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Cross-Sectional Study of Benign and Malignant Soft Tissue: Role of Tissue Component Analysis in Pakistan

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Abstract

Background: Through the use of soft tissue component analysis, it is possible to identify benign from malignant soft tissue tumors with varying degrees of accuracy based on signal intensity and morphologic features.

Aim. The purpose of this research was to determine the difference between soft tissue cancers, both benign and malignantand also measure the role of elements of soft tissue analysis.

Methods: There were soft tissue tumors were found in 482 instancesin which 435 (90.3%) were benign and 47 (9.7%) were malignant. The most prevalent type of soft tissue tumor is benign in this age range 21-30 (117 cases, 26.9%), while in this age range 31-40 (9 cases, 19.11%), malignant soft tissue tumors were the most common.

Results: Findings showed females 240 (94.1%) were more likely than males to have head and neck 200 (46 percent) had the most benignsoft tissue tumors, with males predominating in malignant soft tissue tumors that typically arise in the lower extremities 21 (44.7%). Lipoma was the most prevalent benign soft tissue tumor, capillary hemangioma, pyogenic granuloma and fibroma, these accounted for 140 (32.2%), 105 (24.1%), 65 (14.9%) and 56 (12.9%) respectively. Fibrosarcoma, MFH, ASPS and Pleomorphic Liposarcoma were common malignant tumors accounted for 17 (36.2%), 15 (31.9%), 3 (6.4%) and 3 (6.4%) respectively.

Conclusion: It has been determined that exceptional stain can guide the diagnosis, but Other auxiliary procedures, such as IHC, can help to fine-tune the type-specific diagnosis.

Key Words: Benign, Malignant, Components of Soft Tissues, Pakistan

Introduction

It's critical to figure out if a soft tissue tumor is cancerous or benign before treating it. Radiographs are useful for determining if there is any noticeable,they are limited in terms of fat or calcification. Unless it's a pure fat or fluid lesion, computed tomography (CT) scans do not provide enough information to diagnose the histology by Kransdorf and Murphey (2000). Consequently, superior soft-tissue contrast and Some feel that because of its skill to display anatomic relationships between the mass and surrounding tissues, it could be a viable tool for determining whether or not Lesions of the soft tissue are non-cancerous. Pang and Hughes' (2003) results, on the other hand, have been less than ideal and inconsistent thus far. The majority of earlier studies focused on morphologic analysis at various levels. Specific tissue characteristics such as fibrous tissue, calcification, and myxoid tissue have been described in soft tissue masses, however Ht et al. (2006) did not study their effectiveness in discriminating benign from malignant soft tissue lesions (2006). As a result, the purpose of this research was to determine tissue type as well as the ability to distinguish between benign and malignant soft tissue tumors(Nishimura et al. 2001).

Vascular Tumors

Benign

The most frequent soft tissue tumors are hemangiomas, which account for up to 7% of all benign soft tissue tumors. These benign lesions are usuallyperceived in children. Vesselhemangiomas are the utmostgeneralkind usually diagnosed throughout 1st year of life and are often found in the epidermis and subcutaneous layer of the skin tissue. Capillary microscopically

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hemangiomas composed of vessel sized vessels of blood. Utmost of these hemangiomas spontaneously involute.Cavernous hemangiomas are bigger and profounder are occurs later in life. Cavernous hemangiomas are composed of dilated blood-filledcompartments, lined through flattened endothelium(Boc et al. 2011).

