MALIGNANT AND BENIGN LESIONS OF FEMALE GENITAL TRACT – AN EXPERIENCE AT A TERTIARY CARE HOSPITAL IN BAHAWALPUR – PAKISTAN

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ABSTRACT

introduction: Frequencies and incidence rates of site – specific cancer and other pathological lesions are reported regularly in different studies, but mostly not by the histological type within site. This study reviews 3 years data of female genital tract tumours from 2008 – 2011, at Quaid-e-Azam Medical College / Victoria Hospital, Bahawalpur.

Methods: Data of the surgical specimens of uterus, ovary, vulva, vagina and cervix submitted to the Department of Pathology was reviewed and analysed for the type of specimen, tissue of origin, different diagnosed histological types and finally the behaviour of tumour i.e. benign or malignant.

Results: A total of 1373 surgical specimens of female genital tract were submitted in 3 years, out of which 101 (7.4%) were malignant. Twenty nine percent and 28% of the neoplasms were from cervix and vagina respectively followed by vulva (17%), and then ovary and uterus (12% each). Squamous cell carcinoma was the most common invasive malignancy of the cervix (86%), vulva (77%), and vagina (71%). Adenocarcinoma was the most frequent malignancy in the uterus (53%) and ovary (61%). The 73% of the burden of benign disease was contributed by uterine lesions, 3/4th of them being leiomyoma and endometrial hyperplasia.

Conclusions: Squamous cell carcinoma was the most frequent malignant tumour of the cervix, vagina and vulva. Adenocarcinoma was the most common malignancy in ovary and uterine corpus. Epidemiologic studies may provide more definite information by considering the effect of these subtypes in examining risk factors.

Keywords: Cancer, benign tumours, ovary, uterus, cervix, vagina, vulva.

INTRODUCTION

Female genital tract morbidity has been a neglected area of interest by the sufferers, their families (and family heads), researchers, policy makers and all concerned personnel in developing countries[1] like Pakistan. Out of the total female reproductive tract pathology tumours constitute only a small (~ 4%) but most imperative portion.

Tumours of female genital tract have dissimilar pattern of distribution worldwide, with ethnic, environmental and geographical variations. Moreover their presentation varies from country to country. They account for ~10% of all cancers diagnosed in females.[2] As a group, they constitute the 2nd commonest malignancy among females after the breast cancer.[3]

Location specific frequencies of various cancers i.e. carcinoma ovary, endometrium, cervix, vagina and vulva are independently varied in different ethnic groups and geographic areas, but carcinoma cervix is the most common genital tract cancer, accounting for ~80% of all cases worldwide, followed by ovarian and endometrial malignancies in most countries.[4,5]

In Pakistan, many authors have reported the frequency and incidence rates of female genital tract cancers and benign tumours based on site – specificity and few have tried to document histological typing in one or the other reproductive organ.

The current report reveals the frequencies of various cancers and benign tumours across the length of female genital tract and also uncovers the incidence rates of different histological lesions in each site.

MATERIAL AND METHODS

The study was conducted at the Department of Pathology, Quaid-e-Azam Medical College, Bahawalpur in collaboration with Department of Obstetrics and Gynaecology, Bahawal Victoria Hospital Bahawalpur, Pakistan. The data collection and analysis for this study were completed from April to October 2012. It was a retrospective, descriptive, cross-sectional study. All one thousand three hundred and seventy three (1373) consecutive surgical specimens from any of the female genital tract organs i.e., uterus, ovary, vulva, vagina and cervix, from all age groups of women, submitted to the Department of

Pathology during 2008 – 2011 were included in the study. No exclusion criteria were set. Data about name of patient, father's / husband's names, address, sex, clinical presentation, site of lesion, referring ward / outpatient clinic, histological diagnosis and type of diagnosis were obtained from the records maintained by the department of Pathology, Quaid-e-Azam Medical College. All data was entered into Microsoft Excel software version 2007 for sorting and analysis. Data was sorted for site – specific lesions, different histological diagnosis and type of lesion i.e. malignant, benign, inflammatory, physiological and non-specific with the help of Microsoft Excel 2007. Frequencies, percentages and ratios were calculated for the desired qualitative variables using the above mentioned software. Tables and graphs were made to project results.

