



EP14.07: Pulmonary Sarcomatoid Carcinoma: A Clinicopathological Case Series From a Single Institute

Khosla D, Dogra S, Bal A, Kapoor R, Singh N, Gupta N, Garg M.
Postgraduate Institute of Medical Education and Research (PGIMER), Chandigarh/IN
Correspondence: dr_divya_khosla@yahoo.com



INTRODUCTION

- Pulmonary sarcomatoid carcinoma (PSC) is a rare, highly aggressive variant of non small cell lung carcinoma.
- Histological overlap with true sarcomas and poorly differentiated carcinoma imposes a diagnostic challenge.
- Accurate diagnosis requires morphological assessment along with immunohistochemistry (IHC).
- Unfavorable clinical outcomes with advanced stage and poor treatment response.

METHODS

RETROSPECTIVE CASE SERIES

- **Study Design:** Single tertiary care institute, retrospective case series of patients diagnosed with pulmonary sarcomatoid carcinoma (PSC) between January 2018 and December 2024.
- **Data Collection:** Demographic and clinical characteristics, smoking history, radiological findings, histopathological subtype, IHC and available molecular profile were analysed.
- **Treatment Details:** Information regarding systemic therapy, radiotherapy was collected.
- **Outcomes:** Treatment response, patterns of progression/recurrence and available survival outcomes were evaluated.
- **Statistical Analysis:** Descriptive statistics were used to summarise clinicopathological characteristics, treatment patterns and outcomes.

