UTERINE MESENCHYMAL TUMORS IN DUHOK-IRAQ. A PRACTICAL PATHOLOGICAL STUDY

INTISAR SALIM PITY, MBChB, MSc, FIBMS*
SUAD TAHER YASEN, MBChB, CABOG **
BANAV NAJEEB MUHAMMED, MBChB, CABOG***
OMAR SALIM MUHI, MBChB, FIBMS****
AZAD MUSTAFA AHMAD, MBChB, FIBMS*****
FADI BADAL HAYDER, MBChB******

Submitted 01 October 2022; accepted 19 December 2022

ABSTRACT

Background: Although malignant uterine mesenchymal tumors are relatively uncommon, their definite diagnosis is crucial for therapeutic as well as prognostic purposes.
Objectives: To study the frequency of uterine mesenchymal tumors in Duhok-Iraq and to highlight the impact of immunohistochemically on warning cases.
Materials and Methods: In this cross-sectional study, 3931 uterine mesenchymal tumors were received in the Departments of Histopathology in Vin Private Laboratories and Central General Laboratories in Duhok-Iraq, over a consecutive period of 13 years (January 2009 to December 2021). Cases were examined morphologically. Equivocal cases were subjected to immunohistochemical workup via UltraVision LP Large Volume Detection System & HRP Polymer (Ready-To-Use) from Thermo Fisher Scientific and using the automated immunostaining technique.
Results: Benign tumors (97.4%) overwhelmed the malignant cases (1%). The remaining 1.6% comprised the smooth muscle tumors of undetermined malignant potential (SUMPT).
Conclusions: Diagnosis and categorization of most benign and malignant uterine mesenchymal tumors is an acumen nuclear histology. However, in unequivocal cases, high-grade cancers and mixed neoplasms, immunohistochemistry is needful and applicable due to its easy methodology. Yet some cases remain doubtful and require advanced techniques for definite diagnosis.

Duhok Med J 2023; 17 (2): 71-85.

Keywords: Diagnosis, Immunohistochemistry, Mesenchymal tumors, Uterus.

Uterine mesenchymal tissue neoplasms comprise heterogeneous tumors arising from the mesenchymal elements of uterus and cervix. Differentiation between benign and malignant counterparts is crucial for prognostic and therapeutic implications, and the role of the surgical pathologist in making this distinction (especially in the difficult cases) has not to be underestimated. Although gross and Hematoxylin/Eosin-stained morphologic features trump all ancillary techniques for diagnosis of substation number of cases[1], however some cases may be diagnostically challenging. The wide morphologic spectrum of leiomyoma (especially mitotically active, disseminated/

https://doi.org/10.31386/dmj.2023.17.2.8

* *Prof, Pathology Dep., College of Medicine, University of Duhok, Duhok, Kurdistan Region of Iraq.*
**Lecturer, Obstetrics & Gynecology *Dep., College of Medicine, University of Duhok, Kurdistan Region of Iraq.*
***Lecturer, Obstetrics & Gynecology *Dep., College of Medicine, University of Duhok, Kurdistan Region of Iraq.*
**** *Director of Health Duhok, Duhok, Kurdistan region of Iraq.*
***** *Lecturer, Basic Sciences Dep, College of Dentistry, University of Duhok, Duhok, Kurdistan Region of Ira*
****** *Director of Health Duhok, Duhok, Kurdistan region of Iraq.*
Correspondence author: Dr Suad Taher Yasen, suad.yasen@uod.ac, Tel: +964 750 496 9975

metastasizing, and bizarre/ symblastic leiomyoma and infarction), may develop a considerable challenge and raise an alarm for pathologists, particularly for leiomyosarcomas[1,2,3,4,5]. Moreover, diagnostic criteria for their malignant counterparts (leiomyosarcoma subtypes) are not uniform. These cancers may pose a diagnostic challenge as many cases show a deceptively bland morphology. As well, non–smooth muscle tumors originating in the uterus may show overlapping histologic and even immunohistochemical features with uterine smooth muscle tumors[1,2,3,4].

The common uterine mesenchymal tumors with arising prompted us to study the frequency of these tumors in this particular locality (Duhok-Iraq) and to highlight the impact of immunohistochemically on cases with confusing morphologic features.

MATERIALS AND METHODS

Covering 13 year-period (1st January 2009 to 31st December 2021), this cross-sectional (retrospective and prospective) study enrolled 3931 mesenchymal tumors involving uterus and cervix. Cases were received in the Departments of Histopathology in Vin Private and Central General Laboratories in Duhok-Iraq. The study received approval from Duhok Directorate of Health with regard to personal data retrieval and tissue processing. Slides were retrieved and the non-processed operated tissues were processed and stained with H&E and examined microscopically for morphological diagnosis. Categorization was performed according to the updated recommendations[2,5].

Immunohistochemistry

Using monoclonal and polyclonal antibodies, immunohistochemistry was performed on equivocal cases via the UltraVision LP Large Volume Detection System & HRP Polymer (Ready-To-Use) from Thermo Fisher Scientific®. Antigen retrieval (HIER) was performed with Epitope Retrieval Solutions and the chromogen used was 3-3'-diaminobenzidine tetrahydrochloride (DAB) detection kit according to the manufacturer's recommendations and as described previously[6,7,8]. Sections were subjected to a first panel of antibodies (Pankeratin, Vimentin, S100 protein). Then according to the immunoresults, selected second panel antibodies were added (Table1). Sections were counterstained with Mayer's hematoxylin, dehydrated through graded alcohols to xylen and then mounted with DPX solution and cover slipped. Strongly positive controls and negative controls (using the same procedure without primary antibodies) were used with each run. Smooth muscle tumors were described as leiomyoma, STUMP or leiomyosarcoma according to a constellation of the proliferative index (Ki67) with different morphologic criteria and immunohistochemistry (p53, p16) as previously described[6,7,9].

Table1. Detailed antibodies needed for uterine mesenchymal tumors.

Marker	Task
First panel	
Pankeratin, EMA, Vimentin, p16, p53 and PAX8	For carcinosarcoma (Malignant mixed Mullerian tumor)
S-100 protein	For heterologous (lipid and cartilaginous) components in MMMT
Second panels	
Desmin, MyoD1, Myogenin	Rhabdomyosarcoma
Desmin, SMA, H-Caldesmon, p16, p53	Smooth muscle tumors
CD10	Endometrial stromal sarcoma
Proliferative index	

RESULTS:

The ages of women with different uterine mesenchymal tumors, ranged from 4 to 76 years. As demonstrated in figure 1, these tumors (n= 3931) included 3828 (97.4%) benign and 40 (1%) malignant tumors. The remaining 63 (1.6%) cases were put within the category of "smooth muscle tumors of undetermined malignant potential" (SUMPT).

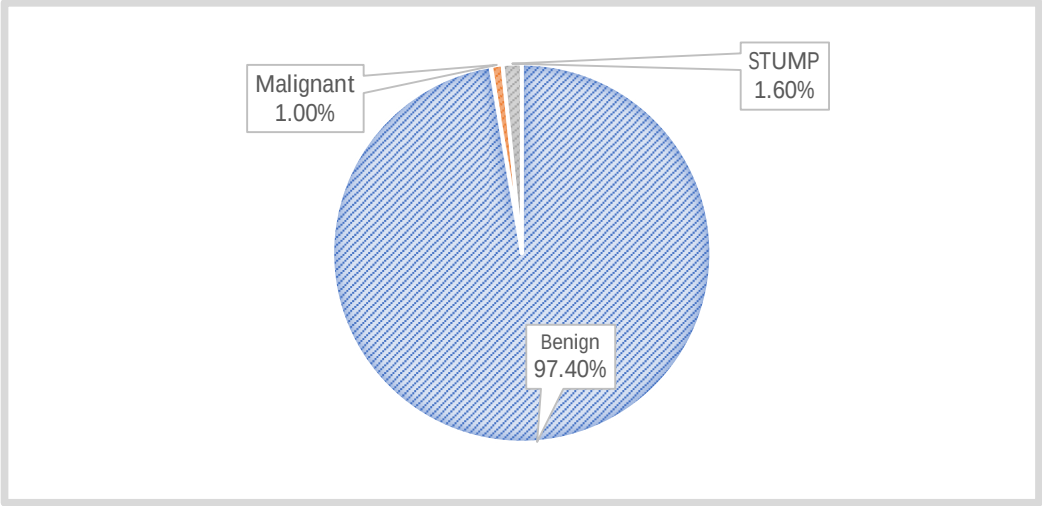

Figure 1. Types of the studied tumors according to the behavior.

