|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Final Diagnosis**  **of postextubation distress** | **N (%)** | **Se**  % | **Sp**  % | **PPV**  % | **NPV**  % | **Accuracy**  % |
| *Cardiogenic edema* | 10 (32%) | 100 | 90 | 83 | 100 | 94 |
| *Pneumonia* | 17 (55%) | 89 | 100 | 100 | 87 | 94 |
| *Phrenic paralysis* | 3 (10%) | 100 | 100 | 100 | 100 | 100 |
| *Pneumothorax* | 1 (3%) | 100 | 100 | 100 | 100 | 100 |

Supplemental Digital Content 9. **Postextubation distress aetiology**. As previously reported1,2 and operationally defined, the “final diagnosis” of acute respiratory failure was determined by two independent senior experts from an examination of the complete medical chart, including all initial clinical findings; emergency laboratory tests; chest radiograph data; and the results of thoracic high-resolution CT scans (performed in 35 % of the patients). Additionally, transthoracic Doppler echocardiography was performed in 40% of the patients by a senior cardiologist who was blinded to the ultrasound data to allow an independent comparison between the different diagnostic methods. Responses to treatments were specifically analyzed and were used as diagnosis criteria. In case of disagreement between the two experts, a consensus was reached with the help of a third expert. Abbreviations: Se = sensitivity; Sp =specificity; PPV = positive predictive value; NPV = negative predictive value.

**References**

1. Silva S, Biendel C, Ruiz J, Olivier M, Bataille B, Geeraerts T, Mari A, Riu B, Fourcade O, Genestal M: Usefulness of cardiothoracic chest ultrasound in the management of acute respiratory failure in critical care practice. Chest 2013; 144: 859-65.

2. Silva S: Response. Chest 2014; 146: e230-1.