SOUTH EAST ASIAN THORACIC SOCIETY
S E A T S

A Case Series of Intrathoracic Solitary Fibrous Tumour at Hospital Serdang

TS CHANG[1], MI ISMAIL[1], O NORIAH[2], S GANAPATY[2], A SALLEH[1], AM JASID[1], MN MOHAMAD ARIF[1]

[1] CARDIOTHORACIC DEPARTMENT, HOSPITAL SERDANG, MALAYSIA
[2] PATHOLOGY DEPARTMENT, HOSPITAL SERDANG, MALAYSIA

TOGETHER FOR EXCELLENCE
HOSPITAL SERDANG

Introduction

Solitary fibrous tumour (SFT)

- Previously described as localised mesothelioma, hemangiopericytoma, localised benign fibroma and localised fibrous tumour
- originated from mesenchymal cells
- Rare, slow growing neoplasm
- Most frequently occurred in pleural
- Occasionally arising from other sites such as lung parenchymal, mediastinum or pericardium[1]
- Extra-thoracic sites: meninges, nasal & oral cavity, breast, kidney, bladder

Introduction

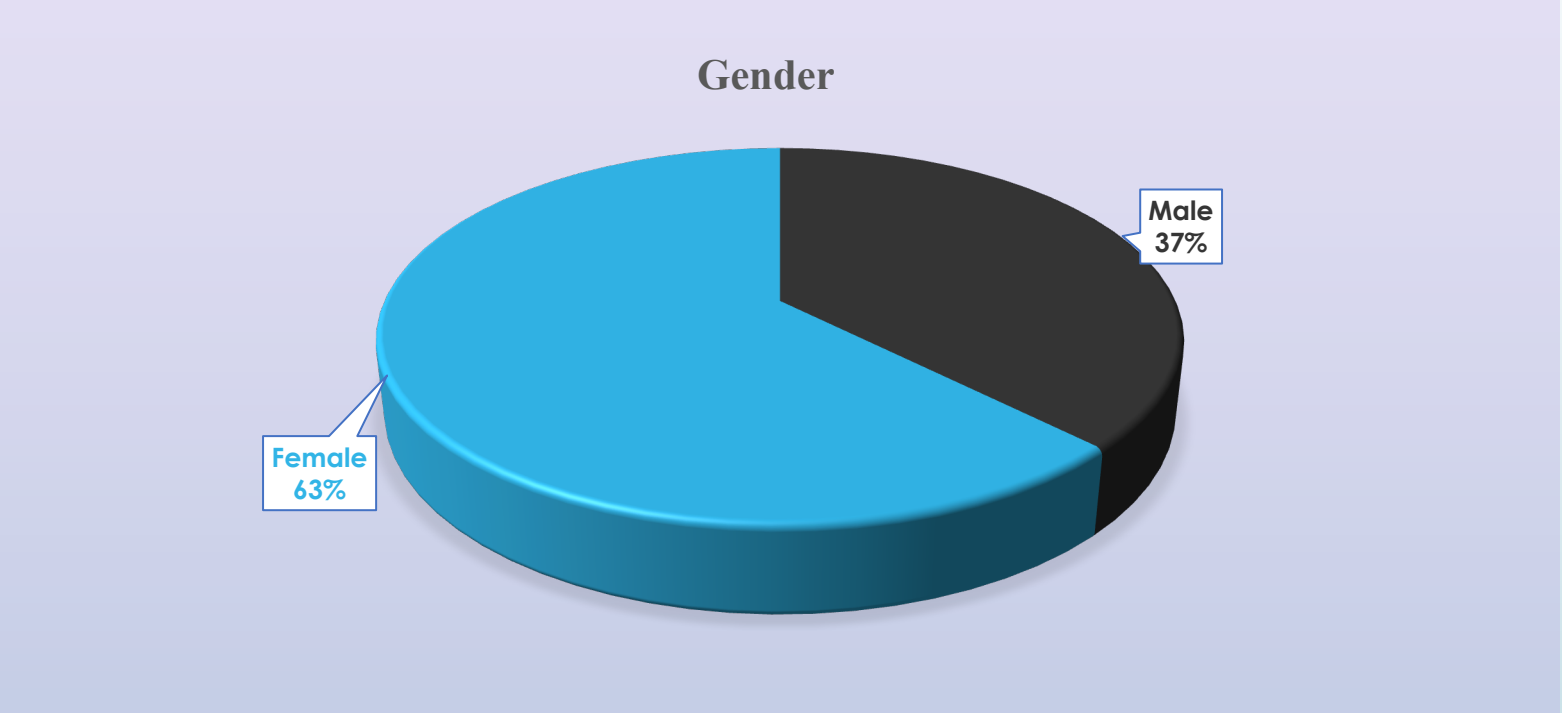
- Unpredictable clinical courses
  - Benign features- asymptomatic
  - Malignant features
    - Invasion into surrounding structures
    - Recurrence and metastatic disease
    - Histological criteria including: >4 mitotic figures per 10 high-power fields, pleomorphism, hypercellularity, haemorrhage and/or necrosis
- Complete surgical resection of tumour remained the mainstay treatment[3]
- Minority of patients need chemotherapy/ radiotherapy

