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Research Article

**A DESCRIPTIVE TUMOR-BASED HISTOPATHOLOGICAL
ANALYSIS ON MALIGNANCIES VARYING PATTERN**¹Dr. Aamir Hayat, ²Dr. Zarnab Aas, ²Dr. Pakiza Ishfaq¹Medical Officer, BHU Chak No.218/TDA, Layyah²Allama Iqbal Medical College Lahore**Abstract:**

Objective: We aimed at the assessment of the tumor registry data malignancies including the shift in the pattern through corresponding literature comparison from the already available data on the subject.

Methods: Our research was descriptive which was carried out at Allied Hospital, Faisalabad (Histopathology Department). We analyzed the malignant tumor record from (2002 – 2011) in the timeframe of September, 2015 to February, 2017. Analysis was made on gender, age, tumor type and site association. We separately dealt with the pediatric age tumors and also compared national and international research studies previously held in the two decades respectively (1977 – 1988) and (1992 – 2001) for the pattern shift and made statistical analysis on the software SPSS.

Results: In the research timeframe total of 32718 tumors were analyzed with male to female strength as 19191 males and 13527 females with respective proportion of 1.4 males to 1 female. A number of cases were in the age group of (50 – 70) years. Males were found with urinary bladder tumors, lymphoma/ leukemia and prostate tumor as malignancies with respective number of 2153 cases (11.2%), 2020 cases (10.5%) and 1825 cases (9.5%); in the females repeated cause was breast tumor observed in 4178 cases (30.9%). Various decades comparison showed that monograph lymphoma, prostatic carcinoma and urinary bladder tumors were respectively first, second and third monographs observed on top. Whereas, females were observed with carcinoma cervix was among the top ten repeated tumors at respectively number five and nine.

Conclusion: Male were observed with interesting malignancies features associated with the tumors of urinary bladder. Breast carcinoma was repeated increasing in the females which was alarming. All these incidences need an emergent awareness and knowledge spread program for an early detection and screening for onward timely management of the disease.

Keywords: Carcinoma breast, Tumor registry data, Prostatic carcinoma, Urinary Bladder, Malignant and Lymphoma.

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INTRODUCTION:

At present, in Pakistan no cancer registry program on the basis of population has been launched or executed. In the absence of such registries there is a primary role of the hospital and healthcare-based registries for data preservation and collection [1]. Numerous tumor registries have been published by various institutions [2 – 4]. Additionally, AFIP (1990) has also published its 1st ever monograph on the subject of Malignant Tumor Patterns in Pakistan [5], Non-Hodgkin lymphoma (NHL) monograph in 1993 with a detail on the data of (1984 – 1990) [6]. Interesting facts have been published in another cancer monograph (2005) which covers the timeframe of (1992 – 2001) [7]. Many reasons have been studied because of multiple reasons such as environment change, infections, eating habits and preventive/ control malignancy programs. It has been observed that AFIP is regular in the publishing of latest available data [8]. We aimed at the assessment of the tumor registry data malignancies including the shift in the pattern through corresponding literature comparison from the already available data on the subject.

MATERIALS AND METHODS:

Our research was descriptive which was carried out at Allied Hospital, Faisalabad (Histopathology Department). We analyzed the malignant tumor record from (2002 – 2011) in the timeframe of September, 2015 to February, 2017. Analysis was made on gender, age, tumor type and site association. We separately dealt with the pediatric age tumors and also compared national and international research studies previously held in the two decades

respectively (1977 – 1988) and (1992 – 2001) for the pattern shift.

We gathered the basic epidemiological data on the tumor registry from doctors or directly from the patients and classified every tumor in the guidelines of the ICD-O (International Classification of Diseases-in Oncology) [9], which has been published through IARC (International Agency for Research on Cancer). Every calculation of the malignant tumors was made for age, gender, tumor type and site. Statistical analysis was made on the software SPSS.

