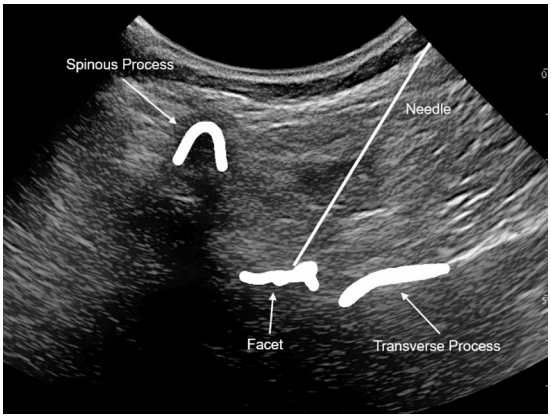

Figure 2.—Injection performed in the left L4-L5 facet joint.

the last one. Physical rehabilitation was then recommended to the patient to reduce the risk of repeat episodes of pain 3 months later, the patient's NRS was still 3 and she has a good quality of life.

It is important to observe that this woman didn't mention low back pain until questioned about her symptoms, emphasizing the importance of obtaining a thorough clinical history alongside physical examination to correctly identify the structures involved in the origin of pain. The uncommon radiation of pain found in this patient has been previously described by McCall *et al.*[4] who evoked groin pain injecting saline in L4-5 facet and by Marks [5] who found a similar finding in a clinical low back pain setting in FJS from L2 to L5. However usually the pain caused by FJS is located in the low back and radiates down into the buttocks or thighs.[2]This uncommon presentation of pain most likely lead to unnecessary therapeutic treatment directed wrongly due to her misdiagnosis.

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An unusual chest X-ray showing part of a drain tube still in the thorax after its removal and some suggestive ultrasound findings

Dear Editor,

Chest X-ray (CXR), especially if performed at bedside, often underestimates presence and severity of lung contusions (LC). On the other hand, lung ultrasound (LUS), which is a powerful tool allowing to accurately diagnose and monitor traumatic injuries of the chest, can provide useful additional informations.[1-4] We report the case of a patient in whom CXR suggested that part of a surgical drain tube was still in the chest after its removal, whereas LUS allowed to interpret the radiological image correctly as a LC due to the pressure of the tube on the visceral pleura.

A 79-years-old Caucasian female patient (height 150 cm; weight 50 Kg; BMI 22.2), who was a former smoker, underwent urgent coronary artery bypass surgery. Before closing the sternum, one drainage tube was positioned in the mediastinum, and one in the left pleural space. At the end of the procedure, the patient was admitted to the cardiac surgery intensive care unit (CSICU) and successfully weaned from mechanical ventilation in the first postoperative day (POD 1). CXR after tracheal tube removal showed a minimum bilateral pleural effusions, no signs of pneumothorax