Methods

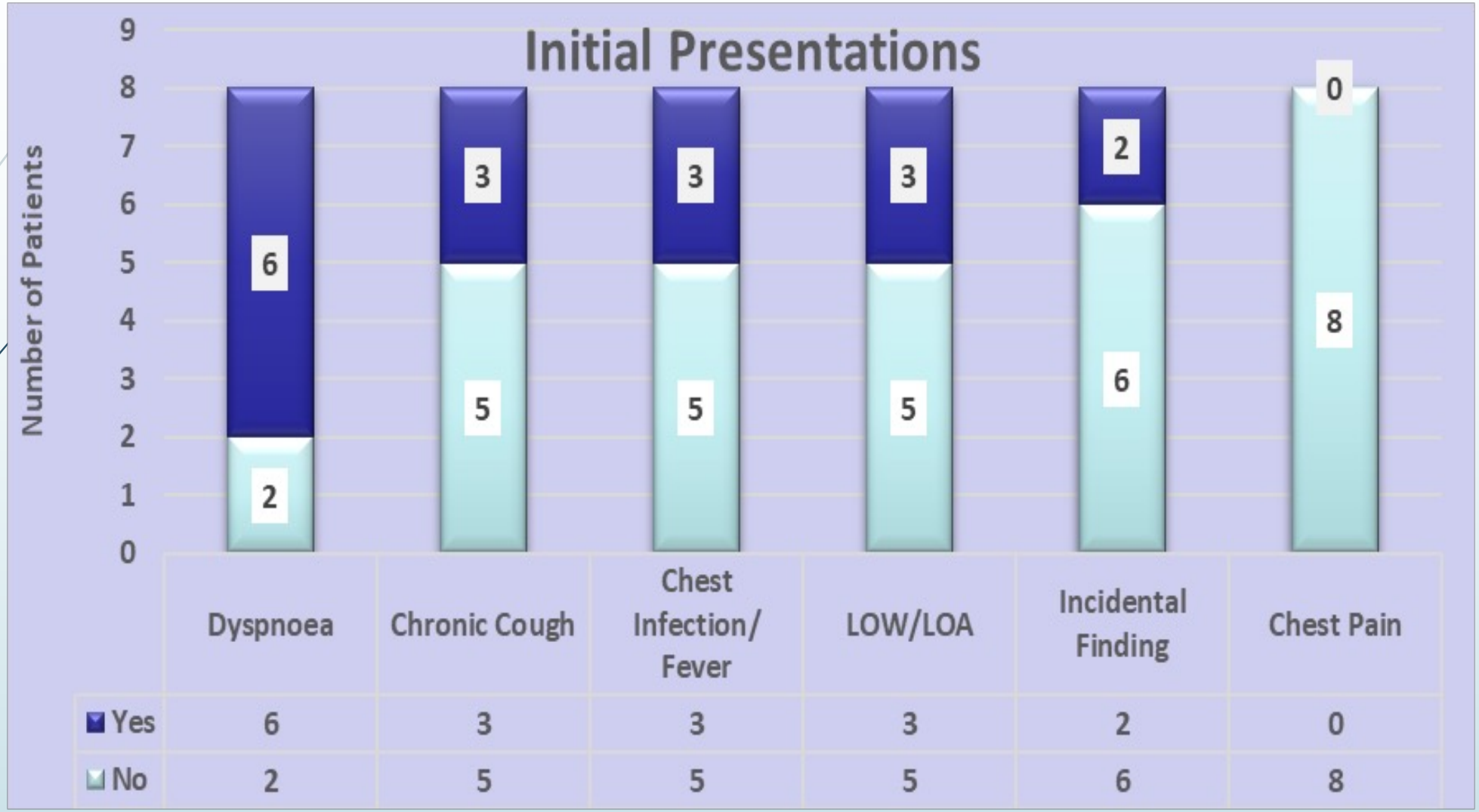
- A retrospective analysis
  - A total of 8 patients underwent solitary fibrous tumour resection in Hospital Serdang
  - January 2010 to March 2022
- Endpoints of this study were to address
  - Initial presentations
  - Diagnostic imaging modalities
  - Perioperative morbidities
  - Length of hospital stay
  - Recurrence rate

