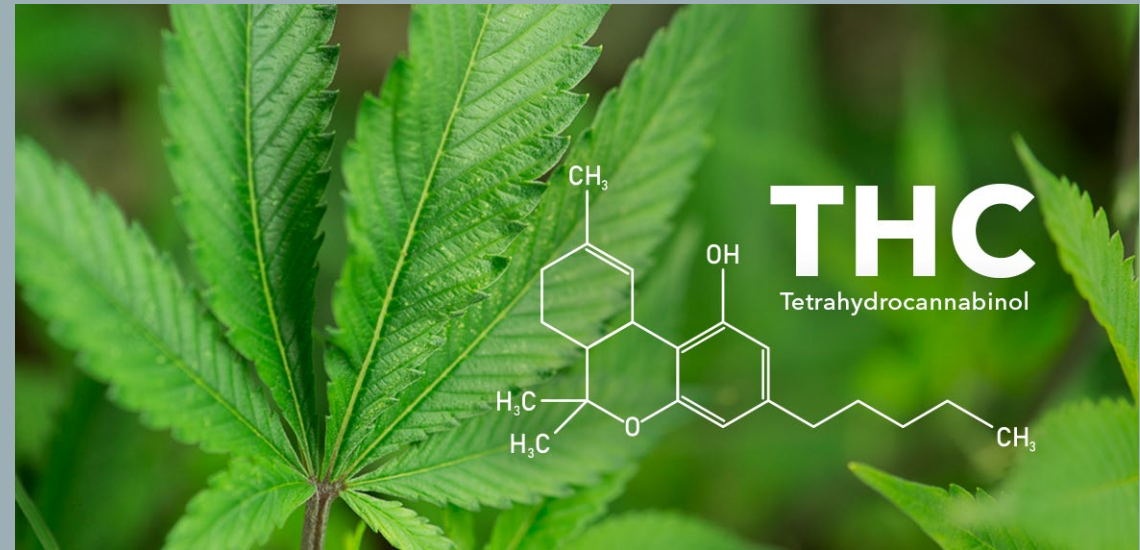


The Incidence of Venous Thromboembolisms in Pregnancy with Known Cannabis Use

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DISCLOSURE OF CONFLICTS OF INTEREST

- Borna Amir-Kabirian, MD, has no financial relationships to disclose.

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BACKGROUND:

- Marijuana is the most widely used drug worldwide
- In 2017, West Virginia passed West Virginia Medical Cannabis Act
- In pregnancy, marijuana is the number one recreational drug used
- THC component readily crosses the placenta. Increased amounts of still birth, growth restrictions and neurodevelopmental abnormalities in pregnant population

PRIOR STUDIES :

- THC enhances glycoprotein IIb-IIIa and P-selectin expression on human platelets and is concentration dependent
- Post operative TKA patients: Cannabis users found to have higher *incidence* (2.79% vs 1.78%; odds ratio, 1.58; $p < 0.0001$) of VTEs, DVT (2.41% vs. 1.44%; OR , 1.68; $p < 0.0001$) and PEs (0.97% vs. 0.62%; $P = 0.01$)
- Trauma patients: Rate of DVT (6.6% vs. 1.8%, $p = 0.02$) and PE (2.2% vs. 0.2%, $p = 0.04$) was higher in THC positive group in trauma patients
- National average of incidence of VTE is 0.49 to 1.72 per 1000 pregnancies
- Smoking and obesity were associated with increased risk of VTE during pregnancy and the puerperium (adjusted OR 2.7 (95% CI: 1.5, 4.9) and 5.3 (95% CI: 2.1, 13.5), respectively)

PURPOSE & METHOD:

- Purpose: Evaluate the incidence of venous thromboembolisms and cannabis use, when controlling for other common factors that result in hypercoagulability in the pregnant population.
- Retrospective study using CAMC Cerner data Jan 2017 - December 2022
- Inclusion criteria:
 - >18 years old
 - Confirmed positive pregnancy test
 - Patients with urinary drug screen
- Exclusion criteria:
 - Methamphetamine/Cocaine/Heroin use (on positive UDS)
 - Factor 5 Leiden, protein C or S deficiency, prothrombin III mutation or antiphospholipid syndrome
 - Active Malignancy (excluding prostate, basal or squamous cell and urothelial/bladder carcinoma)
 - Immobility/Paralysis or trauma (hip or tibial fracture)
 - Polycythemia Vera
 - History of nephrotic syndrome or end stage renal disease
 - Paroxysmal Nocturnal Hemoglobinuria
 - Inflammatory Bowel Disease (ulcerative colitis or Crohn's disease)
 - Septic shock or severe sepsis
 - Prior VTE

RESULTS:

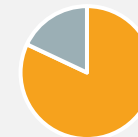
- N=350 patients who met inclusion criteria:
 - 278 (78.9%) tested negative for THC.
 - 74 (21.1%) tested positive for THC
 - 3 (0.9%) patients had a PE (in negative UDS group)
 - 1 (0.3%) patients had a DVT (in negative UDS group)
- Average age 26. Predominance in Caucasian population 300 (86.2%)
- Comorbidities: Tobacco use (50.4%), hypertension (11.8%) & diabetes (6.9%)
- In comparison, negative UDS group had longer LOS (2.0 vs. 1.3 days, p 0.03)
- Positive UDS group more likely to be Caucasian (73.0% vs. 27.0%, p = <0.001) & use tobacco (67.6% vs. 45.8%, p = <0.001)

	Total (n=350)		Negative UDS (n=276)		Positive UDS (n=74)		P value
	n	%	n	%	n	%	
Age, years	26.3±5.6		26.4±5.5		25.6±5.8		0.27
Total LOS	1.9±3.5		2.0±3.7		1.3±2.0		0.03
ICU LOS	5.0±4.5		4.3±5.0		6.3±4.0		0.57
White	300	86.2	246	89.8	54	73.0	<0.001
Black	48	13.8	28	10.2	20	27.0	
Comorbidities							
Tobacco Use	176	50.4	126	45.8	50	67.6	<0.001
Diabetes	24	6.9	20	7.3	4	5.4	0.80
CAD	1	0.3	0	0.00	1	1.4	0.21
Hypertension	41	11.8	34	12.4	7	9.5	0.68
Stroke	1	0.3	0	0	1	1.4	0.21
Arrythmia	7	2.0	6	2.2	1	1.4	1.0
During Admission							
ICU Admit	9	2.6	6	2.2	3	4.1	0.41
PE	3	0.9	3	1.1	0	0.00	1.0
DVT	1	0.3	1	0.4	0	0	1.0
Outcomes							
Mortality in 30 days	1	0.3	1	0.4	0	0	1.0
Readmission in 30 days	25	7.1	18	6.5	7	9.5	0.44

Tobacco Use



Caucasian Pop.



African American Pop.





CONCLUSION:

- There is no association with THC use and incidence of VTE in the pregnant population
- Patients with positive UDS were more likely to also use tobacco
- Limitations: Small cohort, regionally confined, duration/frequency/method of consumption of THC.

FUTURE STUDIES

- Future research should consider a bigger cohort and be extrapolated to the general population
- Consider exclusion of tobacco

SOURCES

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