



## A Case Control Study on Risk Factors of Uterine Fibroid Among Patients Attending SUT Academy of Medical Sciences, Trivandrum

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**ABSTRACT**

Background Fibroids are commonest tumours in the uterus. Objective The present case control study was done to find risk factors of fibroid uterus in SUT Academy of Medical Sciences in Thiruvananthapuram. Material and methods This study was conducted on 50 female patients attending the Gynaecology O.P with history of vaginal bleeding who had ultrasonographically confirmed fibroid during the time period between November 2012 and January 2013 using pretested questionnaire. This was compared with 50 control females who had no ultrasonographically confirmed fibroid attending the same study setting. The variables studied are age, overweight, parity, age at menarche, history of hypertension, diabetes, thyroid disorders and family history. Statistical association between variables were studied using Chi square test and Odds ratio. Results It was found that there is significant statistical association between fibroid uterus and overweight (OR=3.8), parity (OR=9.3), and family history of fibroid (OR= 2.47). Conclusion. Among the women with uterine fibroid, there is a significant association with obesity, parity, family history. Early detection of patients with fibroid uterus can improve the quality of life of patients suffering from menorrhagia

**KEYWORDS**

Fibroid uterus, Case control study, Ultrasonography

**INTRODUCTION**

Fibroids of uterus are benign smooth muscle tumours arising from the myometrium of the uterus. They can be single or multiple, in extreme cases expanding the uterus so much that it reaches the rib cage<sup>1</sup>. They usually shrink after menopause<sup>2</sup>. fibroids contribute to substantial health care expenditure and surgical treatment<sup>3</sup>. Risk factors are ethnicity- more in afro caribbean origin. Early age at menarche. Nulliparity. Overweight. Exogenous hormones. Cigarette smoking reduces the risk. Familial association. Although we know little about etiology, estrogen stimulates and progesterone inhibit fibroid growth<sup>4</sup>. Types of fibroids are Interstitial, intramural, subserous, submucous. The patients complaints of- abnormal uterine bleeding which is mostly menorrhagia. In the present study, attempt has been made to identify and quantify to risk factors which have significant association with fibroid uterus<sup>5</sup>.

**MATERIALS AND METHODS**

The present study was a case control study carried out at the Gynecologic OP of SUT Academy of Medical Sciences, Thiruvananthapuram. The study population was 50 cases with history of vaginal bleeding and ultrasonographically confirmed fibroid and 50 controls in the age group 30 -55yrs attending Gynecology OP during the time period from November 2012 to January 2013. The objective of the study was to find out the risk factors associated with fibroid uterus. Informed consent was obtained from patients who participated in the study. Data collection was done using predesigned questionnaire which contained variables -age, obesity, age at menarche, parity, history of hypertension, diabetes, thyroid disorders, family history. Statistical analysis was done using Chi square test, Odds ratio and proportions.

**RESULTS AND DISCUSSION**

A total of 50 cases and 50 controls were studied. Table 1 shows the distribution of cases and controls as per age. 15 among cases and 35 among controls were of more than 40 years of age.

Table 1: Distribution of cases and controls as per age.

Age	30-34	35-39	40-44	45-49	50-55
Case	2	11	12	16	9
Control	3	12	13	15	7

**Table 2: Distribution of risk factors found to be significantly associated with fibroid uterus**

Risk factor	$\chi^2$ (p value)	OR(95% CI)
Parity	5.98(<0.03)	9.3(1.1-7.7)
Overweight	10.3(<0.001)	3.8(1.5-9.5)
Family history	4.46(<0.03)	2.47(0.98-6.42)

**Table 3: Distribution of risk factors not found to be significantly associated with fibroid uterus**

Risk factor	$\chi^2$ (p value)	OR(95% CI)
Age	0.196(<0.656)	0.82(0.34-1.96)
Age of menarche	4.1(0.04)	2.14(0.93-7.18)
Hypertension	2.474(<0.11)	2.06(0.76-5.64)
Diabetes	0.516(0.47)	1.405(0.5-3.98)
Thyroid disorder	0.48(0.48)	1.38(0.53-3.78)

Previous studies conducted on different settings showed statistical association between risk factors of fibroid uterus<sup>6</sup>

**Table 4: Relationship between fibroid uterus & parity**

Feature	With fibroid	With out fibroid
Nullipara	8	1
≥1	42	49

Odds ratio=9.3 Chi square=5.98

Those who developed uterine fibroids have 9.3 times odds of being nullipara than those who do not developed uterine fibroid.

**Table 5:Relationship between fibroid uterus & overweight**

Feature	With fibroid	Without fibroid
BMI $\geq$ 25	31	15
BMI<24.9	19	35

Odds ratio=3.807 Chi square value=10.3

Those who developed uterine fibroid have 3.807 times odds of being obese than those who do not developed uterine fibroid. Some studies have suggested that obese women are at higher risk of fibroids, but other studies have not shown a link<sup>7</sup>

**Table 6:Relationship between fibroid uterus & family history of fibroid**

Feature	With fibroid	With out fibroid
With family history	22	12
Without family history	36	39

Odds ratio= 2.47 Chi square value= 4.46

Those who developed uterine fibroid have 2.47 times odds of having positive family history of fibroid than who do not developed uterine fibroid.

**Table 7:Relationship between fibroid uterus & age of menarche**

Feature	With fibroid	Without fibroid
Age below 12yrs	16	9
Age above 12yrs	34	49

Odds ration=2.14 Chi square=1.62

Those who developed uterine fibroid have 2.14 times odds of being menarche at age below 12 than who do not developed uterine fibroid.

**Table 8:Relationship between fibroid uterus & hypertension**

Feature	With fibroid	With out fibroid
With hypertension	17	10
Without hypertension	33	40

Odds ratio= 2.06 Chi square value= 2.474

Those who developed uterine fibroid have 2.06 times odds of being hypertension than who do not developed uterine fibroid.

### CONCLUSION:

Thus from our study, we conclude that among the women with uterine fibroid who attended the gynaecology O.P of SUT Academy of Medical Sciences, Trivandrum, there is a significant association with obesity, parity, family history. Early detection of fibroid may improve the quality of life of patients. Epidemiological studies in large setting is necessary regarding clinical and diagnostic correlation<sup>8</sup>.

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