Results

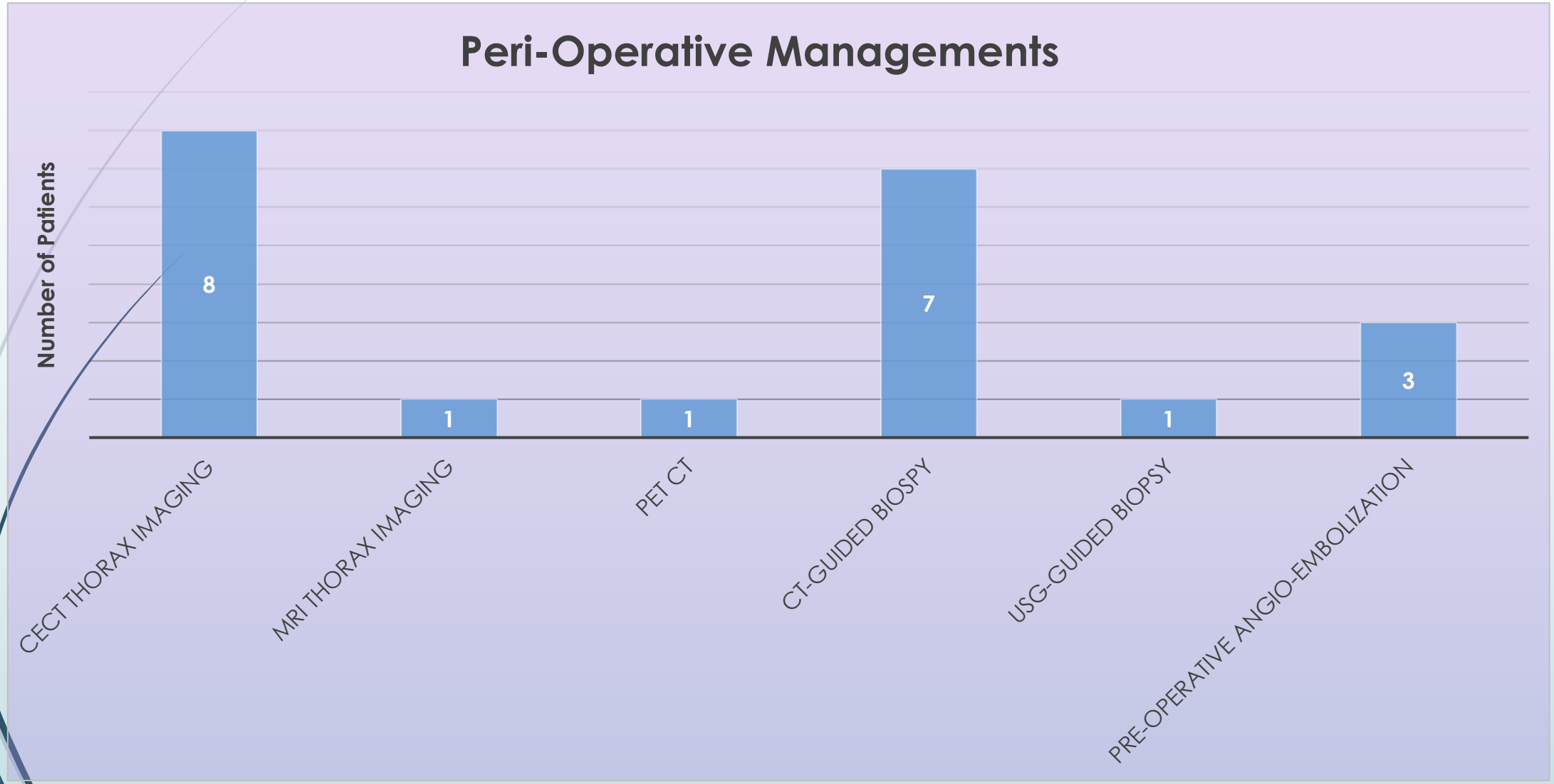
- Age
  - Mean age 59.5 (+/- 6.7) years old
- Gender



