

[Home](#) > [Journal](#) > [Medicine & Healthcare](#) > [CRCM](#)[Indexing](#) [View Papers](#) [Aims & Scope](#) [Editorial Board](#) [Guideline](#) [Article Processing Charges](#)[CRCM](#) > [Vol.1 No.2, December 2012](#)

OPEN ACCESS

Development of a recurrent pleural effusion in a patient with pulmonary arterial hypertension treated with imatinib

PDF (Size: 39KB) PP. 38-41 DOI: 10.4236/crcm.2012.12009

Author(s)

Olga M. Fortenko, Lana Melendres-Groves, Alice Richter, Xiaobo Liao, Edda Spiekerkoetter, Roham Zamanian, Vinicio A. De Jesus Perez

ABSTRACT

Pulmonary arterial hypertension (PAH) is a devastating disease associated with progressive elevation in pulmonary pressures that eventually leads to chronic right heart failure and death. At present, agents with vasodilatory properties are being used to palliate the symptoms associated with PAH but there is a need for therapies that can prevent or even reverse established disease. Several lines of evidence have suggested that tyrosine kinase inhibitors like imatinib may have a role in reducing progression and improving outcomes in these patients, but their side effect profile is unclear. We present a case of a 55-year-old female with PAH secondary to connective tissue disease treated with triple PAH specific therapy and compassionate-use imatinib who developed a massive right pleural effusion. Despite multiple therapeutic thoracentesis and aggressive diuresis, the pleural effusion continued to re-accumulate necessitating chest tube placement. Resolution of the pleural effusion was finally achieved after imatinib was held, arguing that the patient's presentation likely was a drug-related event. We believe that our case highlights a serious adverse reaction to imatinib therapy and stresses the need for more studies to evaluate the safety profile of this medication in patients with PAH.

KEYWORDS

Pulmonary Hypertension; Imatinib; Tyrosine Kinase Inhibitors; Pleural Effusion

Cite this paper

Fortenko, O. , Melendres-Groves, L. , Richter, A. , Liao, X. , Spiekerkoetter, E. , Zamanian, R. and De Jesus Perez, V. (2012) Development of a recurrent pleural effusion in a patient with pulmonary arterial hypertension treated with imatinib. *Case Reports in Clinical Medicine*, 1, 38-41. doi: 10.4236/crcm.2012.12009.

References

- [1] Handoko, M.L., de Man, F.S., Allaart, C.P., Paulus, W.J., Westerhof, N. and Vonk-Noordegraaf, A. (2010) Perspectives on novel therapeutic strategies for right heart failure in pulmonary arterial hypertension: Lessons from the left heart. *European Respiratory Review*, 19, 72-82. doi:10.1183/09059180.00007109
- [2] Ghofrani, H.A., Morrell, N.W., Hoeper, M.M., et al. (2010) Imatinib in pulmonary arterial hypertension patients with inadequate response to established therapy. *American Journal of Respiratory and Critical Care Medicine*, 182, 1171-1177. doi:10.1164/rccm.201001-0123OC
- [3] Perros, F., Montani, D., Dorfmüller, P., et al. (2008) Platelet-derived growth factor expression and function in idiopathic pulmonary arterial hypertension. *American Journal of Respiratory and Critical Care Medicine*, 178, 81-88. doi:10.1164/rccm.200707-1037OC
- [4] Schermuly, R.T., Dony, E., Ghofrani, H.A., et al. (2005) Reversal of experimental pulmonary hypertension by PDGF inhibition. *The Journal of Clinical Investigation*, 115, 2811-2821. doi:10.1172/JCI24838
- [5] Hoeper, M.M., et al. (2011) Imatinib in pulmonary arterial hypertension, a randomized, efficacy study (IM-PRES). Data presented at the European Respiratory Society (ERS) Annual Congress. Abstract

[CRCM Subscription](#)[Most popular papers in CRCM](#)[About CRCM News](#)[Frequently Asked Questions](#)[Recommend to Peers](#)[Recommend to Library](#)[Contact Us](#)

Downloads: 1,242

Visits: 26,126

[Sponsors >>](#)

- [6] Druker, B.J., Guilhot, F., O' Brien, S.O., et al. (2006) Five-year follow-up of patients receiving imatinib for chronic myeloid leukemia. *The New England Journal of Medicine*, 355, 2408-2417.
- [7] Gerogianni, I., Kouloumenta, V., Zigoulis, P., et al. (2006) A 50-year-old man with pleural effusion and chronic myelogenous leukemia. *The Internet Journal of Pulmonary Medicine*, 6, 115. doi:10.5580/115
- [8] Kelly, K., Swords, R., Mahalingam, D., Padmanabhan, S. and Giles, F.J. (2009) Serosal inflammation (pleural and pericardial effusions) related to tyrosine kinase inhibitors. *Targeted Oncology*, 4, 99-105.
- [9] Bergeron, A., Rea, D., Levy, V., et al. (2007) Lung abnormalities after dasatinib treatment for chronic myeloid leukemia. *American Journal of Respiratory and Critical Care Medicine*, 176, 814-818. doi:10.1164/rccm.200705-715CR
- [10] Hoepfer, M.M., Barst, R.J., Chang, H.J., et al. (2012) Imatinib safety and efficacy: interim analysis of IMPRES extension study in patients with pulmonary arterial hypertension. *American Journal of Respiratory and Critical Care Medicine*, 185, A2495.
- [11] Young, D. (2012) Scrip intelligence. <http://www.scripintelligence.com/home/Novartis-yanks-imatinib-PAH-NDA-FDA-wants-more-data-cancels-AdCom-334095>
- [12] Montani, D., Bergot, E., Gunther, S., et al. (2012) Pulmonary arterial hypertension in patient treated by dasatinib. *Circulation*, 125, 2128-2137