RESULTS

There were a total of one thousand three hundred and seventy three (1373) surgically removed biopsy specimens of female genital tract in the study period of three (3) years. Except for the negligible minority (<1 %), most specimen were received from the department of Obstetrics and Gynaecology unit – I and unit – II. Out of the total, one hundred and one (7.4%) specimens were histologically diagnosed as malignant thus a malignant to benign ratio of 1:12. Organ – specific frequencies of female genital tract cancers frequency are given in Table 1 which shows Carcinoma of the cervix is most common malignancy (29%) of female reproductive tract in the local population. Histologically, squamous cell carcinoma was the most common invasive malignancy of the cervix (86%), vulva (77%), and vagina (71%). Adenocarcinoma was the most frequent malignancy in the uterus (53%) and ovary (61%).

Various benign diseases / conditions account for the vast majority (92.6%) of the female reproductive tract morbidity. The 73% of the burden of benign disease was contributed by uterine lesions, 3/4th of them being leiomyoma and endometrial hyperplasia.

Organ-specific results are as under;

Ovary: We analysed 220 ovarian specimens. Most (207) of them were benign cysts. Most common diagnoses were luteal and serous cysts. Only 13 (5.9%) were malignant cases. Out of the total, 8 were adenocarcinoma.

Uterus: Uterus contributed 942 of 1373 specimens. Most (929) of them were benign diseases. Endometrial hyper- plasia (468, 50.37%), leiomyoma (225, 24.25%) and adenomyosis (201, 21.63%) were the commonest benign uterine conditions. Malignancy was 1.38% among the uterine lesions. Out of 13 cases, 7 (53%) were adenocarcinoma / endometrial carcinoma.

Cervix uteri: Cervical specimens were only 87. Exactly 2/3rd were benign and remaining 1/3rd were malignant. Commonest benign conditions were Nabothian cysts (28, 48%) and cervical polyps (26, 44%). Squamous cell carcinoma (25, 86%) was the most frequent malignancy following far behind by adenocarcinoma (4, 14%).

Vagina: Benign to malignant ratio (3:4) was surprisingly high in vaginal specimens. Commonest benign lesions were squamous papiloma (12, 57%) and Verrucae vulgaris (5, 24%) while the most (20, 71%) of malignant cases were reported to be squamous cell carcinoma, followed by clear cell carcinoma (7, 25%).

Table 1: *Site – wise distribution of malignant female genital tract tumours for the years 2008 – 2011 at Bahawalpur.*

ICD-O-3 Code	*Site*	*Malignancy*	*Total (%*)*	*Grand Total*	*%***
C51	Vulva	Squamous cell carcinoma	14 (77%)	18	17.8
		Paget's disease	03 (16%)		
		Malignant melanoma	01 (05%)		
C52	Vagina	Squamous cell carcinoma	20 (71%)	28	27.7
		Clear cell carcinoma	07 (25%)		
		Botryoid sarcoma	01 (3.6%)		
C53	Cervix uteri	Squamous cell carcinoma	25 (86%)	29	28.7
		Adenocarcinoma	04 (14%)		
C54 – C55	Corpus uteri	Adenocarcinoma	07 (53%)	13	12.8
		Squamous cell carcinoma	03 (23%)		
		Leiomyosarcoma	02 (15%)		
C56 – C57	Ovary and Uterine adnexa	Adenocarcinoma	08 (61%)	13	12.8
		Granulosa cell tumour	02 (15%)		
		Dysgerminoma	01 (7.6%)		

* % of particular histological type at given site

** % of site specific cancer out of total genital tract malignancy

Vulva: Out of 75 specimens from vulval region, 57 (76%) were benign. Lichen sclerosis (26, 45%) and squamous papilloma (23, 40%) were the most frequent benign conditions. Majority (14, 77%) of the malignant lesions were squamous cell carcinoma, followed by Paget's disease (3, 16%) and malignant melanoma (1, 5%).

