



**Duration of study**

The duration of the study was 1 year – July 01, 2014–June 30, 2015.

**Study setting**

The study was conducted at the Department of Obstetrics and Gynaecology, Sultania Zanana Hospital and Gandhi Medical College, Bhopal.

**Data collection**

Data were collected using predesigned proforma; consent was taken from every participant.

**Data analysis**

After collection of data, it was tabulated. Statistical calculation and subsequent analysis was made and has been presented in the form of Tables and graphs.

**Inclusion criteria**

All postmenopausal females presenting with genital tract malignancies were included in the study.

**Exclusion criteria**

All postmenopausal female presenting with breast carcinoma and other benign disorders were excluded from the study.

**Methodology**

Patient sociodemographic and obstetrics and gynecology history were recorded, including age and type of menopause, followed by clinical examination was performed in each case. Laboratory investigation including complete hemogram, blood biochemistry, urine examination pap smear, pelvic ultrasonography, electrocardiography, X-ray, and computer tomography was done. Resected tissues were examined histopathologically, detail of all gynecological problem was recorded using predesigned proforma.

**RESULTS**

A total of 401 cases reported to the institute during a period of 1 year. Out of which, 107 patients were that of genital carcinoma. Incidence of female genital tract carcinoma was 26.68%. Approximately 73.87% (82 patients) of cases were that of cervical cancer.

About 21% of women <60 years having genital tract malignancy while 34.75% of women ≥60 years having genital tract malignancy.

Result shows that malignancy is increase with age advance. Results are statistically significant ( $p < 0.05$ ).

Maximum number of women having carcinoma of cervix (73.8%) followed by carcinoma of ovary (13.5%).

Maximum number of women having carcinoma of cervix Stage IIB (60.9%) followed by Stage IV (13.4%)

Most common surgery performs for gynecological malignancy was staging laprotomy (TAH with BHO with ometectomy) 60.5%, followed by Wertheim's hysterectomy (29%).

All the cases of ovarian malignancy (n=15) were treated with staging laprotomy (total abdominal hysterectomy with bilateral salpingo-oophrectomy f/b infratolic omentectomy).

In our study, out of eight patient with endometrial carcinoma, three had early Stage (IA) and hence TAH (extra facial) with bilateral salpingo-oophorectomy and rest of them (five) had advanced stage carcinoma as a result of that Type 2 radical hysterectomy or Wertheim's hysterectomy was done.

Six patient of Stage I and five patient of Stage IIA carcinoma cervix undergone Wertheim's hysterectomy, rest of case of cervical carcinoma

(n=70) were advance cancer, they all undergone radiotherapy and chemotherapy.

About 92% case of Ca cervix present in female having parity (>3) while only 66% of Ca overy present with high parity (>3) and 75% of Ca endometrium present in female having high parity (>3).

**DISCUSSION**

In our study, frequency of malignancy was 26.6% in postmenopausal women which is high, as the study is carried out in tertiary care center.

About 21% of women <60 years having genital tract gynecological malignancy while 34.75% of women >60 years having genital tract malignancy. Result shows that malignancy is increase with age advance. Results are statistically significant ( $p < 0.05$ ).

Maximum number of women having carcinoma of cervix (73.8%) followed by carcinoma of ovary (13.5%).

In a study by Okeke *et al.*, 66.3% patients constituted that of cervical cancer among female genital tract cancer [4].

Somalwar *et al.* in 2013 reported that frequency of malignancy in postmenopausal women was 27.5%. Cervical carcinoma was found in (54.54%), majority of carcinoma cervix (96%) were in advance stage. Women with advance stage were referred for radiotherapy while one women with early stage underwent Wertheim's hysterectomy [5]. Farkunda *et al.* in 2010 reported carcinoma cervix as 62.28% in postmenopausal women [6].

Naik *et al.* in 2005 reported that frequency of carcinoma cervix is 39.72% in postmenopausal women [7]. Incidence of cervical cancer has shown a dramatic decline because of detection of disease at preinvasive lesion after introduction of cervical screening program in developed nation. A significant reduce incidence was reported in Finland, Iceland, and Sweden. About 80% of all case of cervical cancer annually occurs in developing countries where only 5% of female population has Pap smear within 5 years.

Ovarian carcinoma was the second most malignancy found in our study with frequency of 13%. Ovarian cancer was most common cause of cancer death in Western world. Endometrial carcinoma contributed to 7.2% of women in our study which closely correlated with study by Naik *et al.* in 2005 was found endometrial carcinoma in 9.09% of postmenopausal women [7].

Somalwar *et al.* in 2013 conduct a cross-sectional study on 200 postmenopausal women, malignancy was confirmed in 27.5% women. Carcinoma endometrium was found in 9.09% of total malignancy. All these women underwent surgery, out of these, 60% received chemotherapy postoperatively [5].

