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LETTER TO THE EDITOR

# Comment on "Air Embolism"

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Dear Editor,

I would like to comment on the publication "Trans-Catheter Aspiration of Systemic Air Embolism Causing Cardiac Compromise During CT-Guided Lung Biopsy, a Potentially Lifesaving Maneuver" by El Homsi et al [1].

The following items have to be mentioned:

1. The case described is a good example for the fact that the technique of using a "water-seal" (or "saline-drop", or similarly "finger or cap on the needle") to prevent air embolism during coaxial lung biopsy does not work. The statement "Air was noticed to come out of the coaxial needle" clearly shows that the coaxial needle had been opened to the atmosphere—if air can get out, it also can get in. We are convinced that the only way to eliminate the risk of opening the guiding cannula to the atmosphere in coaxial-biopsy of lung-lesions is the use of a hemostatic valve. The so-called "hemostatic-valve-coaxial-biopsy-technique" has been described in detail in our publication from 2014 [2].
2. There is obviously a fundamental misunderstanding regarding the well-founded recommendation of Freund et al. to "locate the lesion below the level of the left atrium" to prevent air embolism [3]. What is relevant in this respect alone is the position of the lesion in relation to the left atrium during biopsy (!) and not in supine position during the diagnostic computed tomography scan. The figure of the biopsy clearly shows the lesion high above the level of the left atrium, as the patient position is "contralateral-dependent" instead of the recommended "ipsilateral-dependent" [2, 4, 5].

Systemic air embolism in the described case presumably could have been prevented if the current principles of percutaneous lung biopsy would have been followed.

Nevertheless, I congratulate the authors for their life-saving intervention.

### Compliance with Ethical Standards

**Conflict of interest** The author declares that he has no conflict of interest.

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