
Interpreting Lung Studies Obtained in Patients with Suspected Pulmonary Embolism

In response to a recent article by Robin (1), we have decided to re-evaluate our method of interpreting lung studies obtained in patients with suspected pulmonary embolism. After reviewing the recent literature, we have developed a flowchart as an aid in interpretation (see illustration). This flowchart is currently being used in our laboratory and we feel that it might be of value to the readers of the Journal. Please note that although evaluation of the perfusion study is the first step in the overall interpretation process, whenever possible we precede the perfusion study with a ventilation study.

In reporting these studies to the referring physician, we

FLOWCHART

Tc-99m MAA Perfusion study

WNL

ABNL, return to this point for each perfusion abnormality.

Very low probability of P.E. (<1%) (Ref. 1)

CXR

WNL in region of perfusion defect

ABNL in region of perfusion defect

Xe-133 VENTILATION STUDY

WNL in region of perfusion defect

ABNL in region of perfusion defect

High probability of P.E. Probability of P.E. depends upon size of largest unmatched perfusion defect.

Low probability of P.E. (<10%) (Refs. 2, 3, 4)

Indeterminate probability for P.E. in this region [Overall probability is ≈25% (Refs. 3, 4) lower with single or subsegmental lesion. Higher with multiple lesions or with lobar or segmental lesions.]

Rec. pulmonary angiography if clinically indicated.

Also look for V/Q mismatches in regions where CXR is WNL.

Lobar or segmental (>90%) (Ref. 4)
Sub or nonsegmental (≥50%) (Ref. 4)

Not available

Estimate probability of P.E. on basis of number of perfusion defects and size of largest defects:

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Multiple Defects (Ref. 4)
- Lobar 80%
- Segmental 50%
- Subseg 10%

Single Defect (Ref. 4)
- 50%
- ~25%
- <10%
LETTERS TO THE EDITOR

use the following definitions of high, indeterminate, low, and very low probability:

<table>
<thead>
<tr>
<th>Probability Level</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>High probability of P.E.</td>
<td>( \geq 50% )</td>
</tr>
<tr>
<td>Indeterminate</td>
<td>( \leq 25% )</td>
</tr>
<tr>
<td>Low</td>
<td>( \leq 10% )</td>
</tr>
<tr>
<td>Very low</td>
<td>( \leq 1% )</td>
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</tbody>
</table>

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REFERENCES


SNM NEWSLINE

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