The sixth (37.1%) and fifth (27.7%) decades dominated the affected ages in all cases, except rhabdomyosarcomas which were seen only among females less the 10 years (Table 1).

Table 2. Uterine mesenchymal tumors and age intervals.

Tumor Total: 3931 No. (%)	Age groups (years) Number (%)							
	<10	**10-20**	**21-30**	**31-40**	**41-50**	**51-60**	**60-70**	**>70**
Leiomyoma: 3745 (95.3)	1 (0.02)	42 (1.1)	61 (1.6)	561 (15)	1016 (27.1)	1435 (38.3)	346 (9.2)	283 (7.6)
Adenomyoma: 75 (1.9)	0	0	5(6.6)	22 (28.9)	35(46)	12(15.8)	1(1.3)	0
STUMP: 63 (1.6)	0	1(1.6)	1(1.6)	33 (52.3)	21(33.3)	4(6.3)	3(4.8)	0
Leiomyosarcoma: 23 (0.5)	0	0	0	9 (39.1)	8(34.8)	2(8.7)	4(17.3)	0
MMMT: 12 (0.3)	0	0	0	4(33.3)	5(41.7)	2(16.7)	1(8.3)	0
Angiomyxoid fibroma: 8 (0.2)	0	0	0	1(12.5)	5(62.5)	2(25)	0	0
Rhabdomyosarcoma: 5 (0.1)	5 (100)	0	0	0	0	0	0	0
Total 3931 (100)	**6 (0.1)**	**43 (1.1)**	**67 (1.7)**	**630 (16)**	**1090 (27.7)**	**1457 (37.1)**	**355 (9)**	**283 (7.2)**

leiomyomas 3745 (96.2%) dominated the benign tumors, followed by adenomyoma 75 (2%) and angiomyxoid fibroma 8 (0.2%), one was aggressive (figure 3).

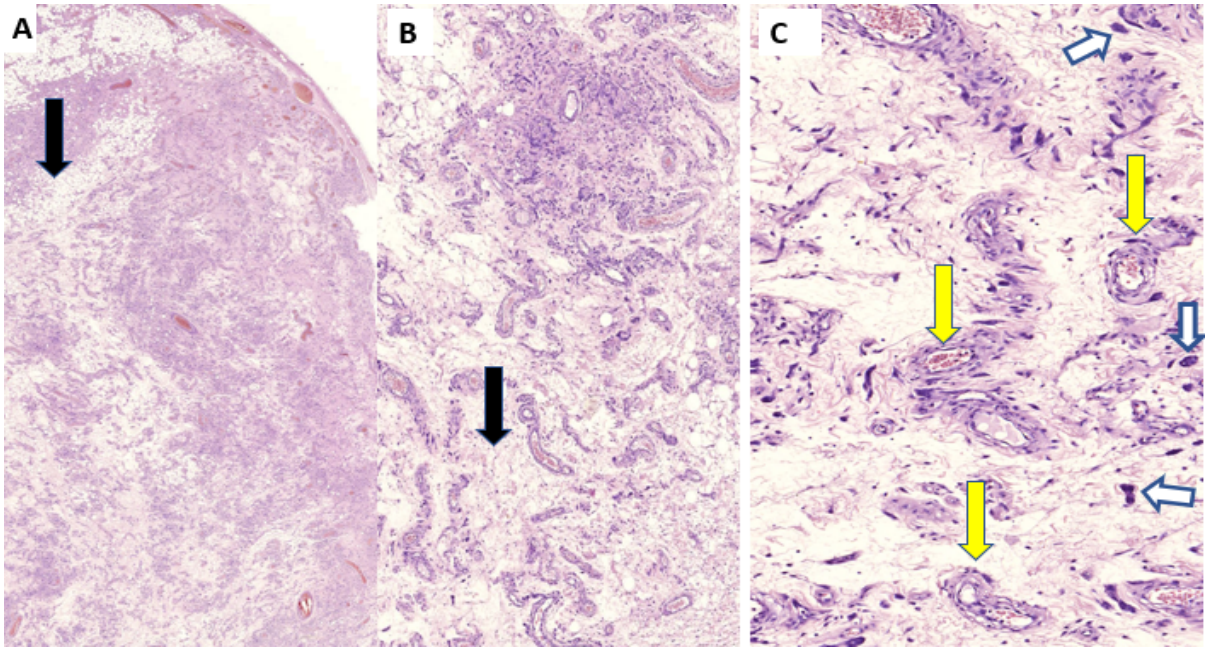

Figure 2. Aggressive angiomyxoid fibroma showing thick-walled blood vessels (yellow arrows) within myxoid stroma (black arrows) with some atypical stroma cells (white arrows). (H&E, A: X100, B: X 200, C: X400).

As illustrated in figure 3, smooth muscle elements were demonstrated in 3918 tumors, including 3745 benign leiomyomas (95.6%), 75 adenomyomas (1.9%), 63 smooth muscle tumors of undermine malignant potential "STUMP" (1.6%) seen in figure 4, and 23 malignant leiomyosarcoma formed (0.6%). The remaining 12 (0.3%) cases comprised smooth muscle sarcomatous compartment in malignant mixed Mullerian tumors.

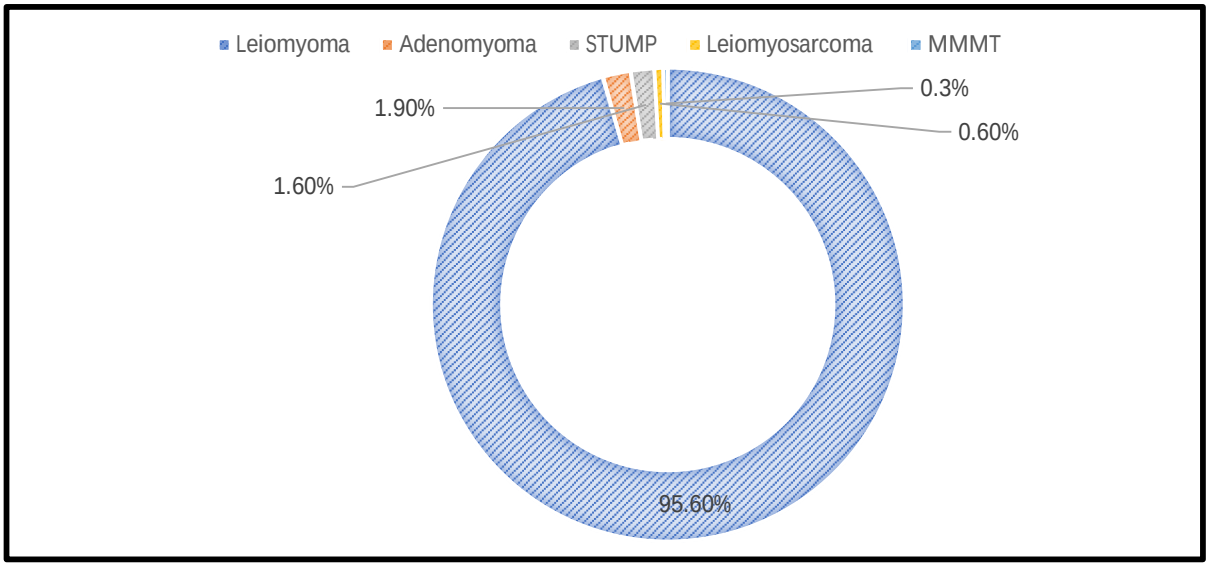

Figure 3. Percentages of smooth muscle-containing tumors in the study cases.