In addition, Lobular Capillary Hemangioma (Pyogenic Granuloma) is a reactive angiomatous growth of the skin and mucous membranes that occurs often. The chest, upper extremities, and head are the most prevalent cutaneous locations. Mucosal lobular capillary hemangiomasincludemostly the oral mucosa and affects womenas compare to men, mostly usually seen in second and third eras of lifeby Wk et al. (2009).Epithelioid hemangioma is a benign vascular lesion with well-formed capillary-sized capillaries bordered by histiocytoid or epithelioid endothelial cells with inflammatory infiltrate.This uncommon lesion affects young adults who have a proclivity for head and neck cancers by Stratton and Billings (2009).Lymphangiomas are usually noted with equal sex incidence, at birth or within the second year of life. They prefer the head and neck, the axilla, the retroperitoneum, and the extremities. Lymphangiomas are characterized by dilated lymphatic channels and are categorized as follows:

Cavernous andCapillary and Cystic lymphangiomas.

Moreover, the capillary method is composed of lymphatic vessels with thin walls. Cavernous consists of large adventitial coatings on lymphatic vessels. The cystic lymphangiomas is composed of macroscopic lymphatic spaces(Zhang et al. 2010).

Malignant

Epithelioid hemangioendothelioma are mostly prevalent on the extremities and is usually found deep in soft tissue (65 percent), with the reminder positioned on the head and neck, the trunk, the mediastinum, and the retroperitoneum. This cancer can present over a broad he ages of 9 and 93 are most commonly affected, with a median age of 50. Tumor cells form connections that lead to small epithelioid cell nests buried in myxohyaline stroma., as seen by microscopy. Tumor cells having intracytoplasmic vacuoles are typical of tumor cells (Fukunaga et al. 2007).

Angiosarcoma of soft tissue is a group of neoplasms that all have a malignant process originating from the vessel's endothelial cells. These uncommon soft tissue tumors make up about 1.6 percent of all soft tissue sarcomas. These tumors in the superficial soft tissue of the head and neck, and they primarily affect elderly individuals with a male preference (Johnson et al. 1997).

Method

Research Design and Sample

The study was a descriptive institution-based study. From January 2009 to December 2010, all The Department of Pathology, Liaquat University of Medical & Health Sciences, Jamshoro, received soft tissue tumors, both benign and malignant. 482 instances of soft tissue tumors were collected between January 2009 and December 2010. Formalin-fixed specimens with age, sex, and location data were included. Cases in which the biopsy specimen reveals autolytic alterations and cases in which the data is lacking.

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Data Collection and Procedure

Various soft tissue biopsy specimens, including incisional and excisional biopsies, as well as paraffin embedded blocks, were among the materials used. As demonstrated in the proforma, a comprehensive clinical history and results were recorded. Gross observations were made, size, shape, color, and consistency are all factors to consider. The results for earlier cases were obtained from the Pathology Department's records. The specimen was preserved in 10% neutral formalin for 24 hours before being cut into 4mm thick sections from a representative location and sent for dehydration, which was accomplished by running them through various ascending consecrations for prescribed periods of time (80 percent, 90 percent & 100 percent). Tissues were cleaned by immersing them in a 50 percent volume/volume (v/v) solution of alcohol, followed by two changes in pure xylene for two hours. For impregnation of the tissue Paraffin wax with a melting point of 85°C was used for the blocks, and L-shaped paraffin wax moulds were used for embedding the tissues, which were allowed to set before being frozen in the freezer. These tissue blocks are made of paraffin wax were sliced into 2-5n thick slices using a rotating manual microtome. These sections were placed in a 37°C round water bath before being transferred on egg albumin-layered slides. The tissue sections were fixed on slides for roughly 2-3 hours in a fixer, and then routine staining with hematoxylin and eosin was performed.

Sections were deparaffinized for staining with hematoxylin and eosinstaining by passing through two changes of xylene, then through graded alcohol (100 percent, 95 percent, 80 percent & 70 percent) to distilled water. Then sections were maintained in Harris hematoxylin solution for 5-10 minutes for staining and quickly passed through acid water (1 percent) to eradicateextra stain. After that, tap water was used to wash the parts and stained with eosin for 5-10 minutes and dehydrated through passing by 70 percent, 80 percent, 95 percent, and 100 percent graded alcohol The parts were then cleaned with xylol and placed on mounting media. Units were examinedwith light microscope and special staining was done on selected cases to confirm diagnosis.

