

# Clinical, Surgical, and Long-term Results of Resected Solitary Fibrous Tumors of the Pleura

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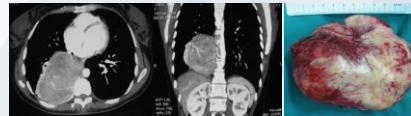
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## Background (I)

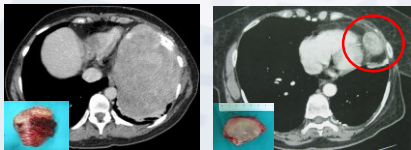
- Solitary fibrous tumors of the pleura (SFTsP) are uncommon mesenchymal tumors with unpredictable course
- The majority of them are masses with benign histologic features



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## Background (II)

- About 12% of SFTsP are malignant and eventually lead to death through local recurrence or metastatic disease



- Surgery represents the treatment of choice

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## Objective

To evaluate:

- clinical characteristics
- surgical results
- long-term outcomes

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## Methods

- We retrospectively reviewed the medical records of all patients who underwent resection of SFTsP between January 1998 and December 2016 using a prospective database
- Statistical analysis was performed to identify prognostic factors
- Kaplan-Meier method was used to calculate survival



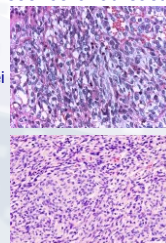
## Criteria for classification of SFTsP

Tumors were classified as malignant in the presence of at least one of the following criteria:

- high mitotic activity ( $> 4$  mitosis/10HPF)
- high cellularity with crowding and overlapping of nuclei
- presence of necrosis
- pleomorphism

England DM et al. Am J Surg Pathol 1989;13:640-58

otherwise, they were considered as benign



## Preoperative Evaluation

- History
- Physical examination
- Routine blood tests
- Standard chest X-ray
- Cardiological evaluation
- Spirometry
- Bronchoscopy and/or FNAB
- Thoracic CT scan
- PET scan



## Patients Characteristics

|                     |                       |
|---------------------|-----------------------|
| • N° of patients    | 128                   |
| • Sex ratio         | 65 M / 63 F           |
| • Median age        | 61 (range, 28-78 yrs) |
| • Clinical symptoms | 75 pts (58.6%)        |
| Chest pain          | 29 (22.6%)            |
| Cough               | 22 (17.2%)            |
| Dyspnea             | 9 (7.0%)              |
| Multiple symptoms   | 15 (11.8%)            |



### Surgical Results (I)

- Side 72 R / 56 L
- Operative approach
 

|               |            |
|---------------|------------|
| Thoracoscopy  | 92 (71.8%) |
| Thoracotomy   | 32 (25.0%) |
| Hemiclamshell | 2 (1.6%)   |
| Sternotomy    | 2 (1.6%)   |



### Surgical Results (II)

- Tumor origin
 

|                 |            |
|-----------------|------------|
| Visceral pleura | 83 (64.8%) |
| Parietal pleura | 45 (35.2%) |
- Tumor aspect
 

|                |            |
|----------------|------------|
| Polypoid       | 81 (63.3%) |
| Sessile        | 47 (36.7%) |
| Intrapulmonary | 0          |



### Surgical Results (III)

- Surgical intervention
 

|                                |            |
|--------------------------------|------------|
| Pulmonary wedge resection      | 95 (74.3%) |
| Lobectomy                      | 9 (7.0%)   |
| Pneumonectomy                  | 4 (3.1%)   |
| Wide parietal pleural excision | 20 (15.6%) |
- Chest wall resection
 

|                             |          |
|-----------------------------|----------|
| 4 (3.1%)                    |          |
| With pulmonary resection    | 3 (2.3%) |
| Without pulmonary resection | 1 (0.8%) |
- Complete resection 127/128 (99.2%)



### Postoperative Results Pathology

- Histology
 

|           |             |
|-----------|-------------|
| Benign    | 105 (82.1%) |
| Malignant | 23 (17.9%)  |
- Tumor diameter (median, range)
 

|                    |                 |
|--------------------|-----------------|
| 5.5 cm (0.7-25 cm) |                 |
| Benign             | 4.8 (0.7-22 cm) |
| Malignant          | 6.4 (3.4-25 cm) |



## Postoperative Results Surgical

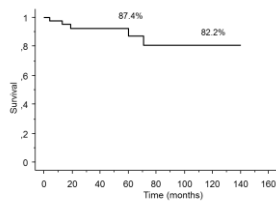
|                                 |                    |
|---------------------------------|--------------------|
| • Operative mortality           | 1 (0.8%)           |
| • Postoperative mortality       | 0                  |
| • Major Complications           | 3 (2.3%)           |
| Hemothorax                      | 1 (3.2%)           |
| • Minor Complications           | 8 (25.8%)          |
| Arrhythmia                      | 4 (3.1%)           |
| Atelectasis                     | 5 (3.9%)           |
| Air leaks                       | 3 (2.3%)           |
| • Hospital stay (median, range) | 5 days (3-11 days) |

## Comparison of clinical and anatomical characteristics

| Variable                        | Benign<br>(n=105) | Malignant<br>(n=23) | p     |
|---------------------------------|-------------------|---------------------|-------|
| Age (years)                     | 61 (58.1%)        | 13 (56.5%)          | 0.688 |
| Sex (M/F)                       | 52M/53F           | 13M/10F             | 0.743 |
| Side (R/L)                      | 63/42             | 9/14                | 0.225 |
| Presence of symptoms            | 56 (53.3%)        | 19 (82.6%)          | <.01  |
| Tumor origin (parietal/pleural) | 29 (27.6%)        | 16 (69.6%)          | <.01  |
| Tumor aspect (sessile)          | 33 (31.4%)        | 14 (60.9%)          | <.01  |
| Tumor size (median)             | 4.8 cm            | 6.4 cm              | <.01  |

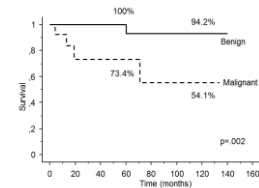
## Long-Term Outcome

Follow-up was completed for all patients (mean 74 m, range 1-176)



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Recurrence 3 (2.3%)

### Conclusions

- Surgical resection of benign SFTsP has an excellent long-term prognosis
- Prolonged survival following resection of malignant SFTsP is possible
- Recurrence of SFTsP is an ominous finding and surgery is the best therapeutic treatment



*Thank you for your attention!*