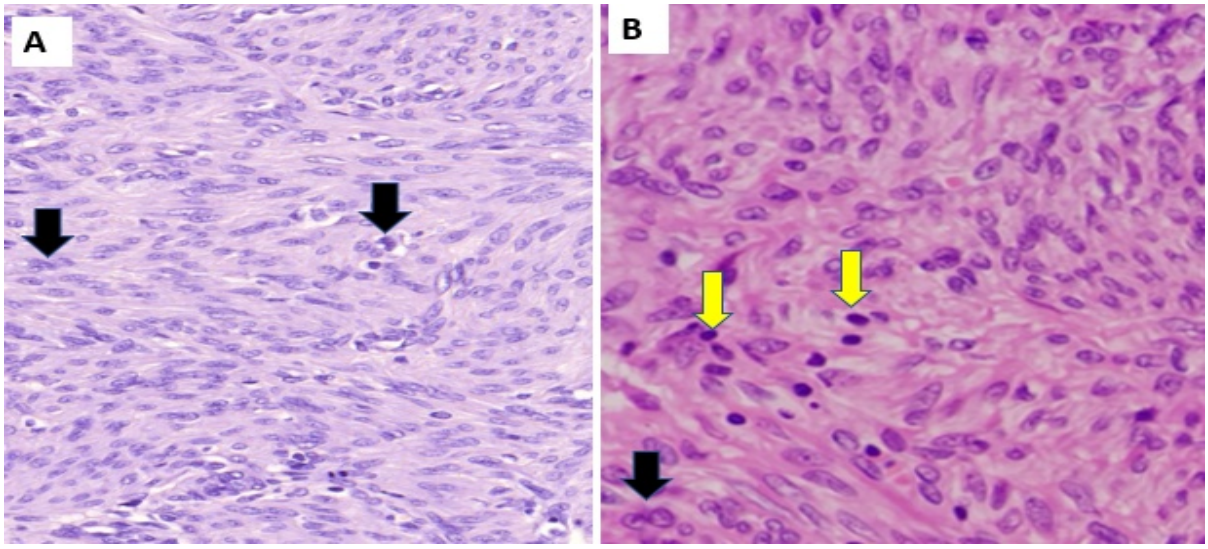

Figure 4. Smooth muscle tumor of undetermined malignant potential (STUMP) showing increased mitotic activity (yellow arrows) and scattered atypical cells (black arrows), (H& E, X200).

As shown in Table 3, the conventional type was the commonest benign leiomyomas, followed by cellular (5%) seen in figure 5A, symblastic (1.8%) and myxoid variant (0.9%) seen in figure 5B. The remainders comprised decreasing frequencies of different variants including lipoleiomyoma (0.5%), figure 6, epithelioid leiomyoma (0.2%), figure 7, vascular leiomyoma (0.16%), figure 8, Leiomyomatosisperitonealis disseminate (0.1%), figure 9, mitotically active (0.1%), Cotyledonoid (0.02%), figure 10 (A and B).

Table 3, Types of benign leiomyomas and age intervals

Leiomyoma No. (%)	Age groups (years) Number (%)							
	<10	**10-20**	**21-30**	**31-40**	**41-50**	**51-60**	**60-70**	**>70**
Conventional: 3422 (91.3)	1 (0.02)	40 (1.2)	48 (1.4)	478 (13.9)	950 (27.7)	1345 (39.3)	289 (8.9)	270 (7.8)
Cellular 188 (5)	-	2(1)	9 (4.7)	63 (33.5)	48(25.5)	40 (21.2)	26(13.8)	-
Symblastic 67 (1.8)	-	-	2(2.9)	4(5.9)	4(5.9)	24(35.8)	21(31.3)	12(17.9)
Lipoleiomyoma 20 (0.5)	-	-	-	-	4(20)	10 (50)	6 (30)	-
Myxoid 10 (0.3)	-	-	-	-	2(20)	4(40)	3(30)	1(10)
Epithelioid 8 (0.2)	-	-	-	3(37.5)	2(25)	3(37.5)	-	-
Vascular 6 (0.16)	-	-	-	1(16.6)	1(16.6)	4(66.6)	-	-
Mitotically active 4 (0.1)	-	-	-	2(50)	2(50)	-	-	-
LPD 3 (0.08)	-	-	-	3(100)	-	-	-	-
Cotyledonoid 1 (0.02)	-	-	-	1(100)	-	-	-	-
Intravascular 1 (0.02)	-	-	-	-	1(100)	-	-	-
Others 4 (0.1) *	-	-	-	4 (100)	-	-	-	-

Total: 3745

LPD: Leiomyomatosisperitonealis disseminate, *: Including leiomyoma cases, 2 with prominent lymphoid infiltrate and 2 rich in mast cells.

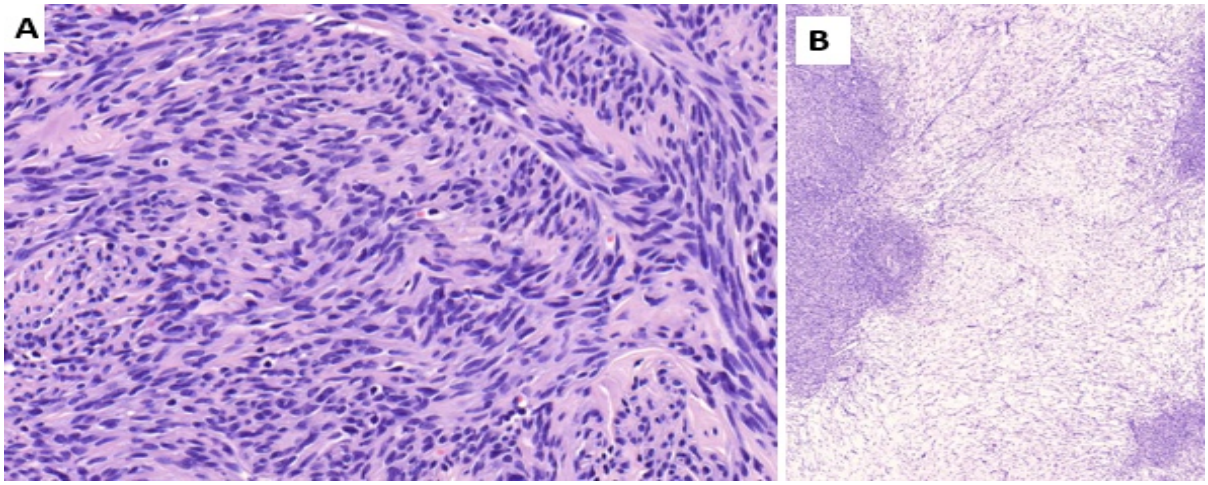

Figure 5. A: Cellular leiomyoma, B: Myxoid leiomyoma (H&E, A: X400, B: X100).

