Reviewer's report

Title: Pathways for definitive diagnosis of solitary pulmonary nodule: a multicentre study in 18 French districts

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Reviewer: Giuseppe Madeddu

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General
The authors present a study performed in a group of patients with pulmonary nodules identified by chest CT, only limiting the enrolment to nodules of 1-3 cm in size and focusing on some diagnostic aspects useful to reach a definitive diagnosis.

The patients with pulmonary nodules have been identified in a very large population of subjects submitted to chest CT. However, the modalities to select the casuistry and to read chest CT do not seem homogeneous. Moreover, in many patients histology was not obtained; thus, the exact incidence of cancer could not be determined as well as it was not also possible to exclude the presence of other lesions at risk of cancer. Furthermore, many patients with pulmonary nodules were also lost for the follow up.

Too many therapeutic tests were made to obtain a definitive diagnosis, meanwhile there was a limited use of PET (only in 2 cases); moreover, the employment of other radioisotopic procedures with oncotropic radiotracers have not been referred.

Finally, the interval time between chest CT and definitive diagnosis is too long.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Material and methods

1) The selection of pulmonary nodules made by the authors excluding those with a <1 cm size seems to too limited. The authors should better clarify this aspect.
2) The authors should report whether the radiologists have used common evaluation criteria in reading Chest CT.
3) The authors should also specify whether there was a team of radiologists among the research assistants to review CT images, to better ensure homogeneous results and to obtain consensus by all the groups participating in the study.

Results
Subjects characteristics
- The authors should give more information about nodule characteristics, either in the 112 patients included in the follow up or in the other 40 patients who were lost to follow up. These data should also be reported in the tables.
- Among the 40 patients who lost follow up, excluding the 6 cases who died without evidence of definitive diagnosis, in how many cases was it possible to ascertain the diagnosis at the moment of the first observation?

The latter sentence of this paragraph may due to a casual factor or do the authors retain that another explanation may be suggested?

Diagnostic procedures
- The authors should describe which definitive diagnosis they obtained in the 57 patients in whom no histological examination was performed.
- The authors should also explain why PET was performed in only two cases. Probably, some diagnostic procedures performed after Chest CT would have been avoided.
- The authors should report histological type of lung cancer in the 30 patients in whom a definitive cancer diagnosis was made. The authors should also write how many patients with cancer have been diagnosed during the follow up of 2 years.

Duration of process of diagnosis
Mediastinal involvement was reported in 31 patients: the authors should better clarify whether the involvement was always associated with cancer, since only in 30 patients cancer was ascertained, or whether it was also present in patients in whom a definitive diagnosis was not made.

Patient outcome
- The authors should modify the percentage of cancer in the 112 selected patients: it is not exact.
- The histological classification in all 30 patients with cancer should be reported.

Discussion
- It is too long and should also be modified on the basis of the corrections of the text, as suggested. Moreover, the diagnostic pathway followed in the patients should be discussed more in detail.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Discretionary Revisions (which the author can choose to ignore)
What next?: Reject because too small an advance to publish

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests'below.