INVESTIGATING THE ASSOCIATION BETWEEN LIFETIME CANNABIS EXPOSURE AND PROSTATE CANCER INCIDENCE: A single-centre case-control study

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Introduction

- In vitro experiments have implicated cannabinoid receptors as potential negative modulators of prostate cancer (PCa) tissue
- Clinical evidence of cannabinoid effects on prostate health remains sparse

Objectives

To investigate whether lifetime cannabis consumption is associated with prostate cancer incidence

Materials & Methods

Eligibility:
- All patients treated at a single center between Jan 2023 and July 2024
- Diagnosed with PCa (cases) or benign prostatic hyperplasia (BPH) (controls)
- Email address listed in health record

Procedures:
- 2527 potential participants e-mailed one anonymous questionnaire (reminder at 1 week)
- Assessed: demographics, personal & family prostate health, cannabis use history, other substance use history

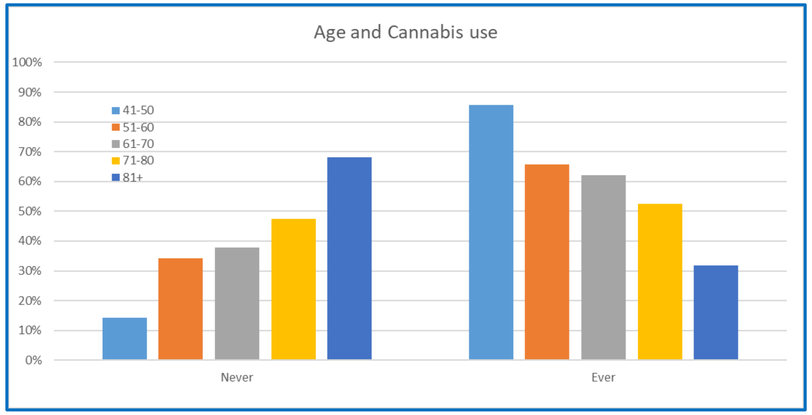
Analysis:
- Respondents matched by age at diagnosis
- Univariate and Multivariate conditional logistic regression to identify predictors of PCa incidence

Results

724 usable responses (456 PCa and 268 BPH)
After matching (1:1), 231 responses in each group

Some degree of cannabis use was reported by 64% of PCa cases and 58% of BPH controls (p 0.22).
No significant differences between PCa and BPH groups for any cannabis use frequency or method of consumption

No significant difference between groups for cannabinoid preference (24% preferred THC dominant). **34% were unsure of the cannabinoid content of their cannabis.**



Compared to 'Never' use of cannabis:

Infrequent cannabis use is NOT predictive of PCa incidence: OR 1.6 [95% CI 0.93 to 2.7], p=0.09

Frequent cannabis use is NOT predictive of PCa incidence: OR 1.5 [95% CI 0.87 to 2.5], p=0.15

	BPH	PCa	p-value
N (%)	231	231	
Cannabis exposure			
Never user	95 (42%)	82 (36%)	0.221
Infrequent user	31 (13%)	42 (18%)	0.202
Frequent user	35 (15%)	42 (18%)	0.454
Current user	26 (11%)	30 (13%)	0.669
Age at first exposure (IQR)	19 (16, 33)	19 (16, 32)	0.936
Years of exposure (IQR)	3.5 (1.0, 14)	4.0 (1.0, 12)	0.650
Method of consumption			
Smoked flower	99 (43%)	111 (48%)	0.304
Vaporized	8 (4%)	9 (4%)	0.999
Edibles	29 (13%)	38 (17%)	0.291
Other	16 (7%)	21 (9%)	0.493

Conclusions

There is a high prevalence of cannabis consumption in both groups with prostatic disease
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Although at risk of recall bias, this case-control analysis suggests that there is no direct association between lifetime cannabis use and the risk of developing prostate cancer

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