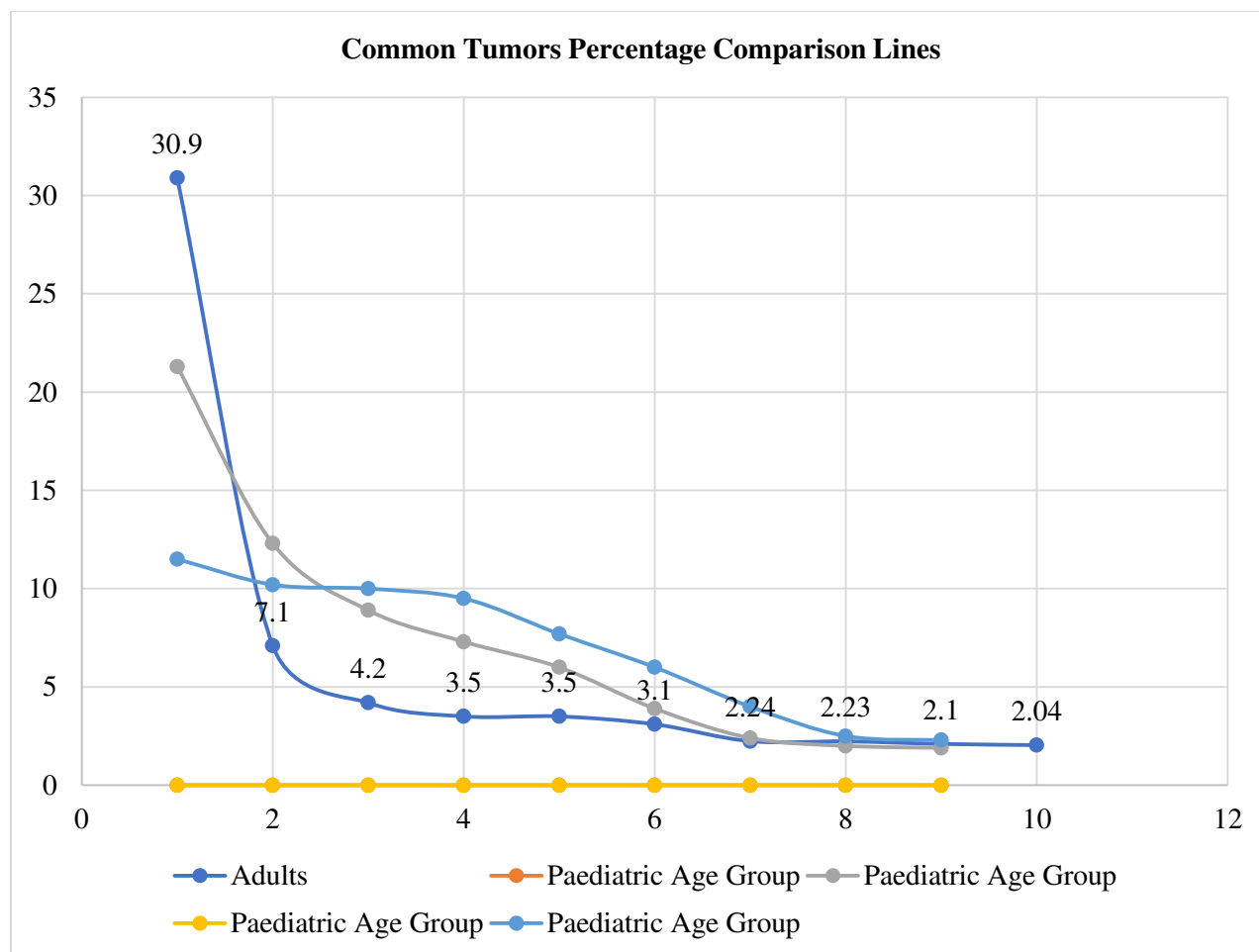
RESULTS:

In the research timeframe total of 32718 tumors were analyzed with male to female strength as 19191 males and 13527 females with respective proportion of 1.4 males to 1 female. A number of cases were in the age group of (50 – 70) years. Males were found with urinary bladder tumors, lymphoma/ leukemia and prostate tumor as malignancies with respective number of 2153 cases (11.2%), 2020 cases (10.5%) and 1825 cases (9.5%); in the females repeated cause was breast tumor observed in 4178 cases (30.9%) (Table – I). Various decades comparison showed that monograph lymphoma, prostatic carcinoma and urinary bladder tumors were respectively first, second and third monographs observed on top (Table – II). Whereas, females were observed with carcinoma cervix was among the top ten repeated tumors at respectively number five and nine.

As per the outcomes first monograph had 14018 cases with 8112 males and 5906 females; whereas, in second monograph males were (12584 / 21,168) and females were (8584 / 21,168).