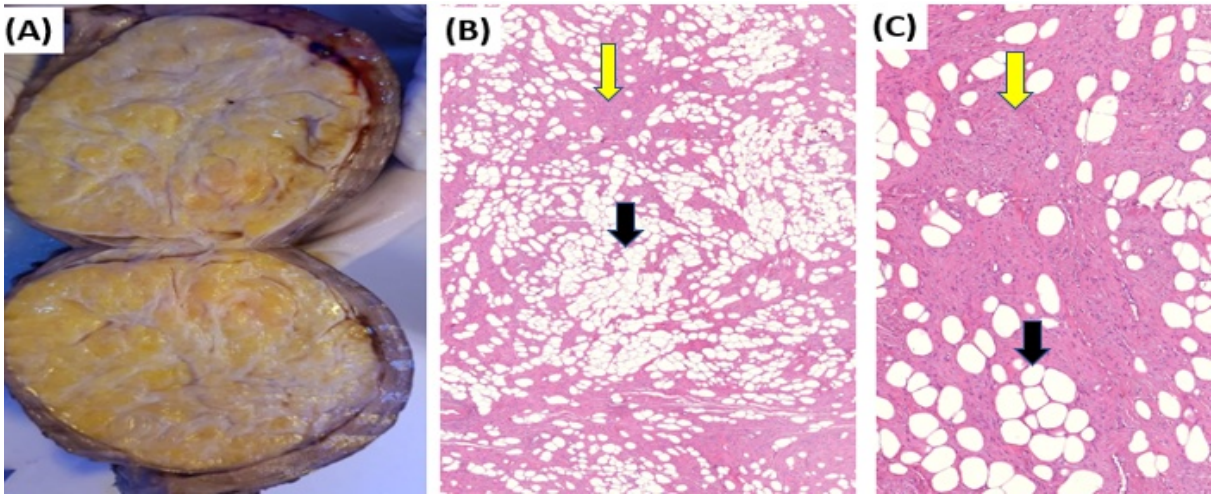

Figure 6. Lipoleiomyoma showing variable admixture of mature fat globules (black arrows) and smooth muscle fibers (yellow arrows), (A: Gross; H&E, B: X100, C: X200).

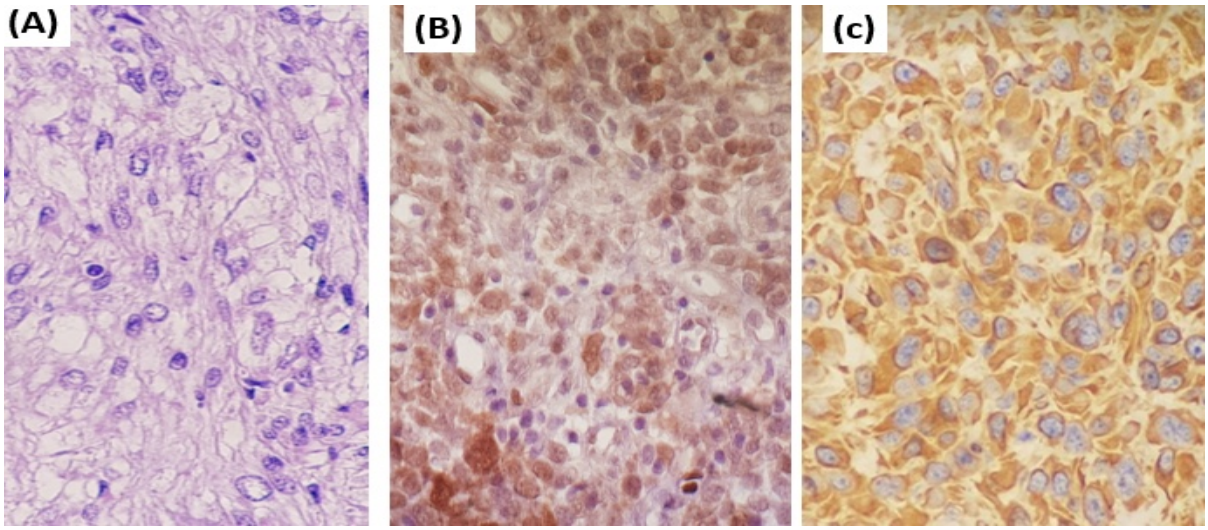

Figure 7. Epithelioid leiomyoma (A: H&E, X400, B: Desmin IHC: X200, C: Actin IHC, X400).

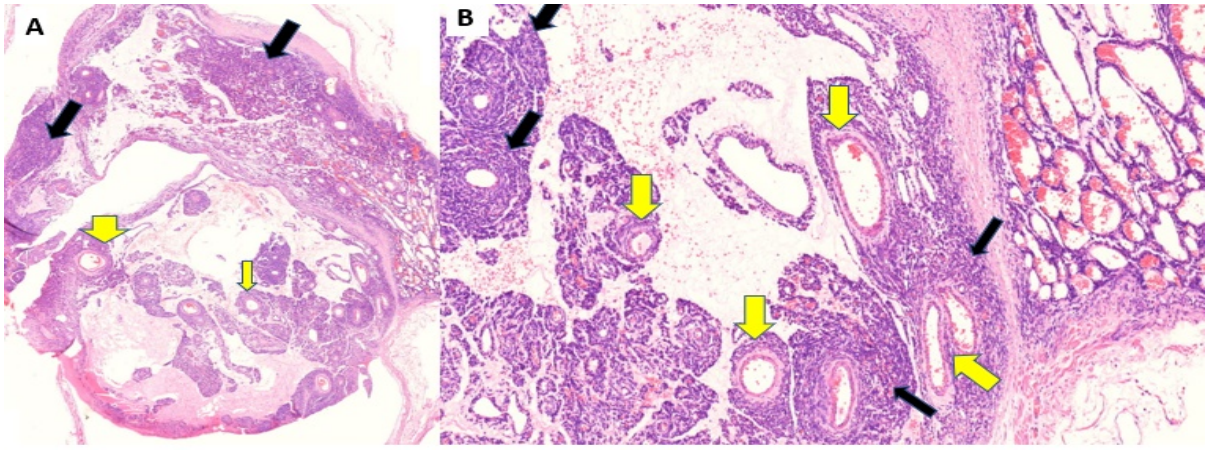

Figure 8. Vascular leiomyoma showing smooth muscle proliferation (black arrows) and thick-walled blood vessels (yellow arrows), (H&E, A: X100, B: X 200).

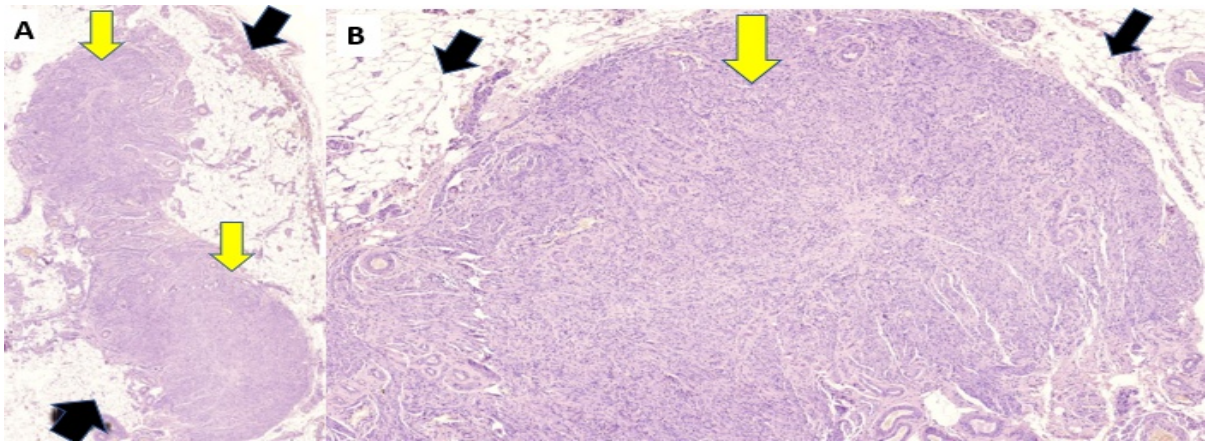

Figure 9. Leiomyomatosisperitonealis disseminate showing benign smooth muscle nodules (yellow arrows) within the peritoneum (black arrows), (H&E, A: X100, B: X 200).

