

CARDIOVASCULAR RISK FACTORS AND UTERINE LEIOMYOMA: IS THERE AN ASSOCIATION?

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INTRODUCTION

Uterine leiomyomas, commonly known as uterine fibroids, are the most common tumors affecting women with prevalence ranging over 70% by the onset of menopause. Many different risk factors, both modifiable and non-modifiable, have been associated with the development of uterine leiomyomas (UL). Recent studies have indicated an association between UL and several cardiovascular disease (CVD) risk factors such as hypertension, obesity, abnormal serum lipids and carotid intima-media (CIM) thickness. It has also been reported that estrogen levels are inversely related to cholesterol levels. As UL are estrogen related tumors, an inverse association between hyperlipidemia and the risk for fibroids should be observed.

OBJECTIVE

The aim of the study is to assess the cardiovascular risk factors of women with UL receiving outpatient gynecological care at SUNY Downstate Health Sciences University.

METHODS

An IRB-approved retrospective chart review was conducted using the electronic medical records of 888 women aged 18 years and above seen at the State University of New York (SUNY) Downstate Health Sciences University's Outpatient OB/GYN Suite. Women who were pregnant were excluded as well as those who were diagnosed with HIV or renal failure, had history of psychiatric illness, and were on hormone therapy for reasons other than UL. Data extracted included demographics, social history, medical history, BMI as well as laboratory parameters specifically Glucose, Hemoglobin A1C (HbA1C), Total Cholesterol, Triglycerides, HDL Cholesterol, and LDL Cholesterol.

Initial analysis revealed a group difference in age. Age matching was completed using a propensity score analysis to match on exact age, using a greedy algorithm. The matched data were then analyzed for group differences using t-tests, Chi-square and Fisher's exact test.

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RESULTS

A total of 444 women were included in the age-matched analysis: 222 women with UL and 222 without UL as controls. Women were predominantly Black (86%) with mean age of 42.1 ± 11.3 years and BMI of 31.2 ± 7.6 kg/m².

There was no difference between the groups in terms of BMI ($p= 0.7908$), current smoking ($p= 0.0589$) and current alcohol use ($p= 0.2956$). Women with UL were more likely to have a history of hypertension than controls (UL= 33.6 % vs. controls= 23.6%; $p = 0.0213$). There was no difference between the groups in history of diabetes mellitus ($p=0.4798$), heart disease ($p= 0.9835$) and dyslipidemia ($p= 0.2326$).{TABLE 1}

There was no difference between the groups in glucose levels ($p= 0.3127$) and HbA1C ($p= 0.0995$). Mean lipid profile parameters were all within normal range and there was no difference noted between in groups for those parameters.

TABLE 1: CVD RISK FACTORS BY GROUP

	UL WOMEN	CONTROLS	P-VALUE
BMI in kg/m ² , mean (std)	31.1 (7.8)	31.3 (7.4)	0.7908
HbA1C in %, mean (std)	5.9 (1.3)	5.6 (0.9)	0.0995
Current Smoker, n (%)	17 (8.1)	30 (14.8)	0.0589
Current Alcohol Use, n (%)	37 (19.4)	47 (24.1)	0.2956
History of Hypertension, n (%)	72 (33.6)	51 (23.6)	0.0213
History of Diabetes, n (%)	43 (20.4)	34 (15.9)	0.4798
History of Heart Disease, n (%)	9 (4.3)	9 (4.3)	0.9835
History of Dyslipidemia, n (%)	34 (16.2)	26 (12.2)	0.2326

FIGURE 1: MEAN LIPID PARAMETERS BY GROUP

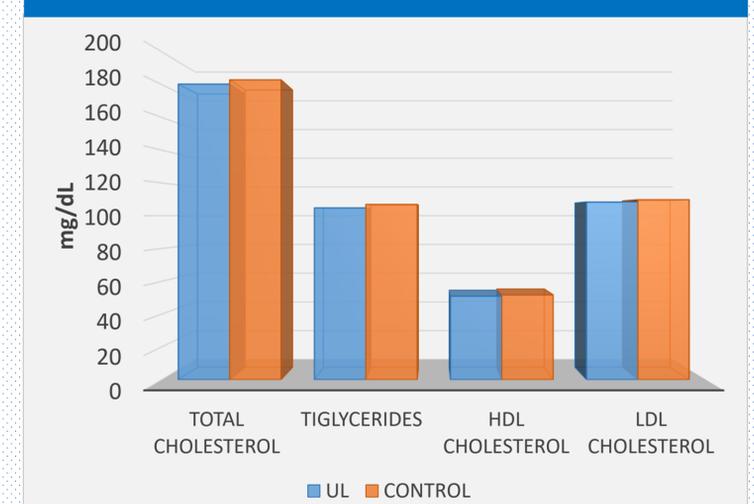
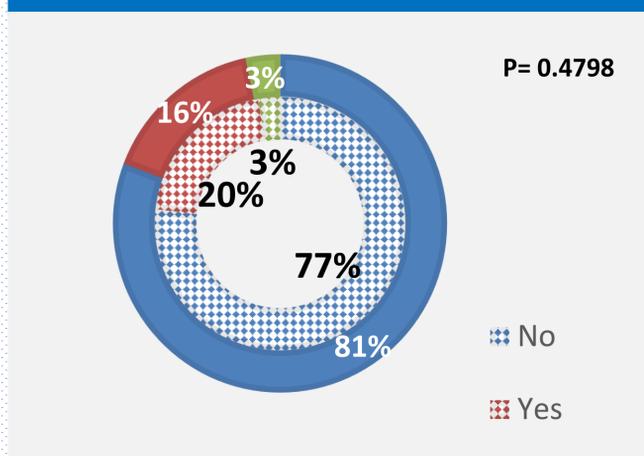


FIGURE 2: HISTORY OF DIABETES BY GROUP



CONCLUSION

In our population of predominantly Black women assessed for cardiovascular risk factors,

- ❖ Women with UL were more likely to have a history of hypertension than those without UL.
- ❖ There was no association between presence of UL and other risk factors such as history of diabetes mellitus, heart disease and dyslipidemia.
- ❖ There was no difference in the lipid profiles of UL women and controls.

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