Table – I: Ten commonest malignant tumors in total (32718) and Pediatric age groups (1193)

Adults				Pediatric Age Group			
Males (19191)		Females (13527)		Males (793)		Females (400)	
Tumor Type	Percentage	Tumor Type	Percentage	Tumor Type	Percentage	Tumor Type	Percentage
Urinary Bladder	11.2	Breast	30.9	Primary Lymph Node	21.3	Brain	11.5
Prostrate	9.5	Skin	7.1	Brain	12.3	Leukemia	10.2
Primary Lymph Node	7.7	Primary Lymph Node	4.2	Bones	8.9	Bones	10
Skin	7.2	Ovary	3.5	Eye	7.3	Soft Tissue	9.5
Colorectal	5	Colorectal	3.5	Soft Tissue	6	Leukemia	7.7
Bones and Joints	4.4	Bones and Joints	3.1	Kidney	3.9	Ovary	6
Stomach	4.1	Soft Tissue	2.24	Skin	2.4	Kidney	4
Brain	3.5	Stomach	2.23	Testis	2	Colorectal	2.5
Larynx	3.3	Thyroid	2.1	Colorectal	1.9	Skin	2.3
Soft Tissue	3.2	Brain	2.04				



Detailed analysis of the outcomes has been shown in Table – I regarding 10 repeated malignant tumors (out of 32718) and various pediatric groups of age; whereas, All the ten malignant tumors have been compared in Table – II.

Table – II: Comparison of ten commonest tumors in males in different decades

1977 - 1988 (8112)			1992 - 2001 (12584)			Current Research		
Site	N	%	Site	N	%	Site	N	%
Lymph Node	779	9.6	Prostrate	1189	9.4	Urinary Bladder	2153	11.2
Leukemia	730	9	Skin	1055	8.4	Prostrate	1825	9.5
Bronchus	584	7.2	Lymph Node	1051	8.4	Lymph Node	1480	7.7
Skin	544	6.7	Leukemia	986	7.8	Skin	1388	7.2
Prostrate	535	6.6	Urinary Bladder	965	7.7	Colorectal	974	5
Colorectal	446	5.5	Colorectal	802	6.4	Bones	845	4.4
Urinary Bladder	357	4.4	Bones	554	4.4	Stomach	790	4.1
Bones	308	3.8	Lungs	472	3.8	Brain	670	3.5
Stomach	227	2.8	Stomach	408	3.2	Larynx	636	3.3
Soft Tissue	203	2.5	Liver	354	2.8	Soft Tissue	618	3.2