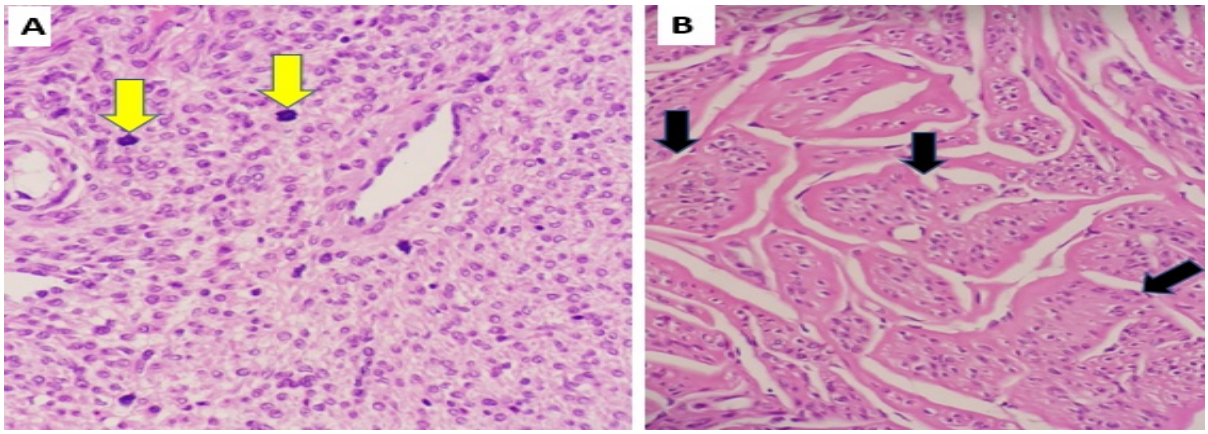

Figure 10. A: Mitotically active leiomyoma showing increased mitotic activity (yellow arrows) but no atypia, B: Cotyledonoid leiomyoma with a morphologically placenta-like proliferating smooth muscle fibers (black arrows), (H&E, A: X200, B: X 200).

Secondary changes were observed in 946 (25.3%) leiomyoma cases. These changes included various combinations of degenerative changes (hyalinization, myxoid degeneration, red degeneration, calcification and cystic changes) in 839 (22.4%), hemorrhage in 102 (2.7%) and infarction in 7 (0.2%) cases. Of the

degenerative changes, 532 (63.4%) cases were at 21-40 years of age (reproductive age).

Malignant uterine mesenchymal tumors (n= 40) comprised 23 (57.5%) leiomyosarcomas (figure 11), 12 (30%) MMMTs (figure 12, 13) and 5 (12.5%) rhabdomyosarcomas (figure 14). Women with leiomyosarcoma and MMMT were more than 31 years (mean: 39 and 46 years respectively), whereas patients with rhabdomyosarcoma were only children (less than 10 years).

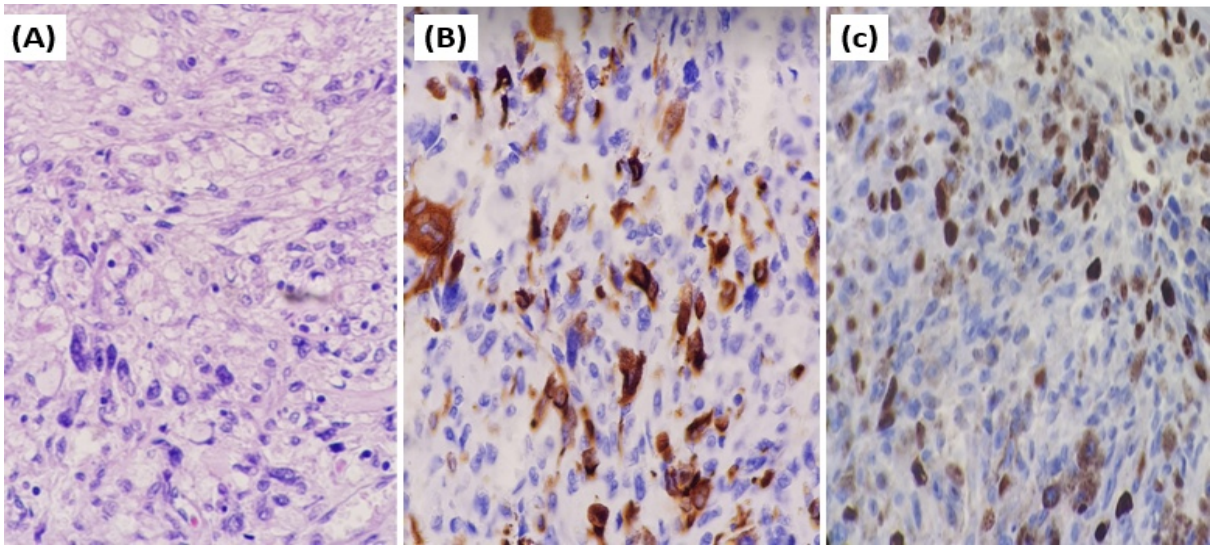

Figure 11. Leiomyosarcoma showing high grade malignant spindle cell tumor positive for H-Caldesmon (B) with a high proliferative index (C), (A: H&E, X200, B: IHC "H-Caldesmin, X 400, C: IHC "Ki67", X400).

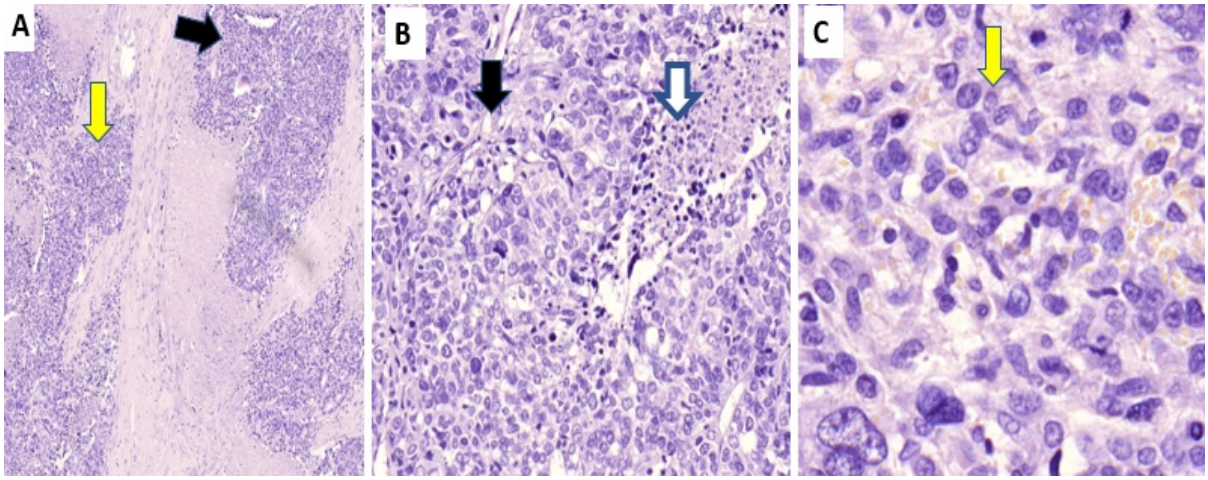

Figure 12. Malignant mixed Mullerian tumor showing carcinomatous component (black arrows), sarcomatous component (yellow arrows), necrosis (white arrow), (H&E, A: X100, B: X200, C: X400).