Procedure for Special Staining:

To distinguish between smooth muscle and fibrous tissue, Masson's Trichrome Stain was used, and Three options were considered: 1) Mix 0.5mg acid fuchsin salt with 0.5ml glacial acetic acid in 100ml distilled water to make the acid fuchsin solution. 2) Phosphomolybdic acid was created by mixing 1.0 gramme of the acid with 100 milliliters of distilled water. 3) Methyl green was generated by mixing 2.0 g of methyl green with 2.0 mL glacial acetic acid in 100 mL distilled water.For trichrome staining of masonrequired section was recut, dewaxed and bring to distilled water as described above and After 5 minutes of staining with iron hematoxylin, the image was washed with distilled water, 1 percent acid water, and finally tap water. Sections were stained for 5 minutes with the above produced acid fuchsin solution, then washed with distilled water, for 5 minutes with the phosphomolybdic acid solution, then drained, and finally for 2-5 minutes with the methyl green solution, then washed with distilled water. Sections were dehydrated in graded alcohol, clear in xylene, and mounted in mount medium after being treated with 1% acetic acid for 2 minutes. Nuclei were blue-black under a light microscope. The cytoplasm of smooth muscle was red, while fibrous tissue was green.

Periodic Acid Sciff's (PAS) on ASPS, a stain was applied. By dissolving 1.0 g of periodic acid salt in 200 ml of distilled water, Schiff's reagent was employed to generate a periodic acid

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solution. Sections were recut, dewaxed, brought to distilled water, and stained for 5 minutes with periodic acid solution. After that, the parts were washed multiple times with distilled water, Sciff's solution was applied for 15 minutes, and then the area was cleansed with running tap water for 5-10 minutes. Nuclei were then bluing stained with Harris's Hematoxylin and rinsed in water, absolute alcohol, xylene, and mounted in mount media as usual. Magenta with a glycogen stain.

One benign vascular tumor and one hemangiopericytoma were stained with Retic Stain to determine whether it was either an intravascular or perivascular tumor. The retic solution was created by gradually adding powerful ammonia to the waterto 5ml of 10% aqueous silver nitrate solution (to dissolve the precipitate).Then 5ml of 3% sodium hydroxide solution and again concentrated ammonia was added drop by drop. Solution was filter and kept in dark bottle.Recut and dewaxed pieces were necessary for staining and bring to water through graded alcohol and After 5 minutes of treatment with a It was rinsed with tap water and bleached with a 1 percent oxalic acid solution after being soaked in a 1 percent potassium per magnate ($KMnO_4$) solution. Following a series of cassette water changes, sections were treated with for at least 15 minutes in a 2.5 percent iron alum solution before being rinsed in distilled water Sections were stained for two minutes in a prepared retic solution in a coplin jar, then reduced for two minutes in a 10% aqueous formalin solution before being rinsed in tap water, counterstained as desired eosin, dehydrated, clear in xylene and mounted in mount media.

For staining required sections were recut, dewaxed and bring to water through graded alcohol and 5 minutes in a 1% potassium per magnate ($KMnO_4$) solution, then rinsed with tap water and bleached in a 1% oxalic acid solution After washing in tape water, pieces were treated for at least 15 minutes with a 2.5 percent iron alum solution and washed multiple times in distilled water. Sections were stained for two minutes in a coplin jar with a prepared retic solution, then reduced for two minutes in a 10% aqueous formalin solution before being rinsed in tap water, counterstained as desired eosin, dehydrated, clear in xylene and mounted in mount media.