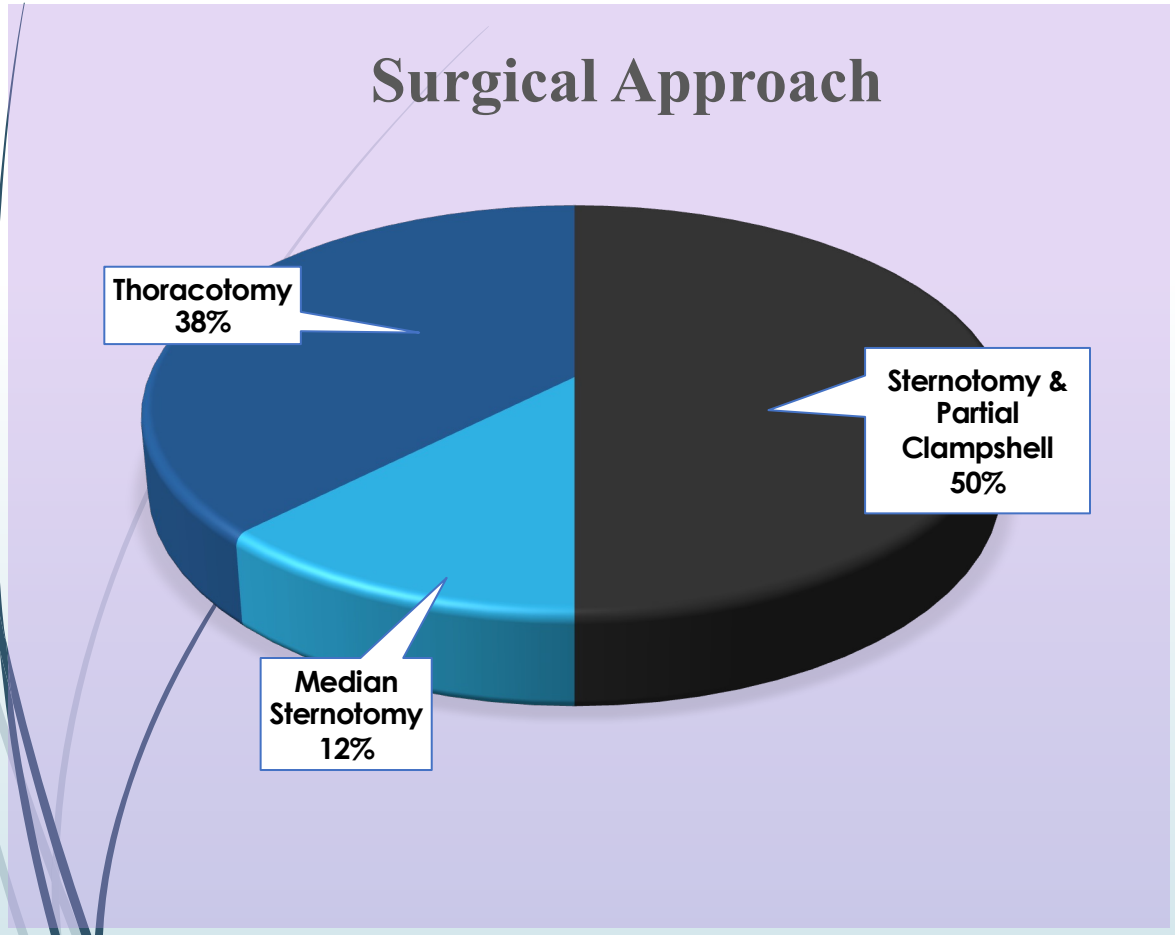
Results

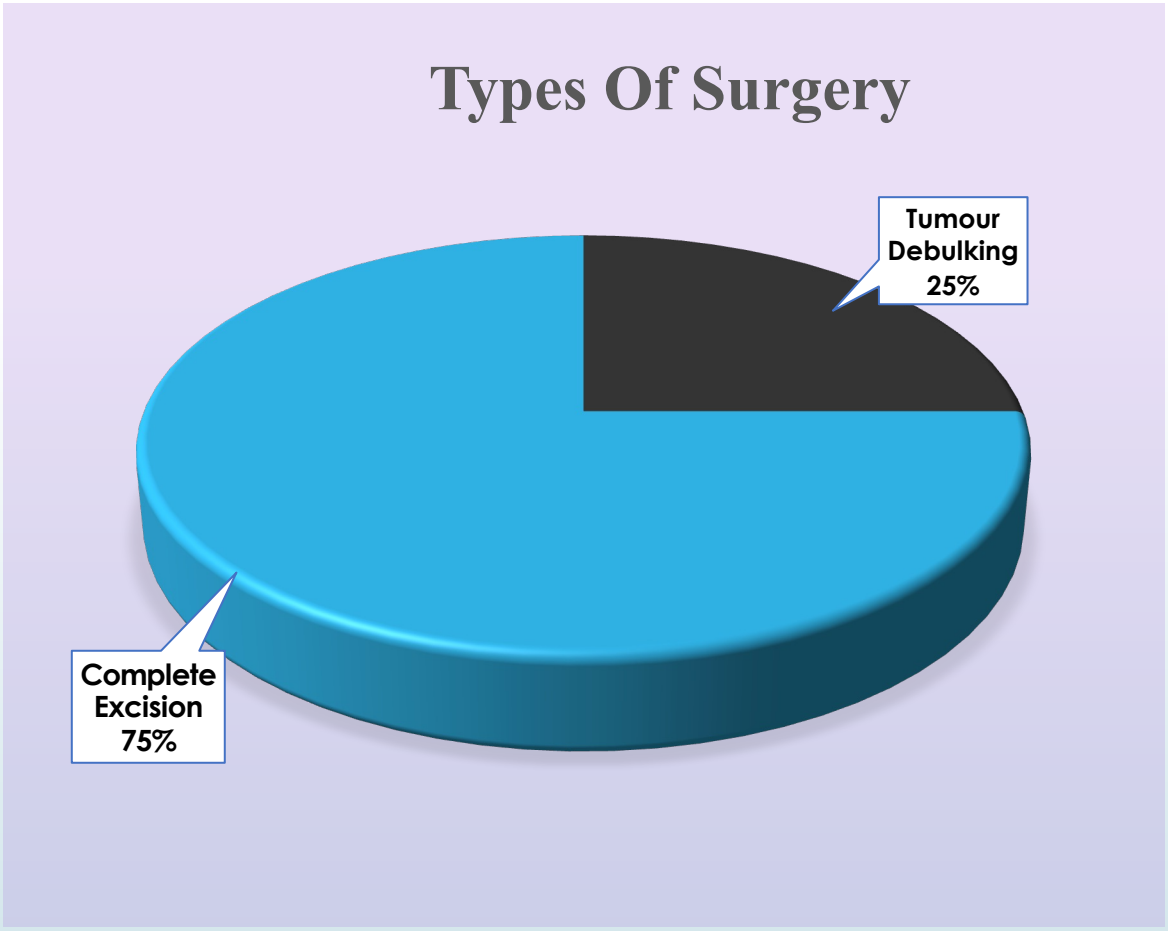

Initial Presentations
Number of Patients
9
8
7
6
5
4
3
2
1
0
6
2
3
5
3
5
3
5
2
6
0
8
Dyspnoea
Chronic Cough
Chest Infection/ Fever
LOW/LOA
Incidental Finding
Chest Pain
Yes 6 3 3 3 2 0
No 2 5 5 5 6 8

