

ความชุก ลักษณะทางพยาธิวิทยาและชนิดของเนื้องอกเนื้อเยื่ออ่อนชนิดไม่ร้ายและมะเร็งบริเวณช่องท้องและช่องหลังช่องท้องในผู้ป่วยผู้ใหญ่ในโรงพยาบาลธรรมศาสตร์เฉลิมพระเกียรติ

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บทคัดย่อ

เนื้องอกเนื้อเยื่ออ่อนเป็นกลุ่มของเนื้องอกที่พบน้อย และวินิจฉัยได้ยาก การศึกษานี้มีวัตถุประสงค์เพื่อศึกษาถึงความชุก และชนิดของการเกิดเนื้องอกของเนื้อเยื่ออ่อนในช่องท้องและช่องหลังช่องท้องของผู้ป่วยผู้ใหญ่ในโรงพยาบาลธรรมศาสตร์เฉลิมพระเกียรติ รวมไปถึงข้อมูลทางคลินิกต่างๆ ของผู้ป่วย อาทิ เพศ อายุ ตำแหน่งที่เกิดเนื้องอก ขนาดของก้อน โดยเป็นการเก็บข้อมูลย้อนหลังตั้งแต่วันที่ 1 มกราคม พ.ศ. 2560 ถึงวันที่ 31 ธันวาคม พ.ศ. 2564 จากผู้ป่วยผู้ใหญ่อายุมากกว่า 15 ปี ที่ได้รับการผ่าตัดอย่างน้อยเป็นการผ่าตัดแบบการเจาะชิ้นเนื้อโดยใช้เข็มเพื่อเอาก้อนเนื้องอกออกมาส่งตรวจทางพยาธิวิทยาและมีผลการวินิจฉัยโรคตาม WHO classification of soft tissue and bone 2020 ผลการวิจัยพบว่า ผู้ป่วยที่เข้าเกณฑ์ทั้งสิ้น 56 ราย มีผู้ป่วยที่เป็นเนื้องอกชนิดไม่ร้าย 41.1% และชนิดมะเร็ง 58.9% พบเพศชายมากกว่าเพศหญิง เพศชายต่อเพศหญิง คิดเป็นอัตราส่วน 1.24:1 อายุเฉลี่ยของผู้ป่วยอยู่ที่ 53.5 ปี เนื้องอกของเนื้อเยื่ออ่อนในช่องท้องและช่องหลังช่องท้องมักมีขนาดมากกว่าหรือเท่ากับ 5 เซนติเมตร และพบมากบริเวณในช่องท้อง 21.2% ของเนื้องอกชนิดมะเร็งเกิดในหลายตำแหน่ง เนื้องอกชนิดมะเร็งส่วนใหญ่ที่พบอยู่ในกลุ่ม Gastrointestinal stromal tumor (GIST) เนื้องอกชนิดไม่ร้ายที่พบมากที่สุดเป็นกลุ่ม PEComa เคสส่วนมากเป็นการพบเจอโดยบังเอิญ (35.7%) โดยสรุปจากการศึกษาพบว่า ความชุก ข้อมูลทางคลินิกของผู้ป่วยมีผลการศึกษาบางส่วนใกล้เคียงเข้าได้กับงานวิจัยก่อนหน้านี้ แต่อาจมีความคลาดเคลื่อนเนื่องจากความต่างของประชากรและเคสที่ได้นำมาศึกษามีจำนวนน้อย

คำสำคัญ: เนื้องอกของเนื้อเยื่ออ่อน; ช่องท้อง; ช่องหลังช่องท้อง; ลักษณะทางคลินิกและพยาธิวิทยา

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Prevalence and pathological characteristics of benign and sarcomatous lesions in the abdominal cavity and retroperitoneum among adult at Thammasat University Hospital

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Abstract

Soft tissue tumors pose a challenge due to their rarity and complex diagnostic process. This pilot study aimed to investigate the prevalence and clinicopathological features of soft tissue tumors in the abdominal cavity and retroperitoneum in adults at Thammasat University Hospital. This descriptive retrospective study included patients aged at least 15 years who had undergone core needle biopsy and were diagnosed with soft tissue tumors according to the WHO classification of soft tissue and bone 2020. A total of 56 cases were collected by the Department of Pathology over 5 years from January 2017 to December 2021. Benign tumors accounted for 41.1% and sarcomas for 58.9% of the cases. The mean age of the patients was 53.5 years, ranging from 15 to 92 years, with 25 (44.6%) cases being female and 31 (55.4%) cases male. Most tumors were located in the abdominal cavity, with the majority being larger than 5 cm. Among sarcomas, 21.2% exhibited multiple foci. The most common sarcoma identified was gastrointestinal stromal tumor (GIST), while the most common benign tumor was PEComa. Incidental findings were observed in 35.7% of cases. The prevalence and clinicopathological findings of this study were consistent with previous research findings.

