Operating Characteristics of Pulmonary Capillary Wedge Pressure as a Test for Pulmonary Arterial Hypertension

<table>
<thead>
<tr>
<th>Pulmonary Arterial Hypertension</th>
<th>Positive (LVEDP ≤ 15 mm Hg)</th>
<th>Negative (LVEDP &gt; 15 mm Hg)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive test (PCWP ≤ 15 mm Hg)</td>
<td>270</td>
<td>310</td>
<td>580</td>
</tr>
<tr>
<td>Negative test (PCWP &gt; 15 mm Hg)</td>
<td>152</td>
<td>3,194</td>
<td>3,346</td>
</tr>
<tr>
<td>Total</td>
<td>422</td>
<td>3,504</td>
<td>3,926</td>
</tr>
</tbody>
</table>

LVEDP = left ventricular end-diastolic pressure; PCWP = pulmonary capillary wedge pressure.

The operating characteristics for PCWP generated by this table are: sensitivity 64%, specificity 91.2%, positive predictive value 46.6%, and negative predictive value 95.5%. The positive predictive value indicates that among the study population, the majority of positive tests (PCWP ≤ 15 mm Hg) are false positives; in other words, the PCWP is not reliable to rule in PAH. The negative predictive value indicates that 95% of negative tests (PCWP > 15 mm Hg) are true negatives; the PCWP can be used to rule out PAH in this population. It should be noted that positive and negative predictive values are dependent on prevalence, and should be generalized with caution. If applied in a population with a higher prevalence of PAH, the usefulness of the PCWP to rule out disease would diminish. But the conclusion of this analysis seems to be generalizable: care should be exercised before starting a patient on therapy for PAH if the diagnosis was ruled in by PCWP. In some patients, particularly those with risk factors or clinical evidence of heart disease, further cardiac workup, including left heart catheterization, may be indicated.

Robert A. Raschke, MD, MS
Richard D. Gerkin, MD, MS
Steven C. Curry, MD
David M. Baratz, MD
Phoenix, AZ

Affiliations: From the Department of Critical Care Medicine (Dr Raschke), the Department of Internal Medicine (Dr Gerkin), and the Department of Pulmonary Medicine (Dr Baratz), Banner Good Samaritan Medical Center.

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Correspondence to: Robert A. Raschke, MD, MS, Banner Good Samaritan Medical Center, 1111 E McDowell Rd, Phoenix, AZ 85006; e-mail: robert.raschke@bannerhealth.com

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REFERENCES