Results

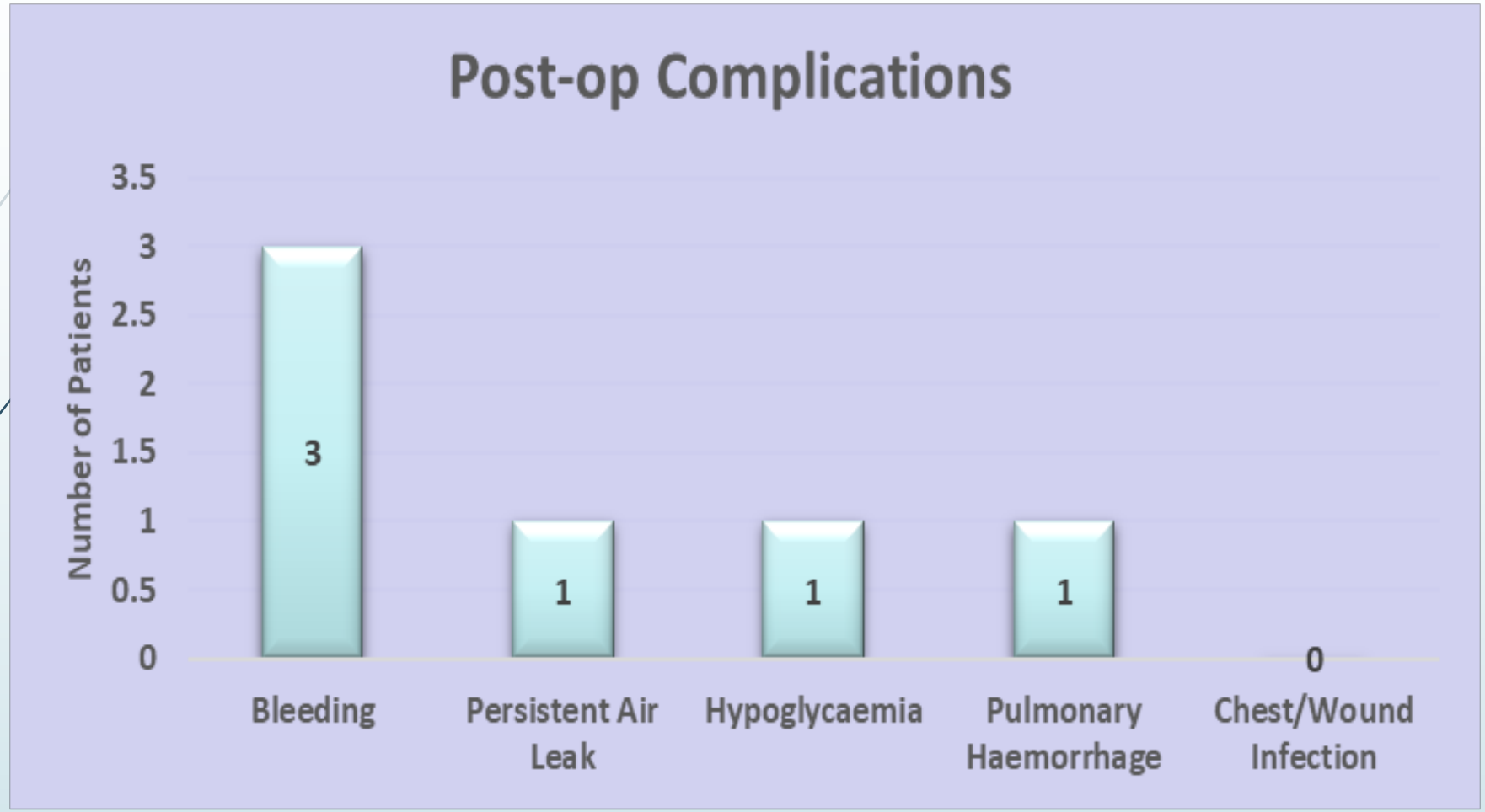

Peri-Operative Managements
Number of Patients
8
1
1
7
1
3
CECT THORAX IMAGING
MRI THORAX IMAGING
PET CT
CT-GUIDED BIOSPY
USG-GUIDED BIOPSY
PRE-OPERATIVE ANGIO-EMBOLIZATION