Keywords: soft tissue tumors; abdominal cavity; retroperitoneum; clinicopathological findings

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Introduction

Soft tissue tumors are tumors derived from mesenchymal cells. They are rare and challenging to diagnose. Less than 1% of all malignancies are sarcomas¹. Benign soft tissue tumors are more common than malignant ones by a ratio of about 100:1¹⁻³, but the proportion of benign or malignant tumors is difficult to determine. Approximately 20% of soft tissue sarcomas arise from the intraabdominal or retroperitoneal area. Since the signs and symptoms of intraabdominal and retroperitoneal soft tissue tumors are frequently subtle and unusual, diagnosis is often challenging. In addition to common symptoms of soft tissue tumors, bleeding, ascites, pressure feelings, and discomfort may be present, depending on the location of the tumor⁴. Size is a key clinical characteristics of soft tissue lesions. Tumors larger than 5 cm have a higher chance of malignancy^{2,6,7}. Neither Thammasat University Hospital nor Thailand has collected data on patients with soft tissue tumors in the abdominal cavity and retroperitoneum.

Objectives

This study aimed to determine the number of cases and clinicopathological features of soft tissue tumors in the abdominal cavity and retroperitoneum of adult patients. Factors analyzed included age, gender, tumor location, focality, size, and clinical presentation.

Materials and Methods

This descriptive retrospective study collected data on patients at least 15 years old who had soft tissue tumors in their abdominal cavities or retroperitoneum and had undergone at least a core needle biopsy at Thammasat University Hospital. All cases were received at the Department of Pathology during the five-year period from 1 January 2017 to 31 December 2021. The final pathologic diagnosis was in accordance with the WHO classification of tumors of soft tissue and bone (2020). Tumors with ICD-O /0, /1, and /2 are classified as benign, while tumors with ICD-O/3 are malignancy. The data from all cases, both benign and malignant, were obtained from the hospital's electronic database, and included age, gender, tumor location, focality, size, clinical presentation, and pathological diagnosis.

Results

During the five-year period from 1 January 2017 to 31 December 2021, the Department of Pathology at Thammasat University Hospital in Bangkok collected a total of 56 cases of soft tissue tumors (Table 1).

Table 1 Clinicopathologic characteristics of study cases (N = 56), (number of cases, %)

Characteristic	Benign (%)	Malignant (%)	Total (%)
Gender			
Male	11 (47.8)	20 (60.6)	31 (55.4)
Female	12 (52.2)	13 (39.4)	25 (44.6)
Age			
Range	15-79	22-92	15-92
Mean	50.8	55.4	53.5
Tumor location			
Abdominal cavity	13 (56.5)	26 (78.8)	39 (69.3)
Retroperitoneum	10 (43.5)	7 (21.2)	17 (30.7)
Tumor focality			
Single focus	23 (100)	26 (78.8)	49 (87.5)
Multiple foci	0 (0)	7 (21.2)	7 (12.5)
Tumor size (Range = 1-38 cm)			
>5 cm	7 (30.4)	6 (18.2)	13 (23.2)
≥5 cm	16 (69.6)	27 (81.8)	43 (76.8)
Total	23 (41.1)	33 (58.9)	56 (100)

Of the 56 soft tissue tumors collected, 58.9% were sarcomas and 41.1% were benign. The ratio of males to females in all soft tissue tumors of the abdominal cavity and retroperitoneum was 1.24:1. Sarcomas exhibited a slight male predominance, with a male to female ratio of 1:1.09, while the ratio for benign tumors was 1:1.53. The mean age

of the patients was 53.5 years, ranging from 15 to 92 years. Among sarcomas, 78.8% occurred in the abdominal cavity, 81.8% were larger than 5 cm, and 21.1% had multiple foci. For benign soft tissue tumors, 56.5% occurred in the abdominal cavity, 69.9% were larger than 5 cm, and all cases were solitary.

