

# The Clot Thickens: Bilateral Pulmonary Embolism In the Pregnant Patient with Antithrombin III Deficiency

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## BACKGROUND

- Venous thromboembolisms (VTEs) contribute to 9.2% of pregnancy-related mortalities in the US
- Congenital antithrombin III deficiency (AT3D) is a rare autosomal dominant disorder
- AT3D is far more hypercoagulable than other more common thrombophilia
- The absolute risk also increases from 6.1% to 9% if the parturient is 35 years or older

	Prevalence (%)	VTE Risk Per Pregnancy (%)	Percentage of all VTE
<b>Antithrombin deficiency</b>	<b>0.02</b>	<b>40</b>	<b>1</b>
Factor V Leiden heterozygote	1-15	10	40
Factor V Leiden homozygote	<1	17	2
Prothrombin gene heterozygote	2-5	>10	17
Prothrombin gene homozygote	<1	>17	0.5

**Table 1 (right):** Pregnancy and VTEs in Inherited Thrombophilias.  
*Adapted from ACOG Practice Bulletin No. 197.*

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37 year old  
G3P1011 on  
enoxaparin  
40mg daily

Presented at  
34w6d with  
dyspnea and  
chest pressure

Underwent a  
suction  
embolectomy  
for bilateral PE

ICU course  
complicated by  
obstructive  
shock

Uncomplicated  
cesarean on  
hospital day 5  
under spinal





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## TEACHING POINTS

- Suspicion for VTE should remain high if the patient develops hypotension and dyspnea despite prophylactic anticoagulation
- This is particularly true in patients with AT3D, especially when other risk factors are present
- Consider POCUS to look for right heart strain, guide vasopressors choice, or plan for mechanical support

## REFERENCES

1. ACOG Practice Bulletin No. 197: Inherited Thrombophilias in Pregnancy. Obstetrics & Gynecology 2018. PMID: 29939939
2. Gerhardt A. Blood 2016. PMID: 27613196.

