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ARDS Definition Evolution: Past and Future Quotes

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Abstract

Acute respiratory distress syndrome (ARDS) is a clinical syndrome includes severe dyspnea, hypoxia and invasive pulmonary infiltration, which is caused by diffuse lung injury. While there is no gold standard test for diagnosing ARDS, its recognition is relied on a valid definition.

Keywords: Critical care, ARDS, Berlin definition

Letter

Acute respiratory distress syndrome (ARDS) is a clinical syndrome which includes severe dyspnea, hypoxia and invasive pulmonary infiltration. While there is no gold standard test for diagnosing ARDS, its recognition is relied on a valid definition [1,2].

In 1967, Ashbaugh and Petty defined ARDS as a clinical founding which is including long lasting tachypnea, hypoxemia, decreased lung compliance, bilateral opacity in chest X-ray with high mortality [3]. In 1988, John Murray, suggests lung injury score. Which includes: 1) opacities on chest X-ray 2) Hypoxemia 3) Applied PEEP 4) elasticity of respiratory system [4].

In 1994, American European consensus conference (AECC) described ARDS as a syndrome which includes: 1) acute onset of respiratory failure, 2) sever hypoxemia as defined by $PaO_2/FIO_2 < 200$ mmHg, 3) bilateral infiltrate on chest X-ray, 4) no evidence of left ventricle failure and pulmonary capillary wedge pressure<18 [5] In this definition, risk factors were not included, interobserver reliability was moderate and there was no clear definition of acute phase [6]. Berlin definition introduced with 3 categories: 1) mild (200 mm Hg<PaO_2/FIO_2<300 mmHg), 2) moderate (100 mmHg<PaO_2/FIO_2<200 mmHg) and 3) severe (PaO_2/FIO_2<100 mmHg). Acute onset defines when the respiratory symptoms complicate or patient exposes to defined risk factors during a week. In chest X-ray, bilateral infiltration which is involving 3 quadrants or more and is not compatible with pleural effusion, nodules or atelectasis is important [7].

Berlin definition is not a sufficient and complete definition but in compare with AECC definition did better at predicting mortality [8].

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Diseases	N (%)
Hypertension	28 (46.6)
Diabetes mellitus	3 (11.3)
Hypertension and diabetes	8 (13.3)
Chronic renal failure	2 (5)
Chronic obstructive airway disease	3 (11.3)
Parkinsons disease	1 (1.7)
Anaemia	1 (1.7)

Table 3: Intercurrent Medical diseases.

Indication for surgery	(%)
Benign prostatic hyperplasia	85
Urethral stricture	11.6
Renal mass	1.7
Renal stone	1.7

Table 4: Indication for surgery.

ECG Change	N (%)
Sinus rhythm	18 (30)
LVH	12 (20)
Sinus Tachycardia	6 (10)
Sinus bradycardia	3 (5)
Atrial fibrillation	2 (3.3)
Left axis deviation	4 (6.6)
Right bundle branch block	4 (6.6)
Left bundle branch block	1 (1.7)
Left atrial enlargement	2 (3.3)
AV block	1 (1.7)
Premature ventricular contraction	4 (6.6)
ST elevation	3 (5)

Table 5: ECG pattern in recruited patients.

Parameter	Normal ECG	Abnormal ECG	P value
Mean age (years)	70.67 ± 5.3	70.93 ± 5.71	>0.05
Mean weight(kg)	72.24 ± 6.31	72.13 ± 8.5	>0.05
Mean height (m)	1.59 ± 0.04	1.57 ± 0.07	>0.05

Table 1: Patient characteristics.

ASA classification	Normal ECG n=18	Abnormal ECG n=42	P value
Class 1	10	3	0.000
Class2	8	26	0.021
Class3	0	11	0.016
Class4	0	2	0.346

Table 2: ASA classifications.