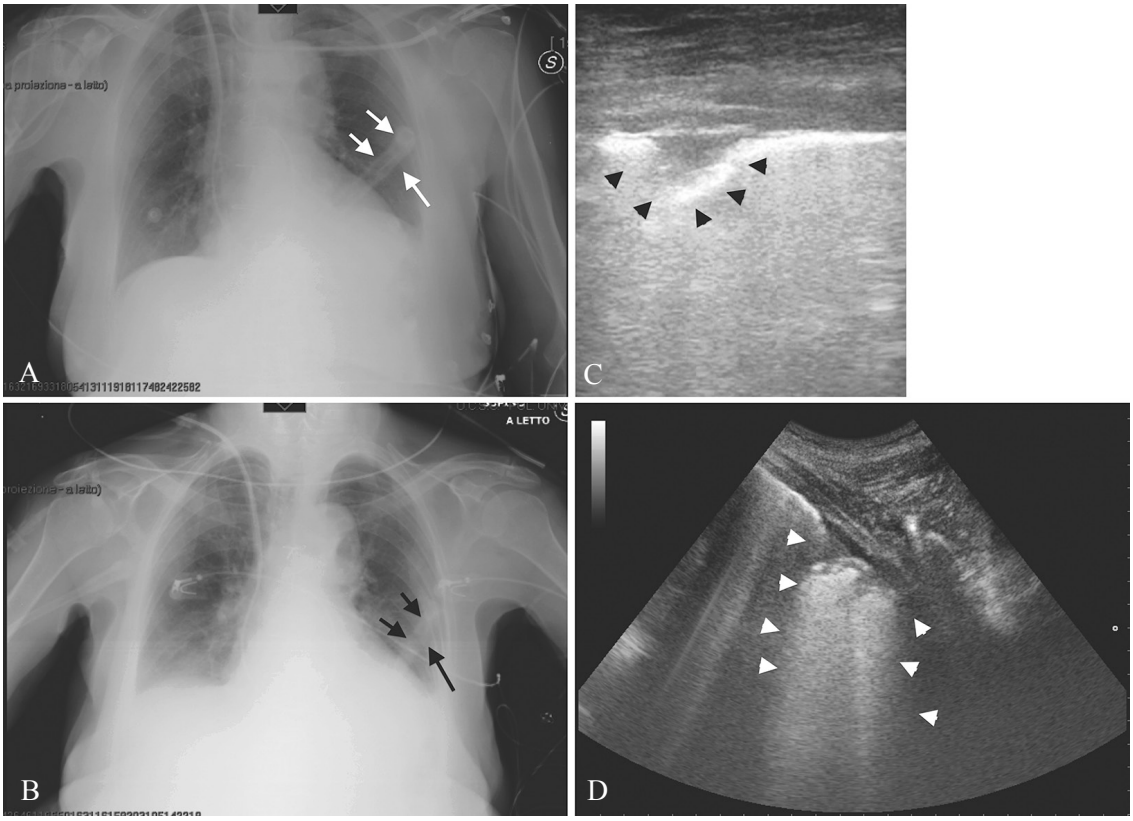

Figure 1.—A) CXR after tracheal tube removal clearly shows the pleural drainage aimed basally to favor fluid drainage (white arrows), drainage holes are also visible; B) CXR after surgical drainage removal: a weaker radiopaque tube-like image is still present in the left hemithorax (black arrows) whereas the holes are no longer visible. C, D) LUS after surgical drainage removal shows a moderately hypoechoic pleural-based image (black arrowheads) from which B-lines originate (white arrowheads); this finding corresponds to an irregularly delineated peripheral lung contusion.

and the presence of a surgical drainage clearly visible in the left pleural space as a radiopaque stripe allowing identification of a number of holes and with the tip aiming basally to favor fluid drainage (Figure 1A). Drain tubes were removed on POD 2 and CXR was repeated: a radiopaque tube-like image was still present in the left pleural space, coinciding with the previous one, but weaker and with no holes detectable (Figure 1B). In the report, the radiologist, who was unaware of chest tube removal, described the presence of a pleural drainage. Consequently, LUS was performed to rule out the possibility that a piece of the tube was retained in the chest. In correspondence of the basis of the left lung, the exam pointed out a moderately hypoechoic and irregularly delineated pleural-based lung lesion from which B-lines originated (Figure 2A, B). Since these findings have been described to be consistent with the diagnosis of LC,[1, 2] no further action was taken. Respiratory parameters and hemogasanalytic values remained stable. Postoperative course was uneventful. The patient was moved to the surgical ward on POD 3, and discharged from the hospital on POD 8. Sonographic and radiographic signs of LC had disappeared in CXR and LUS carried out on POD 7.

LCs are initially characterized by the presence of an intertstitial infiltrate, which develops one or two hours after the primary injury (edematous phase). This is followed by the flooding phase, which reaches a maximum 24 to 48 hours later, and in which alveolar spaces are filled with blood, inflammatory cells, and tissue debris.[5, 6] In our patient, a LC originated from the continuous pressure exerted by the pleural drainage on the visceral pleura and, possibly, by the suction through drainage holes. The CXR performed after removing surgical drainages coincided with the maximum of the flooding phase (Figure 1B). LC was then visible as an opacity with relatively well-defined borders that suggested the presence of the drainage or part of it (Figure 1B). LUS was very effective to rule out this suspect, providing additional information. Recently, LUS has been shown to be able also to assess LC extension and severity identifying patients at risk of developing ARDS 72 hours after a severe blunt trauma.[2] Futhermore, clinically-integrated LUS has been shown to be helpful to

correcly schedule CT scan and other advancing imaging avoiding harmful ionizing radiation if not needed.[4, 7, 8] To conclude, according with a growing body of overwhelming evidence, this case strongly supports the role of LUS as a valuable tool for bedside evaluation and monitoring of critical lung injuries with a greater accuracy than the traditional CXR.

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