Phosphotungistic Acid Haemotoxylin (PTAH) stain was prepared when: 1) 0.5gm of haemitin and 5gm of in 500 mL of distilled water, phosphotungistic acid was added 2) PATH 0.25 percent $KMnO_4$ solution was used to oxidize a solution (0.5 gramme Harris hematoxylin and 10 gramme phosphotungistic acid in 500 mL distilled water) (0.25 gm in 100 mL distilled water) 3) PTAH solution (0.5 gm phosphotungistic acid + 5 gm phosphotungistic acid in 500 mL distilled water).Sections were dewaxed, hydrated with graded alcohol, and brought to water for staining. After 30 minutes in an acid dichromate solution, the sections were rinsed in using tap water, an acid per magnate solution was applied for 1 minute. Bleach with 1% oxalic acid after rinsing with tap water, then rinse with tap water again. Finally, sections were stained overnight with the above-mentioned Mallory's PTAH stain, dehydrated in graded alcohol, cleaned in xylene, and mounted in mount medium. The color of a muscle striation was blue, while the color of the color of collagen was a dark brownish red.

Analysis

SPSS 16 version was used in this study. Descriptive statistical analysis was used to explore the frequency and percentage of soft tissue tumors through age, gender, and tumor site.

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Results

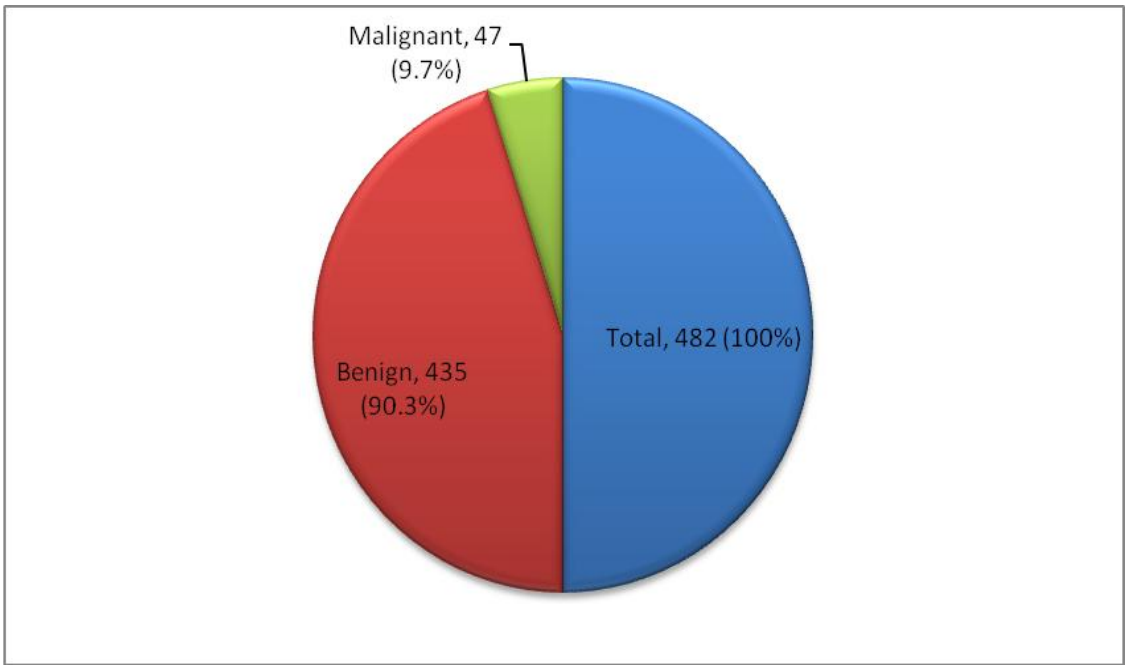
The present study is based on 482 cases of soft tissue tumors, out of a total of 5354 tumors of all types diagnosed between January 1, 2009 and December 31, 2010, reported in the department of Pathology, LUMHS Jamshoro. This laboratory represents the teaching hospital of the Jamshoro and Hyderabad and receives samples from various departments of this institute and private hospitals of Hyderabad. This study is an attempt to see the histopathological characteristics of soft tissue tumors are divided into three categories proposed by WHO (2002).