Results

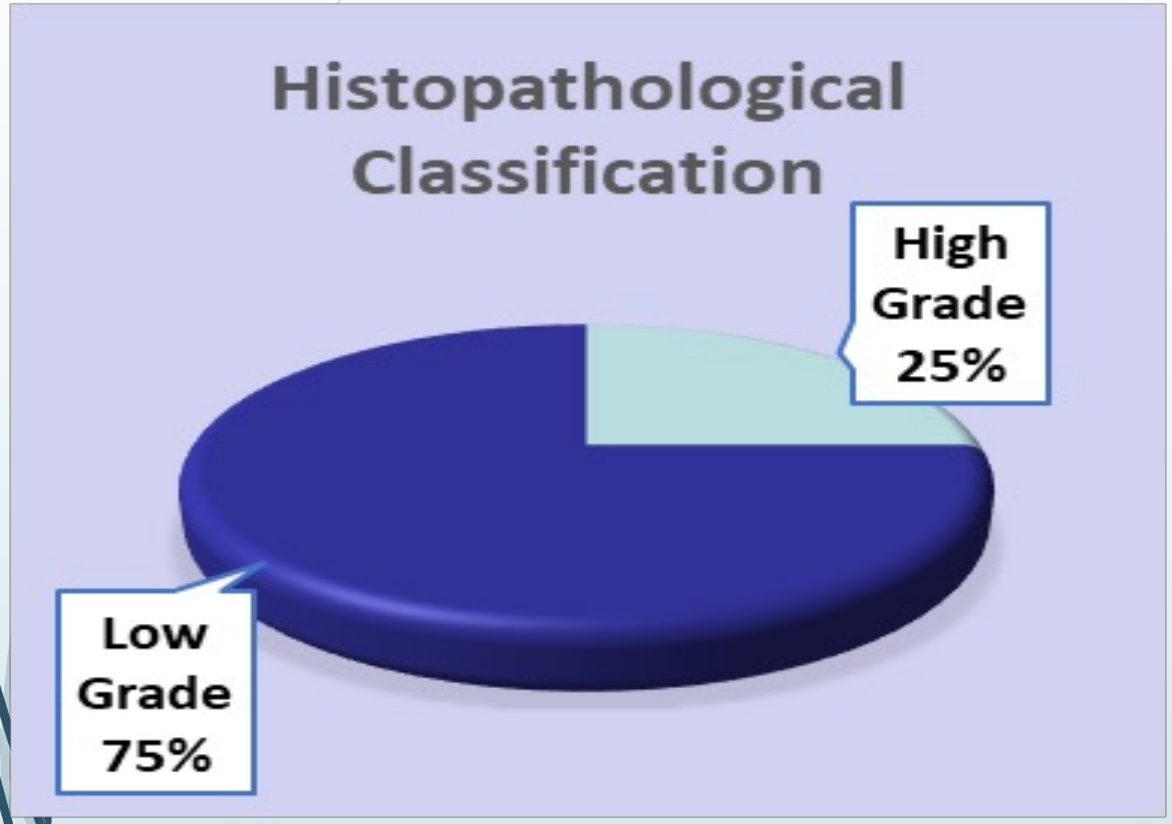

Surgical Approach
Thoracotomy 38%
Sternotomy & Partial Clampshell 50%
Median Sternotomy 12%