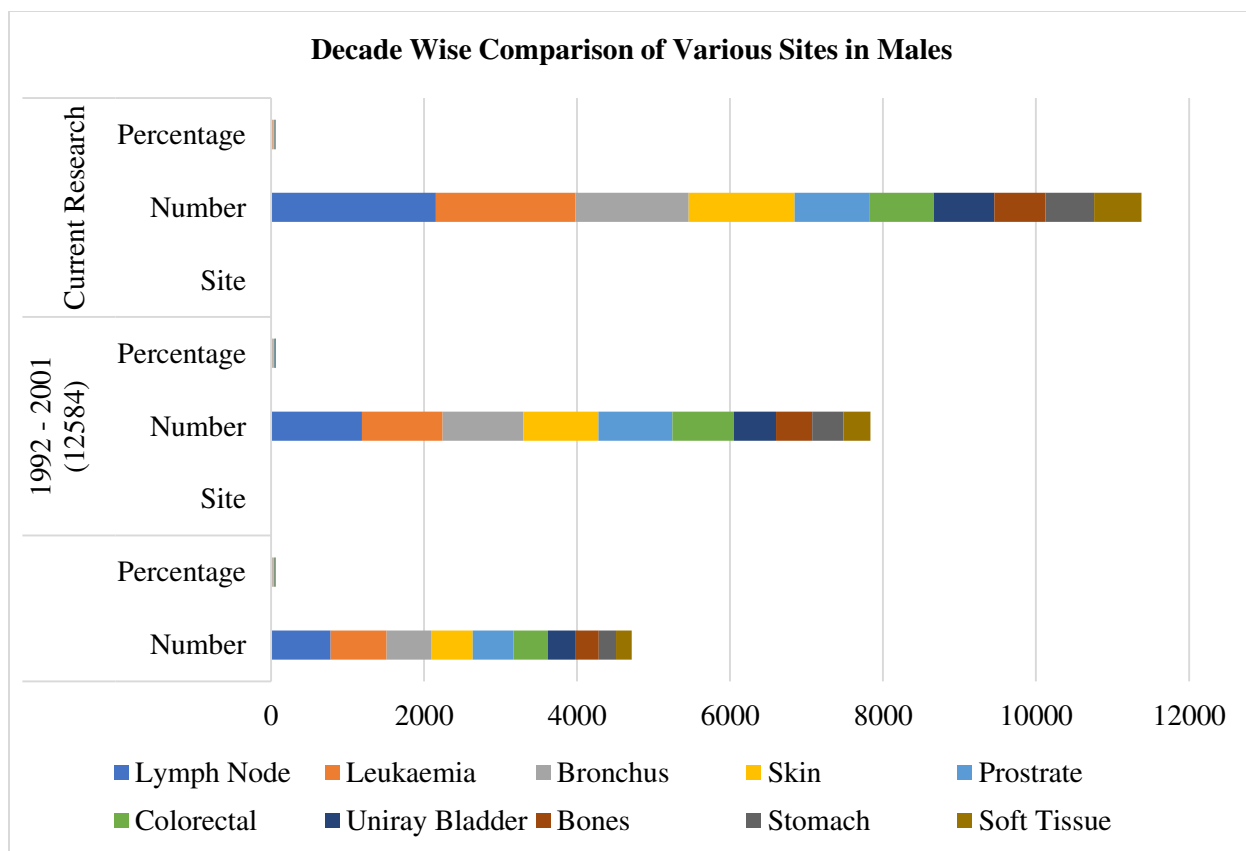
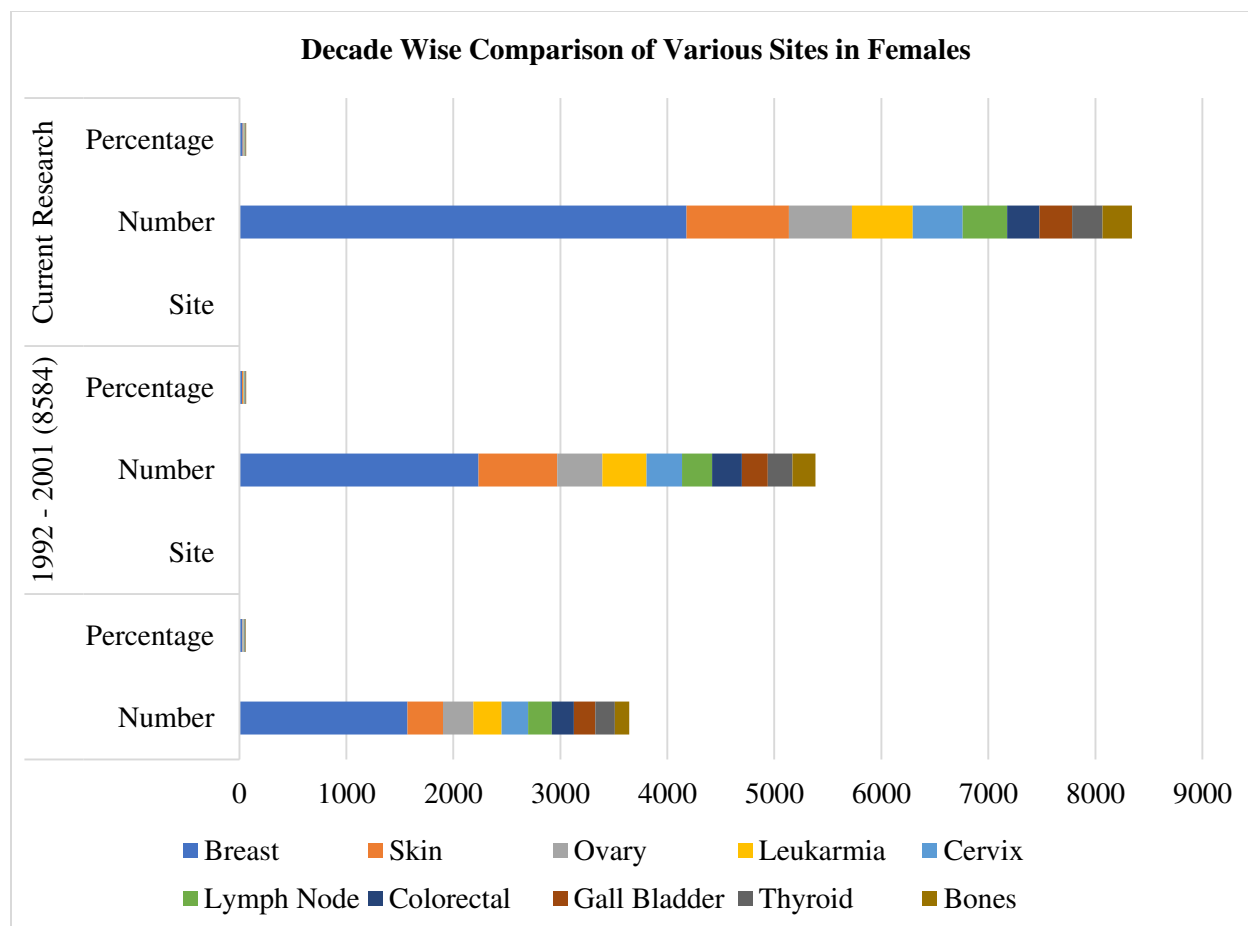


Table – III refers to the female’s variation which was not significant in terms of malignancies of the breast among the top ten malignancies. It remained above and there was an increase in its frequency.