Table1: Benign and Malignant Soft Tissue Tumors Incidence

Type	No	%
All Benign Tumors	3300	100
Benign Soft Tissue Tumors	435	13.2
All Malignant Tumors	2054	100
Malignant Soft Tissue Tumors	47	3.2

Occurrence of benign soft tissue tumors accounted for 435 (13.2%) out of all benign tumors, whereas the malignant soft tissue tumors Only 47(3.2) of all malignant tumors were developed (Table1).

Figure 1.Soft Tissue Tumors, Both Benign and Malignant: Their Relative Incidence



A total of 482 soft tissue tumors (100%) were found, with 435 (90.3%) being benign and 47 (9.7%) being malignant.

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Table2.Soft Tissue Tumors-Benign and Malignant: Incidence and Characterization

Sr#	Tumors	Benign (N/%)	Malignant (N/%)	Total (N/%)
1.	Adipose	151 (34.7%)	4 (8.5%)	155 (32.2%)
2.	Fibrous	70 (16.1%)	18 (38.3%)	88 (18.3%)
3.	Fibrous histiocytic	21 (4.8%)	16 (34.0%)	37 (7.7%)
4.	Vascular	189 (43.4%)	0 (.0%)	189 (39.2%)
5.	Pericytic	2 (.5%)	0 (.0%)	2 (.4%)
6.	Skeletal	0 (.0%)	4 (8.5%)	4 (.8%)
7.	Uncertain differentiation	2 (.5%)	5 (10.6%)	7 (1.5%)
Total		**435 (100%)**	**47 (100%)**	**482 (100%)**

The majority of benign soft tissue tumors (189/43.4%) were vascular tumors, followed by adipose tumors (151%). (34.7 percent). The current investigation did not find any benign skeletal muscle tumors. Fibrous tumors were responsible for the bulk of malignant tumors (18.3%), followed by fibroushistocytic tumors (16.3%). (Table 2).

Table3.Soft Tissue Tumors, Both Benign and MalignantIncidence by Age

Sr#	Age In Decade	Benign (N/%)	Malignant (N/%)	Total (N/%)
1.	0-10	54 (12.4%)	3 (6.4%)	57 (11.8%)
2.	11-20	78 (17.9%)	7 (14.9%)	85 (17.6%)
3.	21-30	117 (26.9%)	7 (14.9%)	124 (25.7%)
4.	31-40	84 (19.3%)	9 (19.1%)	93 (19.3%)
4.	41-50	62 (14.3%)	7 (14.9%)	69 (14.3%)
5.	51-60	28 (6.4%)	5 (10.6%)	33 (6.8%)
6.	61-70	9 (2.1%)	6 (12.8%)	15 (3.1%)
7.	>70	3 (.7%)	3 (6.4%)	6 (1.2%)
Total		**435 (100%)**	**47 (100%)**	**482 (100%)**

The majority of benign soft tissue tumors develop in the second, third, and fourth decades of life, with the third decade having the highest incidence. Malignant soft tissue tumors were prevalent in the second, third, fourth, and fifth decades, with the fourth decade having the highest frequency (Table 3).

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Table4.Soft Tissue Tumors, Both Benign and Malignantin People of Different Ages