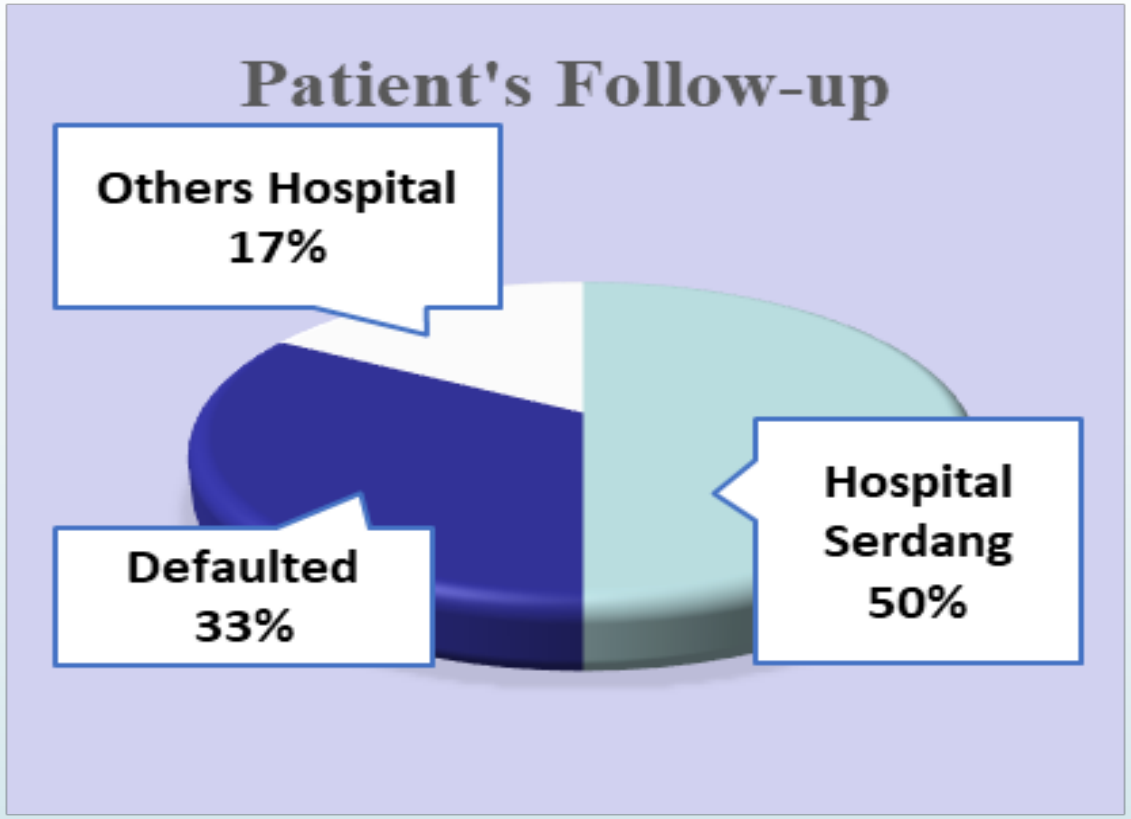

Types Of Surgery
Tumour Debulking 25%
Complete Excision 75%

Results


Post-op Complications
Number of Patients
3.5
3
2.5
2
1.5
1
0.5
0
3
1
1
1
0
Bleeding
Persistent Air Leak
Hypoglycaemia
Pulmonary Haemorrhage
Chest/Wound Infection