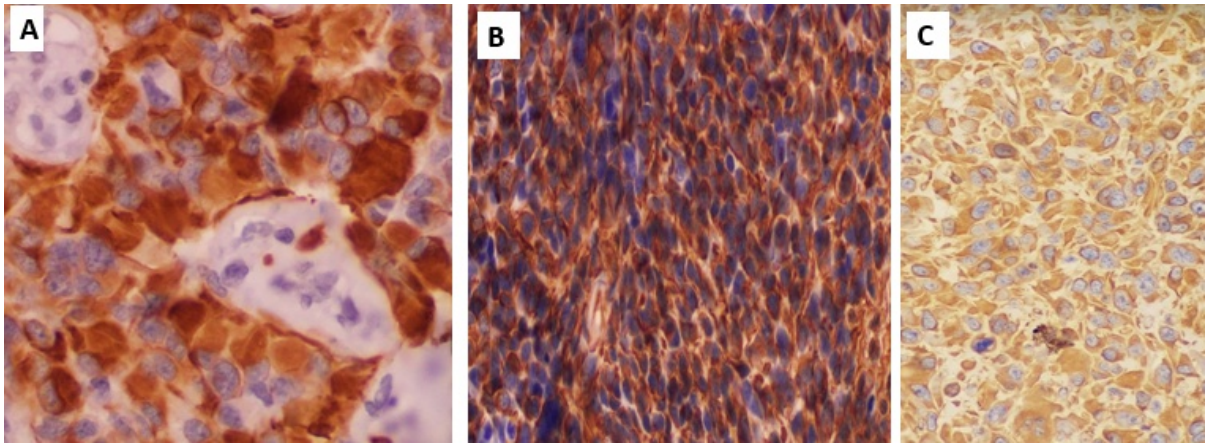

Figure 13. Malignant mixed Mullerian tumor showing carcinomatous component, stained positive for Pankeratin (A) and sarcomatous components, stained positive for Vimentin (B) and Desmin (C), (IHC, A: X400, B: X200, C: X400).

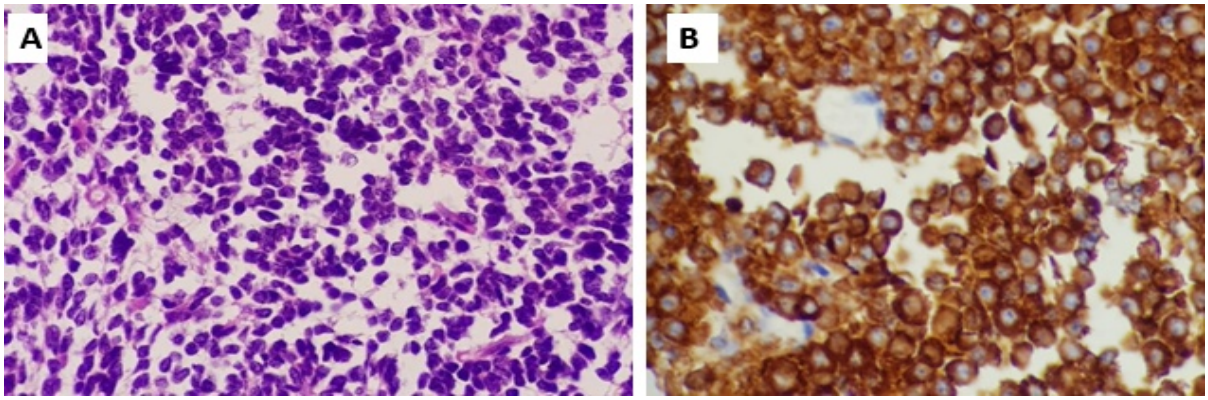

Figure 14. Embryonal rhabdomyosarcoma showing morphologically malignant round cell tumor (A), positive for Desmin (B), (A: H&E, X200, B: IHC "Desmin", X 400).

DISCUSSION

Despite the fact that malignant cases were described in 1% of the study cases, the crux of the matter in uterine mesenchymal tumors is to provide a standardized and reproducible communication tool that can be readily used in the management of cancer cases. As well, these cancers witness an increase their incidence[3,5]. In this study, leiomyosarcomas formed 57.5% of malignant cases. When encountered, leiomyosarcomas harbor the most important consideration given their commonest uterine mesenchymal malignancies in addition to their unfavorable outcome. What is worrying about leiomyosarcoma, is absence of uniform diagnostic criteria for its subtypes in addition to the microscopic appearance of a deceptively bland morphology, may pose a diagnostic challenge with their much more common benign leiomyoma and with non-smooth muscle tumors originating in the uterus. These factors committed a careful histological approach and may necessitate immunohistochemistry, molecular tests or even other advanced diagnostic approaches[2,3,5,10]. Actually, diagnosis of leiomyosarcomas required constellation of morphological and immunohistochemically getting benefits from p16 and p53 immunomarkers, in addition to the assessment of proliferative index (Ki67) as described[6,8].

A malignant uterine mesenchymal tumor was malignant mixed Mullerian tumors (MMMT). This entity accounted for 0.3% of the study cases. These tumors are

considered as undifferentiated or metaplastic forms of endometrial carcinoma, also termed carcinosarcoma. Such tumors comprise variable admixture of epithelial and mesenchymal malignant components. Generally, MMMT form <5% of all gynecological tract neoplasms. The diagnosis is crucial because of their ominous clinical course[11]. Morphologically, the epithelial compartment of the study cases showed variously graded adenocarcinoma, while the sarcomatous (mesenchymal) compartment comprised variable admixture of leiomyosarcoma and fibrosarcoma with occasional heterologous stromal elements. Pankeratin, EMA (epithelial markers) and Vimentin (sarcomatous marker) were of great help. As well, the expression of p16, p53 and PAX8 in both compartments lend a support to the monoclonality of uterine carcinosarcoma compartments as stated previously[11].

The remaining 5 malignant cases were pediatric rhabdomyosarcoma, all were childhood girls under 10 years. These cases appeared as malignant blue cell tumors under the light microscope. Desmin, MyoD1 and myogenin were required to confirm the diagnosis, while other immunomarkers were of great value to exclude pediatric malignant blue cell mimickers, like CD45 to exclude lymphoma/leukemia; Fli1 to exclude extraskeletal Ewing's sarcoma/PNET; Pankeratin, EMA and NSE (neuron specific enolase) to exclude desmoplastic small round cell tumor[7,12,13]. It is worthy to mention that definite diagnosis requires molecular tests[7].

In the light of the fore mentioned data, benign smooth muscle tumors (leiomyomas) overwhelmed the studied uterine mesenchymal tumors (95.3%). Given their abundance, leiomyomas form an important impact on women's life quality. Age ranged from 9 to 76 years with a peak age at 40 and 60 year-intervals with a little bit higher percentage among post-menopausal women (~55%) among but didn't reach the level of significance. In parallel, a previous study performed in the same region described leiomyomas as the most common uterine pathologic finding (21.5%) among hysterectomy specimens with 46 years mean and 41-50 years age range 14,15. The rate of leiomyomas under 20 years was very rare (0.9%). Worldwide, leiomyomas are described at any age, mainly among middle aged women[1,15].

Diagnosis of smooth muscle tumors was simply based on light microscopical morphology in 3422 cases. However, there were 312 leiomyoma variants, 63 STUMP and 23 leiomyosarcomas; these cases required further evaluation for optimal results. No specific tumor marker can be applied for smooth muscle tumor categorization 10. Using antibodies for p16 and p53 markers in addition to the proliferative index (Ki67), were of great help. However, due to the significant overlapping staining patterns between leiomyosarcomas and symblastic leiomyomas, such immunostains were of limited role as described in the literature[6,8].

The category of myxoid leiomyoma was observed in 10 (0.3%) cases. In fact, myxoid changes form a common finding in benign leiomyoma, but the term myxoid leiomyoma is applied when more than 50% of the tumor appear myxoid. As has less aggressive clinical course and amenable for complete surgical excision, diagnosis of myxoid leiomyoma poses an important consideration when compared with myxoid leiomyosarcoma and myxoid high-grade endometrial stromal sarcomas, given the latter's adverse prognosis and deceptively bland morphologies. Another diagnostic

challenge is with uterine inflammatory myofibroblastic tumor which frequently harbors ALK rearrangements and a novel ZC3H7B-BCOR gene fusion with its amenable for target therapy[5,16].