Tumor Type	0-10 (N/%)	11-20 (N/%)	21-30 (N/%)	31-40 (N/%)	41-50 (N/%)	51-60 (N/%)	61-70 (N/%)	>70 (N/%)
Adipose	(6/11.1 %)	(14/17.9 %)	(40/34.2 %)	(43/51.2 %)	(28/45.2 %)	(15/53.6 %)	(3/33.3%)	(2/66.7 %)
Fibrous	(6/11.1 %)	(16/20.5 %)	(16/13.7 %)	(11/13.1 %)	(13/21.0 %)	(4/14.3%)	(3/33.3%)	(1/33.3 %)
Fibrous-Histiocytic	(0/.0%)	(2/2.6%)	(7/6.0%)	(4/4.8%)	(4/6.5%)	(4/14.3%)	(0/.0%)	(0/.0%)
Vascular	(42/77.8%)	(46/59.0 %)	(50/42.7 %)	(26/31.0 %)	(17/27.4 %)	(5/17.9%)	(3/33.3%)	(0/.0%)
Pericytic	(0/.0%)	(0/.0%)	(2/1.7%)	(0/.0%)	(0/.0%)	(0/.0%)	(0/.0%)	(0/.0%)
Uncertain differentiation	(0/.0%)	(0/.0%)	(2/1.7%)	(0/.0%)	(0/.0%)	(0/.0%)	(0/.0%)	(0/.0%)
Total	**(54/100 %)**	**(78/100 %)**	**(117/100 %)**	**(84/100 %)**	**(62/100 %)**	**(28/100 %)**	**(9/100%)**	**(3/100 %)**

Benign adipose tumors were most common in the third, fourth, and fifth decades, with the fourth decade having the highest prevalence, but fibrous and fibroushistocytic tumors occurred at any age. Children 42 (77.8%) and young patients were more likely to have benign vascular tumors. In the third decade, pericytic and tumors of unknown differentiation are found (Table 4).

Table5.Soft Tissue Tumors That Are Malignant and Their Age Distribution

Tumor Type	0-10 (N/%)	11-20 (N/%)	21-30 (N/%)	31-40 (N/%)	41-50 (N/%)	51-60 (N/%)	61-70 (N/%)	>70 (N/%)
Adipose	(0/ .0%)	(0/.0%)	(1/14.3%)	(0/.0%)	(1/14.3%)	(1/20.0%)	(1/16.7%)	(0/.0%)
Fibrous	(1/33.3 %)	(2/28.6%)	(5/71.4%)	(3/33.3%)	(0/.0%)	(2/40.0%)	(3/50.0%)	(2/66.7 %)
Fibrous-histiocytic	(1/33.3 %)	(2/28.6%)	(0/.0%)	(6/66.7%)	(3/42.9%)	(1/20.0%)	(2/33.3%)	(1/33.3 %)
Skeletal	(1/33.3 %)	(1/14.3%)	(0/.0%)	(0/.0%)	(2/28.6%)	(0/.0%)	(0/.0%)	(0/.0%)
Uncertain Differentiation	(0/.0%)	(2/28.6%)	(1/14.3%)	(0/.0%)	(1/14.3%)	(1/20.0%)	(0/.0%)	(0/.0%)
Total	**(3/100 %)**	**(7/100%)**	**(7/100%)**	**(9/100%)**	**(7/100%)**	**(5/100%)**	**(6/100%)**	**(3/100 %)**

Malignant soft tissue tumors were found in people of all ages, with the exception of one instance in the third decade. Malignant adipose tumors were more common in the older age group. Fibrous and fibroushistocytic tumors reached their peak occurrence in the third and fourth decades, respectively.

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Skeletal muscle and tumors of unknown differentiation were found in both young and older age groups in our investigation (Table 5).

Table6. Sex Incidence of Soft Tissue Tumors, Benign and Malignant

Sr#	Sex	Male (N/%)	Female(N/%)	Total (N/%)
1.	Benign	195 (85.9%)	240 (94.1%)	435 (90.2%)
2.	Malignant	32 (14.1%)	15 (5.9%)	47 (9.8%)
Total		**227 (100%)**	**255 (100%)**	**482 (100%)**

Incidences of soft tissue tumors that were benign were more commonin females 240 (94.1%) than males 195 (85.9%).Whereas malignant soft tissue tumors showed striking male predominance 32 (14.1%) (Table6).

