono K, Nishizawa Y, Okuma Y, Ikegami M, et al. Pneumothorax during pazopanib treatment in patients with soft-tissue sarcoma: two case reports and a review of the literature. *Case Rep Oncol*. 2017; 10: 333-8. doi: 10.1159/000463380.
6. Nakano K, Inagaki L, Tomoatsu J, Motoi N, Gokita T, Ae K, et al. Incidence of pneumothorax in advanced and/or metastatic soft tissue sarcoma patients during pazopanib treatment. *Clin Oncol*. 2014;26:357. doi: 10.1016/j.clon.2014.02.010.