

## INCIDENTAL HISTOPATHOLOGICAL FINDINGS IN UTERUS: A POSTMORTEM STUDY

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### Abstract

**Introduction:** The uterus plays a crucial role in human reproduction and is central to the development of new life. Fibroids, medically known as uterine fibroids or leiomyomas, are non-cancerous growths that develop within the muscular wall of the uterus. They are quite common, affecting many women during their reproductive years. **Objectives:** Incidental histopathological findings during postmortem of female bodies coming to mortuary. **Methods:** Data as per proforma was collected from female cases which met our inclusion criteria from 1 July 2021 to 30 June 2022. **Results:** Fibroids were most common histopathological finding. **Conclusion:** Due to influence of hormones, size of uterus was found higher among early reproductive females as well as fibroids (leiomyoma) which were most common benign pathology findings were found among them and are largely influenced by hormones.

**Keywords:** Autopsy, Histopathology, Uterus, Fibroid, Tumour.

### INTRODUCTION

The changes occurring in the uterus during pregnancy and parturition are also significantly affected by age of the woman and her hormonal balance. Many pathological conditions of the uterus such as endometrial carcinomas; fibroids, etc. are hormone dependent.<sup>[1]</sup> Benign tumours and tumour like conditions occur more often in the uterus than in other organs. After giant lipomas, leiomyoma is also one of the most common large solid benign neoplasms.<sup>[1]</sup>

These benign tumours usually develop in the myometrium or less commonly in the cervix. In addition to being composed of smooth muscle, it is composed of varying amounts of elastin, collagen, and extracellular matrix proteins. Endometrial cancer is the most common malignant neoplasm of the female reproductive tract and accounts for nearly half of all gynaecological cancers in the United States.<sup>[2]</sup>

An important role in the development of diagnostic criteria that allows experts to establish the post-mortem interval in various terms of the post-mortem period is assigned to morphological methods. In the available domestic and foreign literature, we did not identify the complex morphological studies of the uterus in order to establish the valid and reliable diagnostic criteria for determining the post-mortem interval. That fact actualizes the current study.

## MATERIAL AND METHODS

All female dead bodies including decomposed bodies coming to mortuary where consent was available were included in study. Cases where consent could not be obtained for the study, skeletonised bodies with absent uterus, mutilated bodies where pelvis/uterus is missing or unidentifiable, pregnant cases or cases which underwent hysterectomy were excluded.

**Procedure:** After noting down the gross findings, the uterus, preserved in 10% formalin was sent to the department of Pathology for histopathological examination. After completion of the histopathological examination, the findings were recorded in the proforma and statistical analysis of data was done.

## RESULTS & DISCUSSION

Out of 921 cases, 231 cases were of female and 116 cases met our inclusion criteria.

**Table 1: Summary of total cases coming to mortuary during study period**

Number of males	697	75.7%
Number of Transgender	3	0.3%
Female cases not matching our inclusion criteria	105	11.4%
Female cases matching our inclusion criteria	116	12.6%
Number of females	231	25.1%
<b>Total number of cases</b>	<b>921</b>	<b>100.0%</b>

**Table 2: Distribution of cause of death in diseased victims in study sample**

AgeGroup	Total	Percentage (%)	Diseased condition not related to uterus	Deceased condition related to uterus
15-25	5	10.5 %	5	0
26-35	4	19.5%	4	0
36-45	1	31.0%	1	0
46-55	3	20.2%	3	0
56-65	4	7.6%	4	0
66-75	3	7.6%	3	0
76-85	0	0	0	0

Out of 20 natural death cases, all cases (100%) cases died due to diseased condition not related to uterus whereas no case died due to diseased condition which was directly related to uterus.

**Table 3: Age wise distribution of uterine lesions**

Age Group	Total	Percentage	Fibroid			Prolapse	Carcinoma	Adenomyosis	Dysfunctional Uterine Bleeding	Pelvic Inflammatory Disease
			Intramural	Sub mucous	Sub serous					
15-25	2	10.5 %	0	0	0	0	0	0	2	0
26-35	2	19.5%	0	1	0	0	0	1	0	0
36-45	6	31.0%	2	2	2	0	0	0	0	0
46-55	4	20.2%	1	3	0	0	0	0	0	0
56-65	2	7.6%	0	0	0	2	0	0	0	0
66-75	3	7.6%	0	0	0	0	1	1	1	0
76-85	3	3.6%	0	0	0	2	0	0	0	1

**Table 4: Comparison with other studies in reference to deaths caused due to diseased condition in study sample**

Study location	Year	Diseased cases
<b>Patiala (current study)</b>	2023	17.2 %
<b>Bhilwara<sup>[3]</sup></b>	2022	17.1 %
<b>Dhulikhel<sup>[4]</sup></b>	2022	6.6 %
<b>Surat<sup>[5]</sup></b>	2016	21.65 %

Our results are comparable with study conducted in Bhilwara, Rajasthan in 2022 in which 17.1 cases died due to cardiac and natural reasons.<sup>[3]</sup>

Our results don't match with study conducted in Dhulikhel, Nepal in 2022 in which 6.6% cases died due to natural causes.<sup>[4]</sup>

Our results were close to study conducted in Surat in which natural deaths were 21.65% in total post-mortems conducted in study period.<sup>[5]</sup>

**Distribution of abnormalities and incidental findings of uterus in study sample**

**Table 5: Comparison with other studies in reference to distribution of abnormalities and incidental findings of uterus in study sample**

Study location	Year	Most common abnormality	Percentage
<b>Patiala (current study)</b>	2023	Fibroids (leiomyomas)	70.7 %
<b>Valsad<sup>[6]</sup></b>	2018	Fibroids (leiomyomas)	38.6 %
<b>Amritsar<sup>[7]</sup></b>	2002	Fibroids (leiomyomas)	73.5 %
<b>Nigeria<sup>[8]</sup></b>	2001	Fibroids (leiomyomas)	48 %

Our results although differ from conducted in 2018 in Valsad, Gujarat, India in which the most common pathology was leiomyoma (42.2%) in the myometrium.<sup>[6]</sup>

Our results are comparable with results of study conducted in neighbouring Amritsar in 2002 which showed 73.5 % cases were diagnosed with leiomyomas.<sup>[7]</sup>

Our results did not matched with that of study conducted in Ile-Ife Nigeria, in 2001 which showed leiomyoma was the commonest finding in hysterectomy specimens (48%) and peak age incidence for woman with leiomyoma who had hysterectomy corresponded with the overall peak age for woman who had hysterectomy. However similar to our study, majority of cases were diagnosed with leiomyoma. <sup>[8]</sup>

**CONCLUSION**

Majority of cases coming to mortuary of females were married and literate. Fibroids were most common incidental finding in our study sample, fibroids were found more among females of reproductive age group due to influence of hormones and dietary factors. Uterine prolapse came to second, which may be due to poor socioeconomic status and lack of awareness. No case coming to mortuary died due to diseased condition which was directly related to uterus.

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