Sr #	Tumor Type	Male		Female		Total	
		Benign (N/%)	**Malignant (N/%)**	**Benign (N/%)**	**Malignant (N/%)**	**Benign (N/%)**	**Malignant (N/%)**
1	Adipose	(67/34.4%)	(2/6.2%)	(84/35.0%)	(2/13.3%)	(151/34.7%)	(4/8.5%)
2	Fibrous	(37/19.0%)	(14/43.8%)	(33/13.8%)	(4/26.7%)	(70/16.1%)	(18/38.3%)
3	Fibrous-histiocytic	(12/6.2%)	(10/31.2%)	(9/3.8%)	(6/40.0%)	(21/4.8%)	(16/34.0%)
4	Vascular	(78/40.0%)	(0/.0%)	(111/46.2%)	(0/.0%)	(189/43.4%)	(0/.0%)
5	Pericytic	(1/.5%)	(0/.0%)	(1/.4%)	(0/.0%)	(2/.5%)	(0/.0%)
6	Skeletal	(0/.0%)	(3/9.4%)	(0/.0%)	(1/6.7%)	(0/.0%)	(4/8.5%)
7	Uncertain Differentiation	(0/.0%)	(3/9.4%)	(2/.8%)	(2/13.3%)	(2/.5%)	(5/10.6%)
Total		**(195/100%)**	**(32/100%)**	**(240/100%)**	**(15/100%)**	**(435/100%)**	**(47/100%)**

Table7.Soft Tissue Tumors, Both Benign and Malignantby Gender

Females were more likely to have benign adipose tumors, while males and females had comparable numbers of malignant adipose tumors. Females were also more likely to develop benign fibrous, fibroushistocytic, and vascular tumors. Males were more likely to develop malignant fibrous, fibroushistocytic, skeletal, and tumors of unknown differentiation. In this investigation, benign pericytic tumors exhibited no gender preference, however benign tumors of unknown differentiation were found in females (Table 7).

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Table8.The Incidence of Soft Tissue TumorsBenign and Malignantby Anatomical Site

Sr#	Site	Benign (N/%)	Malignant (N/%)	Total (N/%)
1.	Head & Neck	(200/46.0%)	(8/17.0%)	(208/43.2%)
2.	Trunk	(97/22.3%)	(9/19.1%)	(106/22.0%)
3.	Upper Limb	(57/13.1%)	(9/19.1%)	(66/13.7%)
4.	Lower Limb	(81/18.6%)	(21/44.7%)	(102/21.2%)
Total		**(435/100%)**	**(47/100%)**	**(482/100%)**

The most common sites for benign soft tissue tumors were the head and neck, followed by the trunk and lower limbs, while the lower extremities were the most common site for malignant soft tissue tumors(Table-8).

Sr #	Tumor	Head & Nek		Trunk		Upper Limb		Lower Limb	
		B^1 (N/%)	**M^2 (N/%)**	**B^1 (N/%)**	**M^2 (N/%)**	**B^1 (N/%)**	**M^2 (N/%)**	**B^1 (N/%)**	**M^2 (N/%)**
1.	Adipose	(32/16.0 %)	(0/.0%)	(58/59.8 %)	(1/11.1 %)	(26/45.6 %)	(3/33.3 %)	(35/43.2 %)	(0/.0%)
2.	Fibrous	(27/13.5 %)	(3/37.5 %)	(15/15.5 %)	(4/44.4 %)	(7/12.3 %)	(0/.0%)	(21/25.9 %)	(11/52.4 %)
3.	Fibrous-histocytic	(0/.0%)	(4/50.0 %)	(4/4.1%)	(3/33.3 %)	(10/17.5 %)	(6/66.7 %)	(7/8.6%)	(3/14.3 %)
4.	Vascular	(141/70. 5%)	(0/.0%)	(19/19.6 %)	(0/.0%)	(13/22.8 %)	(0/.0%)	(16/19.8 %)	(0/.0%)
5.	Pericytic	(0/ .0%)	(0/.0%)	(1/1.0%)	(0/.0%)	(1/1.8%)	(0/.0%)	(0/.0%)	(0/.0%)
6.	Skeletal	(0/.0%)	(1/12.5 %)	(0/.0%)	(0/.0%)	(0/.0%)	(0/.0%)	(0/.0%)	(3/14.3 %)
7.	Uncertain Differentiation	(0/.0%)	(0/.0%)	(0/.0%)	(1/11.1 %)	(0/.0%)	(0/.0%)	(2/2.5%)	(4/19.0 %)
Total		**(200/100 %)**	**(8/100 %)**	**(97/100 %)**	**(9/100 %)**	**(57/100 %)**	**(9/100 %)**	**(81/100 %)**	**(21/100 %)**