Epithelioid leiomyomas were described in 8 (0.2%) cases. When these benign neoplasms are encountered, exclusion of their more common malignant counterparts (epithelioid leiomyosarcomas) is critical for therapeutic and prognostic tasks[17].

Vascular leiomyoma (angioleiomyoma) was reported in 6 (0.16%) women. This uncommon leiomyoma variant, shows variable admixture of smooth muscle fibers and thick-walled blood vessels. In parallel, a study performed in Poland has reported angioleiomyoma in 0.34-0.40% of cases, mostly among middle-aged women[18].

Leiomyomatosisperitoneal is disseminate entity was given for 3 cases. This uncommon tumor is applied for multiple smooth muscle-like nodules in the peritoneal cavity. Diagnosis great significance, firstly for therapeutic approach as hormonal agonist therapy might be of great help. Secondly in such benign cases, one can contemplate avoidance of unnecessary surgery or anticancer therapy applied for their counterpart invasive sarcomas[4,5].

In same line, the entity “Cotyledonoid leiomyoma” was given in a single case. Because its histology gives an alarming extra-uterine growth with a dissecting myometrial component, diagnosis of this extremely rare benign leiomyoma is of great value[19].

The term of intravascular leiomyoma was applied for a single, 44-year-old woman. This histologically benign tumor is characterized by proliferating smooth muscle cells arising from the intrauterine venules and/or the myometrium, affects mainly middle-aged women. Diagnosis is crucial for therapeutic purpose[20].

It is worthy to mention that secondary changes that accompany benign tumors make distinction from their counterpart cancer events may be difficult. In this study, there were 102 cases of hemorrhage, 21 red degenerations and 7 ischemic necrosis (infarction). Tumor cell necrosis, a feature of cancer, is defined by finding an abrupt transition from necrotic to non-necrotic tumor cells, without interposed fibrosis or granulation tissue and lacking inflammation which are features of non-cancerous changes. As well, viable tumor cells with evident malignant nuclei can be identified within the necrotic areas. In contrast, appearance of hyalinization indicates a long-term fibrosis of non-cancer cases[1,3].

It is noteworthy that many uterine leiomyomas are show varying intensity (usually low) of chronic inflammatory cell infiltrates, like lymphocytes, mast cells, plasma cells and eosinophils. However, prominent/massive lymphoid or mast cell infiltrates form an unusual, but rare pathologic findings. In this study, we describe one case with massive lymphoid aggregates and another with prominent mast cells. Such microscopic finding may raise the possibility of neoplastic lymphoid and mast cell proliferation[21].

Furthermore, unequivocal smooth muscle tumors with no definite benign or malignant morphologic clues are termed as "smooth muscle tumor of uncertain malignant potential" (STUMP). Although not malignant, but they should be considered as tumors with low malignant potential because of their occasional recurrence[3,22]. Such cases may necessitate further evaluation by immunohistochemistry or molecular testing[3]. This term was given in 63 (1.6%) smooth muscle neoplasms whose

morphologies were equivocal between the unequivocal benign leiomyomas and their malignant counterparts (leiomyosarcomas). In fact, uterine STUMP forms one of the rare gynecologic neoplasms. In support of microscopic observation, p16 and p53 markers and the proliferative activity may help diagnosis and predict tumor behavior[3,5,6,22].

Unforgettably, adenomyoma was described in 75 (1.9%) cases when foci of adenomyosis were demonstrated within leiomyomas. Such findings are parallel to those of others[14].

Finally, 8 (0.2%) cervical angiomyxoma cases were reported among our series with a perimenopausal dominance (mean: 46 years). This is a rare benign, slowly growing mesenchymal tumor that usually arises in the vulvovaginal and perineal region. Cervical reported cases in the literature are relatively rare, and predominantly the tumor occurs in the reproductive age women. An important point of this tumor, is its liability for local recurrence in its aggressive form[23].

CONCLUSIONS

Diagnosis and categorization of most benign and malignant uterine mesenchymal tumors is an acumen nuclear histology. However, in unequivocal cases, high-grade cancers and mixed neoplasms immunohistochemistry is needful and applicable due to its easy methodology. Yet some cases remain doubtful and require advanced techniques for definite diagnosis.

REFERENCES:

1. Toledo G, Oliva E. Smooth Muscle Tumors of the Uterus. A Practical Approach. Arch Pathol Lab Med. 2008;132:595–605
2. Parra-Herran C, Howitt BE. Uterine Mesenchymal Tumors: Update on Classification, Staging, and Molecular Features. Surgical Pathology Clinics; 2019;12(2):363-96.
3. Oliva E. Practical issues in uterine pathology from banal to bewildering: the remarkable spectrum of smooth muscle neoplasia. Modern Pathology. 2016;29:S104-S120.
4. Carvalho FM, Carvalho JP, Alves Pereira RM, Junior BPVC, Lacordia R, BaracatEC. LeiomyomatosisPeritonealisDisseminata Associated with Endometriosis and Multiple Uterus-Like Mass: Report of Two Cases. Clin Med Insights Case Rep. 2012; 5: 63–8.
5. Philip P C Ip , Ka YT, Kar FT. Uterine Smooth Muscle Tumors Other Than the Ordinary Leiomyomas and Leiomyosarcomas: A Review of Selected Variants with Emphasis on Recent Advances and Unusual Morphology That May Cause Concern for Malignancy. Advances in Anatomic Pathology: 2010; 17(2):91-112.
6. Chen L, Yang B. Immunohistochemical analysis of p16, p53, and Ki-67 expression in uterine smooth muscle tumors. Int J GynecolPathol. 2008;27(3):326-32.
7. Hornick JL. Novel uses of immunohistochemistry in the diagnosis and classification of soft tissue tumors. Modern Pathology. 2014;27:S47–S63.
8. Rubisz P, Ciebiera M, Hirnle L, Zgliczynska M, Tonizinki T, Dziegiel P, et al. The Usefulness of Immunohistochemistry in the Differential Diagnosis of Lesions Originating from the Myometrium. Int J Mol Sci. 2019;6:20(5):1136.