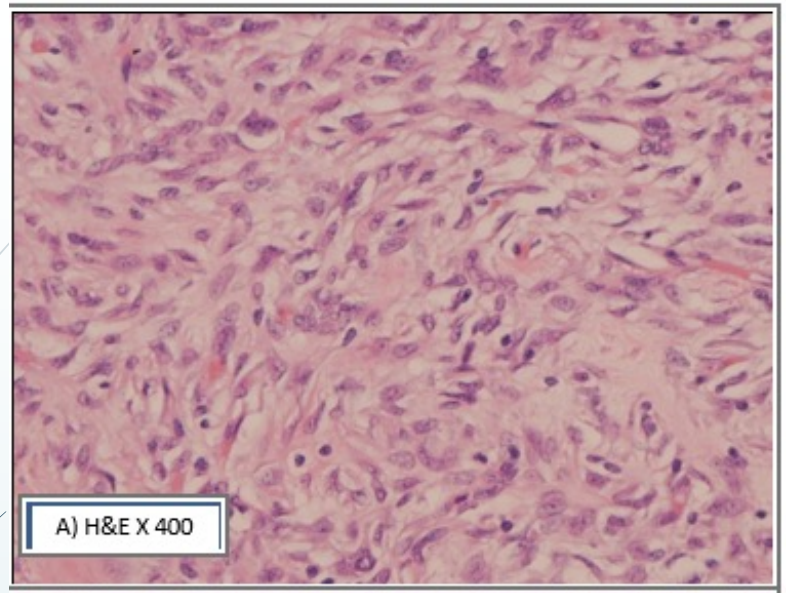
Results


Histopathological Classification
High Grade 25%
Low Grade 75%

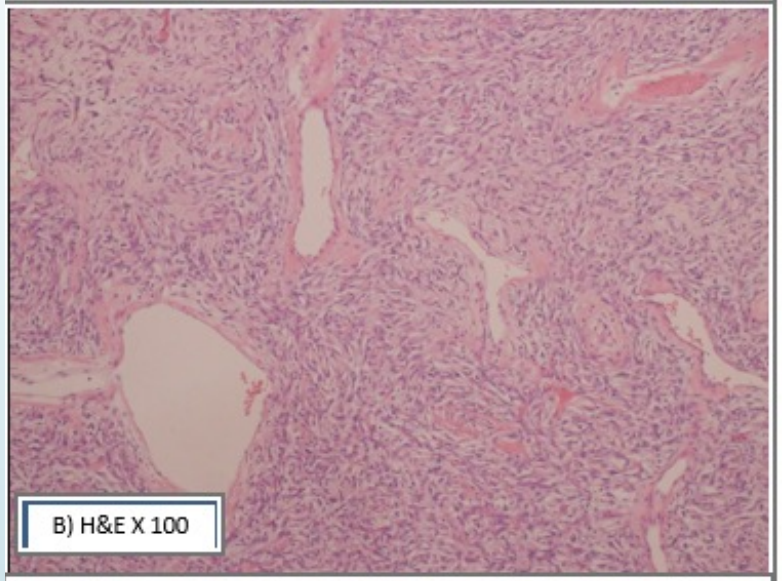

Patient's Follow-up
Others Hospital 17%
Hospital Serdang 50%
Defaulted 33%

Results

Low risk



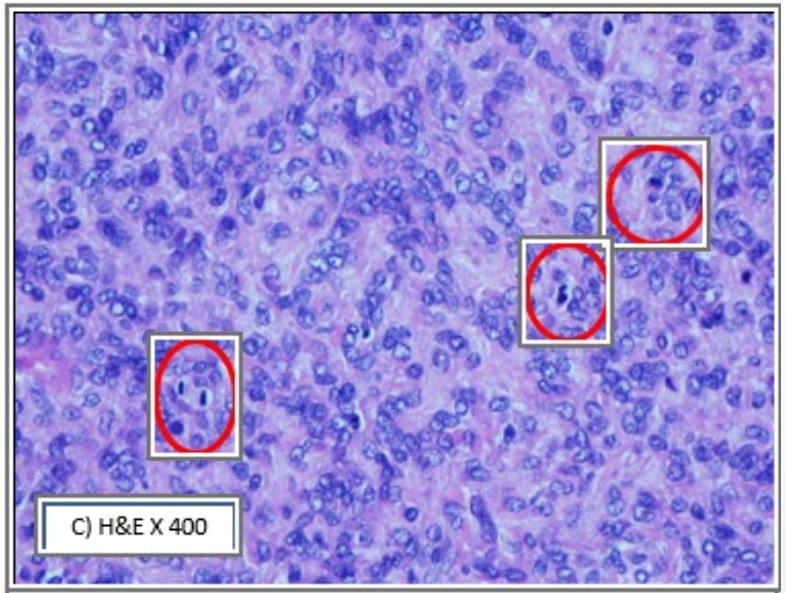
A) H&E X 400



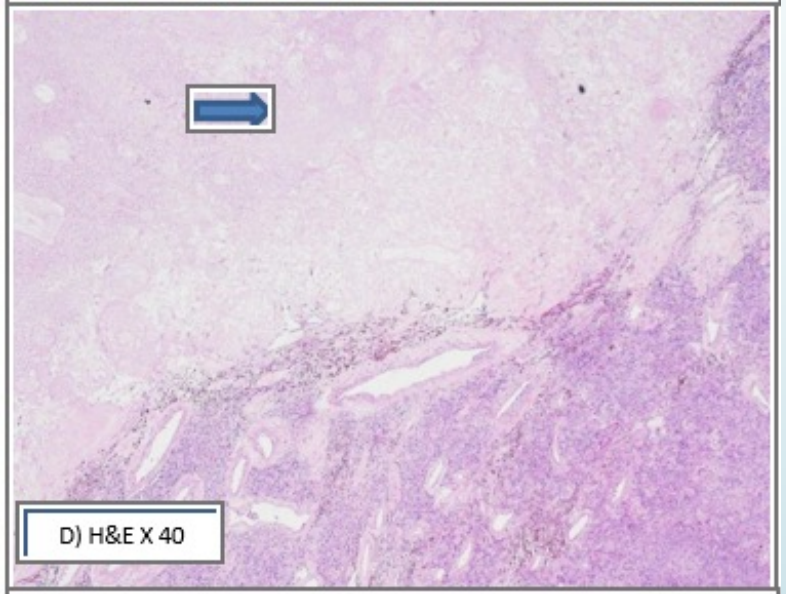
B) H&E X 100

The tumour is composed of haphazardly arranged spindle shaped cells with intervening hyalinized vessels (Figure A&B) . No nuclear atypia, mitosis or necrosis.

High risk



C) H&E X 400



D) H&E X 40

This tumour shows nuclear atypia, increased mitotic activity (Figure C) and necrosis (*arrow*) (Figure D).

Results

- CECT Thorax images and intra-operative specimen for a case of recurrence solitary fibrous tumour of left lung

Results

- Mean length of hospital stay is 8.6 (+/- 8.3) days
- The incidence of postoperative mortality within 30 days is 12.5%.
- 1 patient with recurrence of solitary fibrous tumour despite histopathological examination (HPE) showed clear margins after 7 years from first surgery
  - tumour debulking surgery due to extensive of the tumour & chemotherapy post-operatively.

Discussions

- Solitary fibrous tumour has unpredictable clinical courses
  - Asymptomatic
  - Local symptoms
  - Systemic symptoms: hypoglycaemia, finger clubbing, arthralgia, osteoarthropathy
- Pre- operative workup for extensive disease for better surgical planning
  - MRI Thorax
  - PET CT
  - CT angiography- role of angio-embolization
- Longer post-operative follow-up
  - According to high risk / low risk SFT groups
  - Rachel et al (2020) reported about 48% of recurrence cases within 5 years, 23 % of recurrence cases after 5 years

Conclusion

- Complete surgical resection of tumour remains mainstay treatment for intrathoracic solitary fibrous tumour
- Post operative follow-up should be longer 5-10 years
  - Risk of disease recurrence, especially for high-risk solitary fibrous tumour

Referrences

1. Perrotta F, Cerqua FS, Cammarata A, Izzo A, Bergaminelli C, Curcio C, Guarino C, Grella E, Forzano I, Cennamo A, Tafuri D. Integrated therapeutic approach to giant solitary fibrous tumor of the pleura: report of a case and review of the literature. Open Medicine. 2016 Jan 1;11(1):220-5
2. De Perrot M, Fischer S, Brundler MA, et al. Solitary fibrous tumors of the pleura. Ann Thorac Surg. 2002;74:285-293
3. De Leval L, Defraigne JO, Hermans G, et al. Malignant solitary fibrous tumor of the pleura: report of a case with cytogenetic analysis. Virchows Arch. 2003;442:388-392. Epub 2003 Feb 27
4. Lococo F, Cardillo G, Spaggiari L, et al. Malignant solitary fibrous tumors: clinical characteristics, surgical treatment and long-term outcome in a multi-centric series of 50 patients. Eur Surg Res 2012; 49: 186.