DISCUSSION

Tumours of female genital tract with other surgical specimens from gynaecological operation theatres make the biggest burden of biopsy reporting at the department of Pathology, Quaid-e-Azam medical college, Bahawalpur.

Majority of the tumours (> 90%) are benign, but the malignant tumours are on the rise with the passage of time. The most common (29%) was carcinoma cervix, of squamous cell histology, followed by carcinoma of vagina (28%). At least some, if not many, of the latter are actually local invasion of the former. Vulva was the third most common (17%) caner affected site. In these sites, squamous cell carcinoma was the most frequent histological diagnosis. Second commonest histological entity was adenocarcinoma which mainly affected uterine and ovarian tissues. About 3/4th of the benign disease burden was contributed only by the uterine lesions. Most common of which are leiomyomata.

Most of our findings are consistent with other reports from within the country and abroad. According to Jemal et al,[6] the most frequent site of the female genital tract malignancy is cervix uteri followed by uterine corpus and ovary in the United States. However in a study from Pakistan, the top most reported sites of malignant tumours are ovary, cervix uteri and uterine corpus.[7] The latter report consisted of only 50 cases of gynecological malignancy so it may not give us idea about local incidence rates of all female genital tract lesions. Another study from Islamabad showed that gynaecological cancers were about 8% of total genital tract disease in a 2 years experience at a famous tertiary care hospital.[8] Our findings are in coherence with the studies previously done.

Ovarian tumours:

According to a recent study by Wasim and colleagues,[9] about 1/4th of ovarian tumours were malignant and remaining being benign. Another study[10] showed that out of total ovarian lesion only 1/5th were malignant. In our study only 6% of the submitted ovarian specimens were assigned malignant diagnosis. The reasons for lower ratio of malignancy in our report may be; 1) larger sample in our study as compared to other colleagues, 2) less incidence of ovarian cancer in the particular geographical area, 3) high incidence of benign cystic lesions in the ovaries, 4) some of advance cases of malignancy, after being diagnosed on ascitic cytology, are palliated and treated conservatively 5) last but not the least, many surgeons and even cautious and conscientious patients and their attendants tend to submit the biopsy specimens of suspected malignant cases to collection points of country's famous laboratories. This trend can be minimised by equipping our laboratory with newer cancer diagnostic techniques like immunohistochemistry and expertise required to run them. Adenocarcinoma was the commonest malignant case reported by a previous study[10] and the finding matches with that of ours. Benign ovarian lesions were also comparable.

Uterine lesions:

Majority of uterine lesions were benign. The most frequent tumour was leiomyoma followed by polypi. Most of uterine malignancy was in the form of endometrial carcinoma (adenocarcinoma). All these findings are consistent with a previous report by Kamal and colleagues in a 26 months experience.[11]

Cervix uteri:

Carcinoma cervix was about 1/3rd of the total female genital tract malignancy (being the commonest) and the same has been reported to be the most frequent gynaecological cancer by various local[12] and international studies.[6,13] Most (86%) of the reported cervical cancer was squamous cell carcinoma, again consistent with results of other research reports.

Vagina and Vulva:

Only 9% of the specimens were received from both vagina and vulva. In vagina malignant cases exceeded the benign while majority of vulval lesions were benign. The most frequent malignancy was squamous cell carcinoma. These findings are well in coherence with those of various past studies within the country and abroad.[7,13,14]

It is ***concluded*** that squamous cell carcinoma was the most frequent malignant tumour of the cervix, vagina and vulva. Adenocarcinoma was the most common malignancy in ovary and uterine corpus. Carcinoma cervix was commonest site for malignancy and uterine corpus contributed majority of benign tumours. Epidemiological studies may provide more definite information regarding risk factors of organ specific and histological subtypes of both malignant and benign diseases.

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