Table 2 Histologic groups of soft tissue tumor in abdominal cavity and retroperitoneum (N = 56), (number of cases, %)

Diagnostic group	Benign (%)	Malignant (%)	Total (%)
Gastrointestinal stromal tumor	0 (0)	19 (57.6)	19 (33.9)
Adipocytic tumors	6 (26.1)	5 (15.2)	11 (19.6)
Smooth muscle tumors	1 (4.3)	8 (24.2)	9 (16.1)
Tumors of uncertain differentiation	7 (30.4)	0 (0)	7 (12.5)
Vascular tumors	7 (30.4)	0 (0)	7 (12.5)
Nerve sheath tumors	1 (4.3)	1 (3.0)	2 (3.5)
Fibroblastic / myofibroblastic tumors	1 (4.3)	0 (0)	1 (1.8)
Total	23 (100)	33 (100)	56 (100)

In our study, the most common sarcoma was gastrointestinal stromal tumor (57.6%), followed by smooth muscle tumors (24.2%) and adipocytic tumors (15.2%). All 8 cases of smooth muscle tumor were leiomyosarcomas. Adipocytic tumors comprised four cases of dedifferentiated liposarcoma and one case of atypical lipomatous tumor / well-differentiated liposarcoma.

Regarding benign soft tissue tumors, tumors of uncertain differentiation (30.4%) and vascular tumors (30.4%) were the most common, followed by adipocytic tumors (26.1%). All seven cases of tumors of uncertain differentiation were identified as PEComas. Vascular tumors consisted of six cases of hemangioma and one case of lymphangioma.

Table 3 Clinical presentation of soft tissue tumor in abdominal cavity and retroperitoneum (N = 56), (number of cases, %)

Clinical presentation	Benign (%)	Malignant (%)	Total (%)
Incidental finding	13 (56.5)	7 (21.2)	20 (35.7)
Palpable mass	1 (4.3)	12 (36.4)	13 (23.2)
Abdominal pain	6 (26.1)	3 (9.1)	9 (16.1)
Bleeding	1 (4.3)	5 (15.2)	6 (10.7)
Abdominal distension	0 (0)	4 (12.1)	4 (7.1)
Weight loss	1 (4.3)	2 (6.1)	3 (5.4)
Other	1 (4.3)	0 (0)	1 (1.8)
Total	23 (100)	33 (100)	56 (100)

Among the patients with sarcomas, 36.4% presented with palpable mass, whereas 56.5% of the benign soft tissue tumors were discovered incidentally.

Discussion

In our study, 58.9% of the tumors were sarcomas, while 41.1% were benign. This finding is comparable to studies by Muzaffer⁴ and Sassa N⁸, which reported higher prevalence of malignant tumors (66.7-80%) than benign tumors (20-33.3%) in the retroperitoneum and abdominal cavity.

In this study, 55.4% of the cases were males and 44.6% were females. This distribution resembles those of studies by Syam Sundar B⁹, Dutta C¹⁰, Reshadi H¹¹ and Toro JR¹². However, some studies show a predominance of female cases. The correlation between gender and soft tissue tumors is difficult to evaluate because of variations in the characteristics studied.

In this study, the mean age for soft tissue tumors and sarcomas was 53.5 and 55.4 years, respectively. Similarly, Basted BD¹³ and Jain P¹⁴ reported that the typical age group of soft tissue tumors is 50-60 years, while Syam sundar B⁹ and Gronchi¹⁵ reported that the typical age group of sarcomas is 51-60 years and 57 years, respectively.

The majority of sarcoma cases in this study were gastrointestinal stromal tumor (GIST), leiomyosarcoma, and liposarcoma, which is consistent with findings of Gronchi A¹⁵ Huggett D¹⁶ and Levy AD¹⁷. The majority of benign tumors were PEComas. Notably,

PEComas are the most common soft tissue tumors arising in the kidneys^{15,18}.

Most soft tissue tumors in our study occurred in the abdominal cavity and were larger than 5 cm. The mean sizes of sarcomas and benign tumors were 15.6 and 5.2 cm, respectively. This size is consistent with findings from various other studies^{17,19}, which reported that the size of sarcomas arising in the abdominal cavity and retroperitoneum was larger than 5 cm. In our study, 21.2% of sarcomas were multiple foci, while all benign tumors were solitary. Theodosopoulos T²⁰ and Anaya DA²¹ reported that 20.3% and 31% of sarcomas at the retroperitoneum were multiple foci.

A limitation of this study is the small sample size, which was a consequence of the COVID-19 pandemic. Another limitation is that it was conducted in only a single tertiary care center.

Conclusion

Soft tumors arising in abdominal cavity and retroperitoneum are rare. Sarcomas are more common than benign tumors. The most common soft tissue tumor in abdominal cavity and retroperitoneum were GIST and angiomyolipoma, respectively.

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