Table9: Anatomical Sites Distribution of Soft Tissue Tumors, Both Benign and Malignant

1= Benign, 2= Malignant

Benign vascular tumor most commonly occurs in head and neck 141 (70.5%) while adipocytic tumors most commonly occurs in trunk 58 (59.8%) followed by lower limp 34 (43.2%).Malignant fibrous soft tissue tumors commonly occur in lower extremities 11 (52.4%) (Table9).

Discussion

Mandong et al. (2007) found lipoma 48.1 percent (N=48), fibrohistiocytic tumors 18.3 percent reticulin (Gordon & Sweet) in a study of 1313 benign soft tissue tumors using H&E-stained

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sections and special stain including picro-fuchsin-haemotoxylin (N=244), vascular tumors 13.6 percent (N=181), and reticulin (Gordon & Sweet) in a study of 1313 benign soft tissue tumors using H&E-stained sections and special stain including picro-fuch (van Gieson), Females had a somewhat high incidence of soft tissue cancers that are benign, according to the authors.

Another series of Mandong et al. (2007) 85 instances of In Bangkok, researchers used magnetic resonance imaging to distinguish between benign and malignant soft tissue masses, with histology available in 82 cases. The most common benign soft tissue tumors were haemangioma (N=10), neural tumor (N=10), and lipoma (N=8), while the most common malignant soft tissue tumors were liposarcoma (N=5), MFH (N=5), Synovial sarcoma (N=5), and spindle cell sarcoma (N=5).

Both of the researches described above complement our findings, indicating that Women are more likely to develop benign soft tissue tumors. Soft tissue sarcomas are most typically found in males and ailment that affects the lower extremities, according to most research. Results found that in a study of 266 cases of soft tissue sarcomas conducted in Jos, it was discovered that soft tissue sarcomas are more common in men and most commonly occur in the lower limbs(Mandong et al. 2007).

In a retrospective examination of 38,484 patients treated by soft tissue pathologists at the Armed Forces Institute of Pathology, malignant fibrous histiocytoma (24%) and liposarcoma (14%) were the most common malignant soft tissue tumors (8 percent). Lawrence et al. discovered that liposarcoma and MFH were the most common types in both long-term and short-term trials in another large retrospective study. Contrary to popular belief, the most prevalent malignant soft tissue tumor is fibrosarcoma, which is followed by malignant fibrous histiocytoma (Iyer, 2008).

Balaguera et al. (2009) found fibrosarcoma was the most common soft tissue sarcoma, accounting for 28.9% of cases, followed by rhabdomyosarcoma (18.2%), liposarcoma (13.8%), and Kaposi sarcoma (9%). (6.1 percent),as mentioned earlier employing unique stain auxiliary techniques as reticulin, PTAH, and PAS. The recent investigation found the most common soft tissue sarcoma was fibrosarcoma, which was followed by MFH, rhabdomyosarcoma, liposarcoma, and alveolar soft part sarcoma., utilizing the same unique stain approach.

Conclusion

Despite the enormous increase in new techniques, the gold standard procedure for morphologic diagnosis is an H&E stain slice. Other auxiliary procedures, such as Immunohistochemistry (IHC) studies, can further refine type specific diagnosis, and should be installed in areas like ours where these critical diagnostic services are lacking.

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