Ferkunda *et al.* in 2010 was found endometrial carcinoma in 11.76% of postmenopausal women [6]. Endometrial carcinoma is most common malignancy in women in Western world where the life time risk of women to develop endometrial carcinoma is 2% postmenopausal. The frequency of this malignancy with postmenopausal bleeding is reported to be 20.5%. The peak age of endometrial carcinoma is 56–65 years in our study; carcinoma endometrium was seen between 55 and 70 years.

**Type of surgeries perform in gynecological malignancy (n=38)**

Most common surgery perform for gynecological malignancy was staging laprotomy (TAH with BHO with ometectomy) (60.5%) followed by Wertheim's hysterectomy (29%).

All the cases of ovarian malignancy (n=15) were treated with staging laprotomy (total abdominal hysterectomy with bilateral salpingo-oophrectomy f/b infratolic omentectomy).



**AQ3** **Table 3: Carcinoma cervix stage (n=82)**

Stage	No.	Percentage
Stage I	6	7.31
Stage II-A	5	6.09
Stage II-B	50	60.97
Stage III	10	12.19
Stage IV	11	13.41

**AQ3** **Table 4: Type of surgeries perform in gynecological malignancy (n=38)**

S. No.	Type of surgery	No.	Percentage
1	Staging laprotomy (TAH with BHO with ometectomy)	23	60.5
2	Wertheim's Hysterectomy	11	29
3	TAH (CIN)	4	10.5
4	Total	38	100

**AQ3** **Table 5: Relationship of parity with type of malignancy**

Malignancy	Nullipara	Parity <3 (%)	Parity >3 (%)
Ca cervix	0	7 (8)	75 (92)
Ca ovary	0	5 (33)	10 (66)
Ca endometrium	0	2 (25)	6 (75)
Vault Ca	0	0	2 (100)

Six patients of Stage I and five patients of Stage IIA carcinoma cervix undergone Wertheim's hysterectomy rest of case of cervical carcinoma (n=70) were advance cancer, they all undergone radiotherapy and chemotherapy.

In a study by Okeke *et al.*, 66.3% patients constituted that of cervical cancer among female genital tract cancer [4].

#### CONCLUSION

Hence, from above study, the most of the patients were diagnosed in advanced stage of malignancy due to low level of awareness and education among the females.

There is also limited number of screening programs in our country which could also be responsible for advanced stages.

#### Author Queries???

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AQ3: Kindly cite tables 1-5 in the text part

Carcinoma cervix was the most common female genital tract, cancer with ovarian cancer was second most common cancer.

This is unfortunate as cancer cervix is preventable to a large extent as it takes a decade or more to progress from pre-invasive to invasive lesion, there are various screening modalities to diagnosed the cervix in pre-invasive age, that is, when it still curable.

With the aid of proper screening and medical therapies, appropriate and timely treatment should be provided to prevent the disease progressing to advanced stage.

#### AUTHORS CONTRIBUTIONS

1. Priyanka Tiwari, contributing in data collection and data analysis
2. Bharti Parihar contributing as research guide and drafting article
3. Ravikant Arjariya contributing in data analysis and as corresponding author.

#### CONFLICT OF INTEREST

Nil.

#### SOURCE OF FUNDING

Self.

#### REFERENCES

1. Tarney CM, Han J. "Postcoital bleeding" a review on etiology, diagnosis and management. *Obstet Gynaecol Int J* 2014;2014:192087.
2. ????. Halland Frei Cancer Medicine. 8<sup>th</sup> ed. New York: Mcgraw Hill Medical; 2009. p. 1299.
3. World Health Organization. World Cancer Report 2014. Geneva: World Health Organization; 2012.
4. Okeke TC, Vc A, Ikeako LC. An audit of utero vaginal prolapse in Enugu, Southeast Nigeria. *Am J Clin Med Res* 2013;1:23-5.
5. Somalwar SA, Joshi S, Kawthalkar A, Bhalerao A, Jain S, Somalwa A. Analysis of genital tract malignancy in postmenopausal Indian women. *J South Asian Feder Menopaude Soc* 2013;1:66-9.
6. Khursheed F, Jatoti N, Das CM. Genital tract malignancies in postmenopausal women. *J Ayub Med Coll Abbottbad* 2010; 22:32-4.
7. Naik VS, Rege JD, Jasnani KD. Pathology of genital tract in postmenopausal bleeding. *Bombay Hosp J* 2005;47:4-7.
8. Dey R, Saha MM, Rakshit A, Biswas SC. The epidemiology of gynaecological disorder in geriatric population: A hospital based study. *J Evol Med Dent Sci* 2013;14:2329-33.

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