9. Pity IS, Muhi OS. Prevalence of Soft Tissue Tumours in Duhok-IraqA Practical Immunohistochemical Approach. JCDR. 2020;14(10): 21-26.
10. Ishidera Y, Yoshida H, Oi Y, Katyama K, Miyagi E, Hayashi H, et al. Analysis of uterine corporeal mesenchymal tumors occurring after menopause. BMC Women's Health. 2019; 19(13):doi: 10.1186/s12905-019-0714-5.4.
11. Chen X, Arend R, Hamele-Bena D, Tergas AI, Hawver M, Tong G-X, et al. Uterine Carcinosarcomas: Clinical, Histopathologic and Immunohistochemical Characteristics. Int J GynecolPathol. 2017;36(5):412-419.
12. Pity IS, Younus SA. Paediatric Malignant Blue Cell Tumours- A Practical Pathological and Immunohistochemical Study in Duhok, Iraq. JCDR. 2020;14(9):10-15.)
13. Bayder DF, Armutlu A, Aydin O, Daqdemir A, Yakuploglu YK. Desmoplastic small round cell tumor of the kidney: a case report. Diagnostic Pathology. 2020;15(95):1-9.
14. Pity IS, Jalal AJ, Hassawi BA. Hysterectomy. A Clinicopathologic Study. Tikrit Medical Journal. 2011;17(2):7-16.
15. Zimmermann A, Bernuit D, Gerlinger C, Schaefers M, Geppert K. Prevalence symptoms and management of uterine fibroids: an international internet-based survey of 21, 746 women. BMC Women Health. 2012;12(6):1-7.
16. Busca A, Parra-Herran C. Myxoid Mesenchymal Tumors of the Uterus: An Update on Classification, Definitions, and Differential Diagnosis. Adv AnatPathol. 2017;24(6):354-61.
17. Kita A, Maeda T, Kitajima K, Murakoshi H, Watanabe T, Inagaki M, Yoshida S. Epithelioid leiomyoma of the uterus: A case report with magnetic resonance. Women's health. 2022;34:00386.
18. Sikora-Szczęśniak DL. Uterine angioleiomyoma - a rare variant of uterine leiomyoma: review of literature and case reports. PrzMenopauzalny. 2016;15(3):165-9.
19. Meena LN, Aggarwal A, Jain S. Cotyledonoid Leiomyoma of Uterus.J ObstetGynaecol India. 2014; 64(2): 146–7.
20. Morales MM, Anacleto A, Leal CL, Caryalho S, Del'Arco J. Intravascular leiomyoma with heart extension. Clinics (Sao Paulo). 2012;67(1): 83–7.
21. Wasyluk T, Obrzut B, Gałązka K, Żmuda M, Obrzut M, Darmochwał-Kolarz D. Uterine myoma with massive lymphocytic infiltration – case report. PrzMenopauzalny. 2019;18(2):123–5.
22. . Zheng Y-Y, Liu X-B, Lin M-H. Smooth muscle tumor of uncertain malignant potential (STUMP): a clinicopathologic analysis of 26 cases. Int J Clin Exp Pathol. 2020;13(4):818-26.
23. El Agwany AS, Meleis M. Cervical angiomyxoma: a rare benign and recurrent cervical mass simulating common pathologies. Indian Journal of Gynecologic Oncology volume 2018; 16(34).

پوختە

وەرەمی مێزانشیماڵی منداڵدان لە دۆهوک-عێراق.
توێژینەوەی نەخۆشیناسی پراکتیکی

پێشەکی و ئارمانج: هەر چەندە وەرەمێن پرتە گوشتێ مالبچویکی یێنزیاندا هەتا چەندەکێ د بەلافەنینن، لێ دەست نیشانکرنا وان یا سنووردار کارەکێ گەلەك گرنگە بو مەبەستێن چارەسەرکرنێ و پێشبینیکرنێ، هەبوونا هندەك نیشانێن خانەیی یێن نافێکداچووی یا ڤان پەنجەشێرا دگەل وەرەمێن وان یێن بێ زیان و پتر بەلافە، وەکر کو ئەم پتر دلسۆزبین لسەر ڤەکولینێ دڤی بیاڤیدا و پێکهاتێن نەدیار یا ڤان وەرەمان ل مەڵبەندێن زانستێ نەخۆشیان لنك ئاشکەرا بکەین.

ئارمانج: ڤەکولینا لدویف ئێك بو وەرەمێن پرتە گوشتێ مالبچویکی ل ڤێ دەڤەرێ (دهوك - عیراق) و وەسفکرنا تایبەتمەندییێن وێ یێن مۆرفۆلۆجی و ئالۆز و دیارکرنا کارتێکرنا کیمیا خانەیی یا بەرگر ل سەر حالەتێن هوشداریکرنێ.

کەرەستە و رێك: دڤێ ڤەکولینا بڕگەییدا 3931 وەرمن ژ وەرەمێن پرتە گوشتێ مالبچویکی هاتنە وەرگرتن ژ بەشێن تویکارکرنا نەخۆشان ل تاقیگەهێن ڤین یا تایبەت و تاقیگەهێن گشتی یێن مەڵبەندی ل دهۆك - عیراق و ب درێژیا سێزدە سالان لدویف ئێك (کانیونا دووێ 2009 هەتا کانیونا ئێکێ 2021) و حالەت هاتنە پشکنین کرن، حالەتێن ئالۆز کەتنە بەر کارەکێ کیمیایی یێ بەرگر ب رێکا سیستەمێ Ultravision LP بو دیارکرنا قەبارێ مەزن و بولیمەر HRP ئامادە بو بکارئینانێ ژ Thermo Fisher Scientific و بکارئینانا تەکنیکارێ ڤاکسیندانا بەرگر یێ خودکار.

ئەنجام: وەرەمێن بێ زیان (97,4 ٪) ب رێژا (1 ٪) بسەر وەرەمێن زیاندار داگرتبوو، رێژا 1,6 ٪ ئەوا مایی پێکهاتبوو ژ وەرەمێن زەڤڵەکان یێن حولی و خودان شیانەکا زیاندارا نە سنووردار (SUMPT).

دەرئەنجام: دەست نیشانکرن و پۆلینکرنا پترپا وەرەمێن پرتە گوشتێ مالبچویکی یێ بێ زیان و زیاندار خانەیەکا تەتوومیا هشیاریێ بوو. دگەل وێ چەندێ د حالەتێن بێگوماندا، و پەنجەشێرێن جۆر بلند و وەرەمێن تێکهەلن کیمیا خانەیی یا بەرگر یا پێدڤیە و شیانێن بجهئینانێ هەنە ژبەر پرۆگرامکرنا وێ یا بساناهی. دگەل وێ چەندێ، هندەك حالەت دبنە جهێ گومانێ و پێدڤی ب تەکنیك کارەکا پێشکەفتی هەیە بو دەست نیشانکرنەکا هویر.

پەیڤێن سەرەکی: مالبچویك، وەرەمێن پرتە گوشتێ نافنجی، دەست نیشانکرن، بەرگری.

الخلاصة

أورام الرحم الوسيطة في دهوك-العراق.
دراسة باثولوجية عملية

الخلفية والأهداف: على الرغم من أن أورام اللحمة الرحمية الخبيثة غير شائعة نسبيا، إلا أن تشخيصها المحدد أمر بالغ الأهمية للأغراض العلاجية والتنبؤية. إن وجود بعض السمات النسيجية المتداخلة لهذه السرطانات مع أورامها الحميدة الأكثر شيوعا، جعلنا حريصين على البحث أكثر في هذا المجال واستكشاف المكونات غير الواضحة لهذه الأورام في مراكز علم الأمراض لدينا.

الأهداف: دراسة تواتر أورام اللحمة الرحمية في هذه المنطقة (دهوك - العراق)، ووصف خصائصها المورفولوجية المربكة وإبراز تأثير الكيمياء النسيجية المناعية على حالات الإنذار.

المواد والطرق: في هذه الدراسة المقطعية، تم تلقي 3931 ورما من أورام اللحمة الرحمية في أقسام التشريح المرضي في مختبرات فين الخاصة والمختبرات العامة المركزية في دهوك - العراق، على مدى 13 عاما متتالية (يناير 2009 إلى ديسمبر 2021). تم فحص الحالات شكليا. خضعت الحالات الملتبسة إلى عمل كيميائي مناعي عبر نظام UltraVision LPللكشف عن الحجم الكبير وبوليمر) HRP جاهز للاستخدام) من Thermo Fisher Scientific وباستخدام تقنية التلقيح المناعي الآلي.

النتائج: الأورام الحميدة (97.4٪) طغت على الأورام الخبيثة (1٪). وكانت نسبة 1.6٪ المتبقية تتكون من أورام العضلات الملساء ذات القدرة الخبيثة غير المحددة.(SUMPT)

الاستنتاجات: تشخيص وتصنيف معظم أورام اللحمة الرحمية الحميدة والخبيثة هو نسيج نووي فطنة. ومع ذلك، في الحالات التي لا لبس فيها، والسرطانات عالية الجودة والأورام المختلطة، تكون الكيمياء النسيجية المناعية ضرورية وقابلة للتطبيق بسبب منهجيتها السهلة. ومع ذلك، تظل بعض الحالات موضع شك وتتطلب تقنيات متقدمة للتشخيص الدقيق.