Table – III: Comparison of ten commonest tumors in females in different decades

1977 - 1988 (5906)			1992 - 2001 (8584)			Current Research		
Site	N	%	Site	N	%	Site	N	%
Breast	1571	26.6	Breast	2235	26	Breast	4178	30.9
Skin	331	5.6	Skin	737	8.5	Skin	959	7.1
Ovary	284	4.8	Leukemia	422	4.9	Lymph Node	589	4.4
Leukemia	266	4.5	Ovary	411	4.8	Ovary	568	4.2
Cervix	248	4.2	Colorectal	331	3.9	Colorectal	466	3.5
Lymph Node	219	3.7	Lymph Node	282	3.3	Bones	415	3.1
Colorectal	207	3.5	Bones	279	3.3	Soft Tissue	304	2.2
Gall Bladder	201	3.4	Liver	242	2.8	Stomach	303	2.2
Thyroid	181	3.06	Cervix	231	2.7	Thyroid	285	2.1
Bones	136	2.3	Gall Bladder	214	2.5	Brain	276	2



DISCUSSION:

Numerous interesting observations were made in this particular research. Tumor were increasing in the overall scenario in the ten years data comparative analysis than the previously held analysis on the monographs [5, 7]. Increase was observed in both population and registration with a significant P-value as (0.0001). Previous analysis positioned urinary bladder at fifth and ninth position respectively in the male population which reflects an increasing trend in males [5, 7]. Same pattern has been stated in the population-based surveys held in Western Asian and North African countries [10 – 15]. Same factors are responsible including environmental pollutants, smoking etc. Incidence of prostatic cancer was 2nd time observed, which can be compared with the African and American countries and also in the Western, Oceania and Northern European countries [15, 16].

We observed that CNS tumors were included in the ten repeated tumors in males and females with gender discrimination which was not stated in the earlier research studies [5, 7]. Pediatric age group was also observed commonly with the incidence of these

tumors which can be associated with the variety of neurosurgical procedures than the past. Males were also observed with an increasing trend about the laryngeal tumors included in the list of ten repeated malignant tumors. A research of U.K. reports a steady increase about these malignant tumors [7]. Every analysis formed similar analysis about the frequency of leukemia and lymphoma including children [5 – 7].

WHO states about NHL that it is repeatedly observed in the under developed countries which is above fifty percent in the total count. Globally moderate to high incidences have also been reported [15]. Better healthcare and diagnosis facilities are the main reasons in the developed countries and also related to the AIDS complicity. Immunosuppression is one of the contributing cause of the lymphoma position in the developed nations which is an outcome of multiple infections especially viral (Epstein-Bar) infection, that needs extensive research work in order to establish an association with mentioned infections.

In a research held at Karachi observed five repeated tumors in males including urinary bladder, lymph

node and prostate; whereas, the tumors of oral cavity and lungs were above all [10 – 12]. Industrialization, betel nut use, tobacco and increasing traffic may be the contributing factors of above stated tumor incidences [10].

At Shaukat Khanum, Lahore; it was surprising to note that prostate and urinary bladder tumors were not in the top five list [13]. According to an Indian author prostate tumor was 2nd most repeated [14]. According to WHO, in the under developed countries prostate, urinary bladder, skin and lymph node were in the 5 most common tumors which is comparable with our outcomes.

No variation about the breast tumor was observed in the female population and it remained the most repeated cancer in all the international studies [3 – 5, 7 – 15]. Carcinoma ovaries was another variation with the other comparative research studies [5, 7, 15], which was most repeatedly observed in the gynecological malignant cases which can be associated with the cervical cancer rareness, as cervical cancer is not in the list of top ten malignancies. Cervical malignant cases were less than the endometrial tumors. Females were also frequently involved in the tumor of skin which was same in males and 2nd most repeated was the tumor of breast. Same pattern was observed in the children as observed in the past studies. Leukemia and Lymphoma were repeatedly observed in almost every research [13, 18].

CONCLUSION:

Male were observed with interesting malignancies features associated with the tumors of urinary bladder. Breast carcinoma was repeated increasing in the females which was alarming. Biasness can be removed through multi institute research efforts for the establishment of increasing urinary bladder cancer trends in the Pakistani population. All these incidences need an emergent awareness and knowledge spread program for an early detection and screening for onward timely management of the disease.

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