

# 12-MONTH REVIEW OF CLINICAL CHARACTERISTICS, MODE OF THERAPY, AND OUTCOME OF ACUTE PULMONARY EMBOLISM PATIENTS IN INSTITUT JANTUNG NEGARA (IJN)

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## 1. INTRODUCTION

Symptoms of acute pulmonary embolism (APE) can be non-specific. The management of PE has evolved significantly with the advancement in risk stratification, imaging, and treatment modalities. The usage of percutaneous and catheter-based therapies is gaining prominence however there is a paucity of data in Malaysian population.

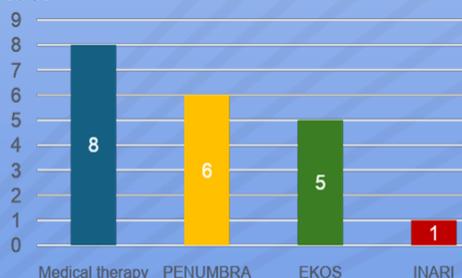
## 2. METHODOLOGY

Patients diagnosed with APE and admitted to IJN between January and December 2024 were retrospectively enrolled and analyzed descriptively. The clinical characteristics, mode of therapy (Figure 1), and outcomes were recorded.

## 4. DISCUSSION

The clinical presentation of APE varies widely. Studies have shown that dyspnea is the most common symptom (72.3%), followed by reduced effort tolerance (12.8%).<sup>1</sup> Majority of our patients were unprovoked APE. ESC guidelines recommends systemic thrombolysis in high-risk group but not as routine intervention for intermediate-risk group.<sup>2</sup> Consistent with our data in IJN, there is an increasing trend of CDI treatment being used for intermediate-risk patient. Choice of percutaneous CDI includes mechanical thrombectomy (MT) and catheter-directed thrombolysis (EkoSonic Endovascular System EKOS). Penumbra Lightning Aspiration System & Inari FlowTriever system are the types of MT available in IJN. Selection of therapy should be individualized based on institutional expertise, patient's risk profile, clot burden, and patient's preference.

**Figure 1 :** Mode of therapy used in IJN for APE in 2024. Medical therapy includes anticoagulant and/or systemic thrombolysis.



## 3. RESULTS

Variable	n = 20	Percentage (%)
<b>Gender</b>		
Male	11	55.0
Female	9	45.0
<b>Age</b>		
Mean	49.6	SD (18.93)
Max	84	
Min	18	
<b>Presenting Complaint</b>		
Dyspnea	17	85.0
Chest Pain	3	15.0
Syncope/Pre-syncope	3	15.0
Fever	1	5.0
Giddiness	2	10.0
Leg Swelling	3	15.0
Reduced Effort Tolerance	6	30.0
Hemoptysis	0	0.0
<b>Risk Factor</b>		
Previous DVT/PE	1	5.0
Prolonged immobilization	6	30.0
Obesity	1	5.0
CTD/Autoimmune/Malignancy	3	15.0
Oral contraceptive pill	1	5.0
Unprovoked	8	40.0
COVID/Influenza	1	5.0
<b>Hemodynamic Instability</b>		
Yes	1	5.0
No	19	95.0
<b>RV Dysfunction on echocardiography</b>		
Yes	9	45.0
No	11	55.0
<b>Elevated NT-pro BNP</b>		
Yes	18	90.0
No	2	10.0
<b>Elevated hs-Troponin T</b>		
Yes	13	65.0
No	4	20.0
Not available	3	15.0
<b>Requiring Oxygen Therapy</b>		
Yes	17	85.0
No	3	15.0
<b>PE Severity</b>		
Low risk	4	20.0
Intermediate low risk	5	25.0
Intermediate high risk	9	45.0
High risk	2	10.0
<b>Mode of Therapy</b>		
Anticoagulant only	7	35.0
Systemic thrombolysis	1	5.0
Catheter-directed thrombolysis	5	25.0
Mechanical thrombectomy	7	35.0
<b>Length of Stay (days)</b>		
Mean	7.7	SD (5.12)
Max	24	
Min	2	
<b>Survival to discharge</b>		
Yes	19	95.0
No	1	5.0

## 5. CONCLUSION

The characteristics of APE patients in IJN are comparable to other reported studies. Percutaneous CDI is an emerging alternative treatment option for high and intermediate risk, which is shown to be safe and effective in the management of APE.

### References:

- Mok KH, et al. Clinical characteristics, risk factors and outcomes of South-East Asian patients with acute pulmonary embolism. *Int J Cardiol.* 2017;249:431-433.
- Stavros V Konstantinides, et al. The Task Force for the diagnosis and management of acute pulmonary embolism of the European Society of Cardiology (ESC), *European Heart Journal*, Volume 41, Issue 4, 21 January 2020, Pages 543-603.

