An Unexpected Cause of Bilateral Hemothorax

P. Tomos a E. Lachanas a D. Pavlopoulos a O.P. Michail a D.A. Kafetzis b

a Propedeutic Department of Surgery and Department of Surgery, Athens University, Medical School, and
b Second Department of Pediatrics, University of Athens, P. & A. Kyriakou Children’s Hospital, Athens, Greece

A 14-year-old boy was admitted to our hospital due to persisting pleuritic pain in the right lower hemithorax, which presented after athletic activities. Chest X-ray showed a right hemothorax for which a chest tube was inserted. The patient’s medical history was positive for exostoses of both humeri and the left femur, for which he had undergone an operation at the age of 5 and 8 years, respectively. His father had also had an operation for exostosis of the left femur. Subsequently, a chest CT scan (fig. 1) with 3D reconstruction (fig. 2) was performed, which showed exostoses at the 8th and 9th ribs on the right side and an exostosis on the left side at the 3rd rib, plus a fibrothorax on the left hemithorax. During right anterolateral minithoracotomy at the level of the 8th intercostal space, part of the involved ribs including the exostoses was resected, the diaphragm penetrated by the exostoses that caused the bleeding was sutured, while the gap in the chest wall was reconstructed using a prosthetic patch.

Hereditary exostosis is an infrequent clinical condition whereas involvement of the rib is rare. Indeed, fewer than 10 cases have been reported in the international literature, all of which clinically presented as hemothorax or hemopericarditis due to the penetration of a long bony spicule into an intrathoracic structure. Pleuritic pain was constant. Diagnosis may be obtained from CT scan, which can show the exostosis, but 3D reconstruction of the images is decisive for diagnosis.

Fig. 1. Chest CT scan shows the exostoses of the 8th and 9th ribs.
Fig. 2. Chest CT scan with 3D reconstruction. The cause of hemothorax is indisputable.