RESULTS

TOTAL PATIENTS
11

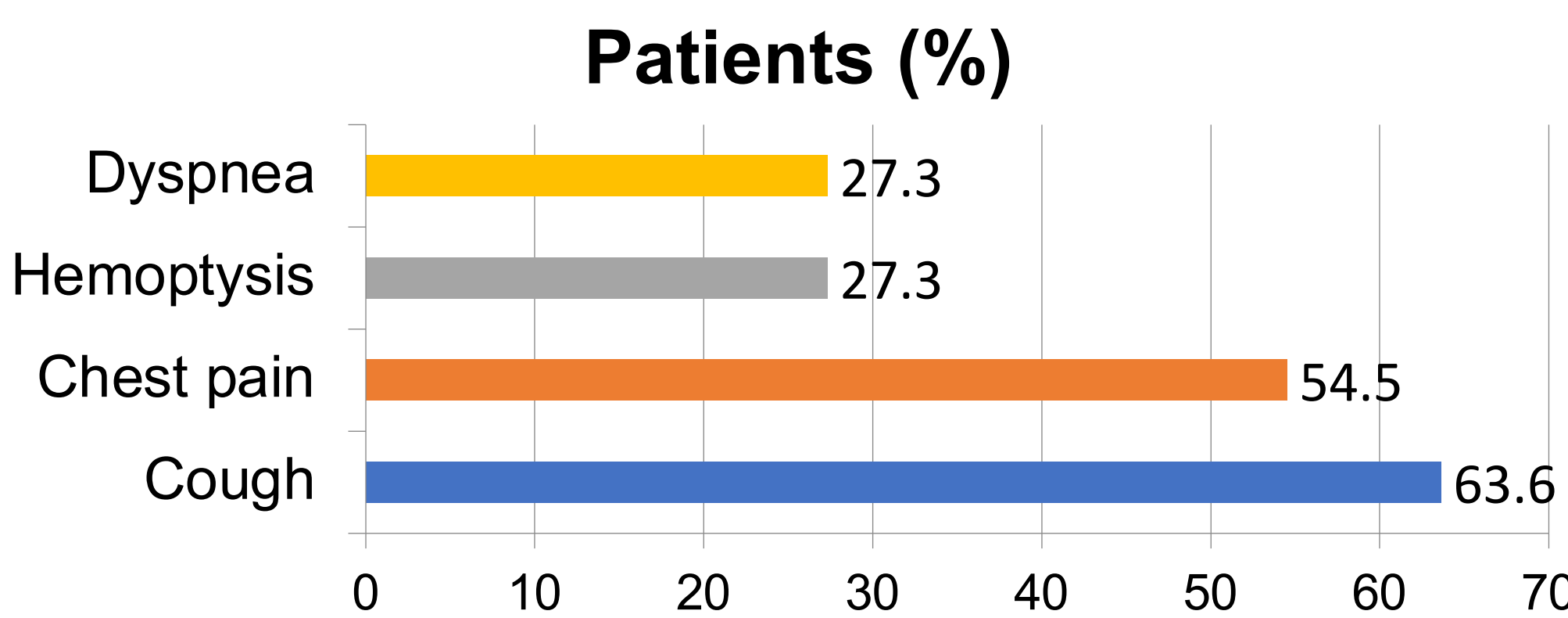
MEDIAN AGE
60 years
Range 43–77

MALE
64%
7/11

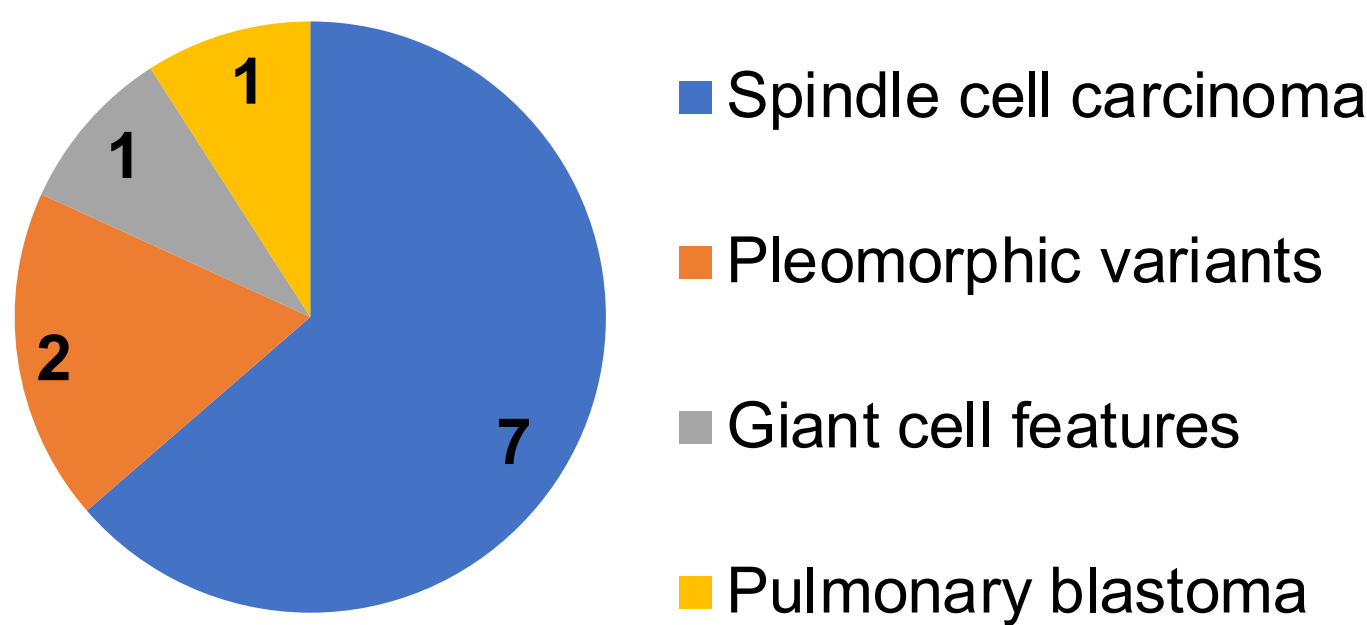
SMOKERS
64%
7/11

ADVANCED DISEASE
100%
11/11

PRESENTING SYMPTOMS

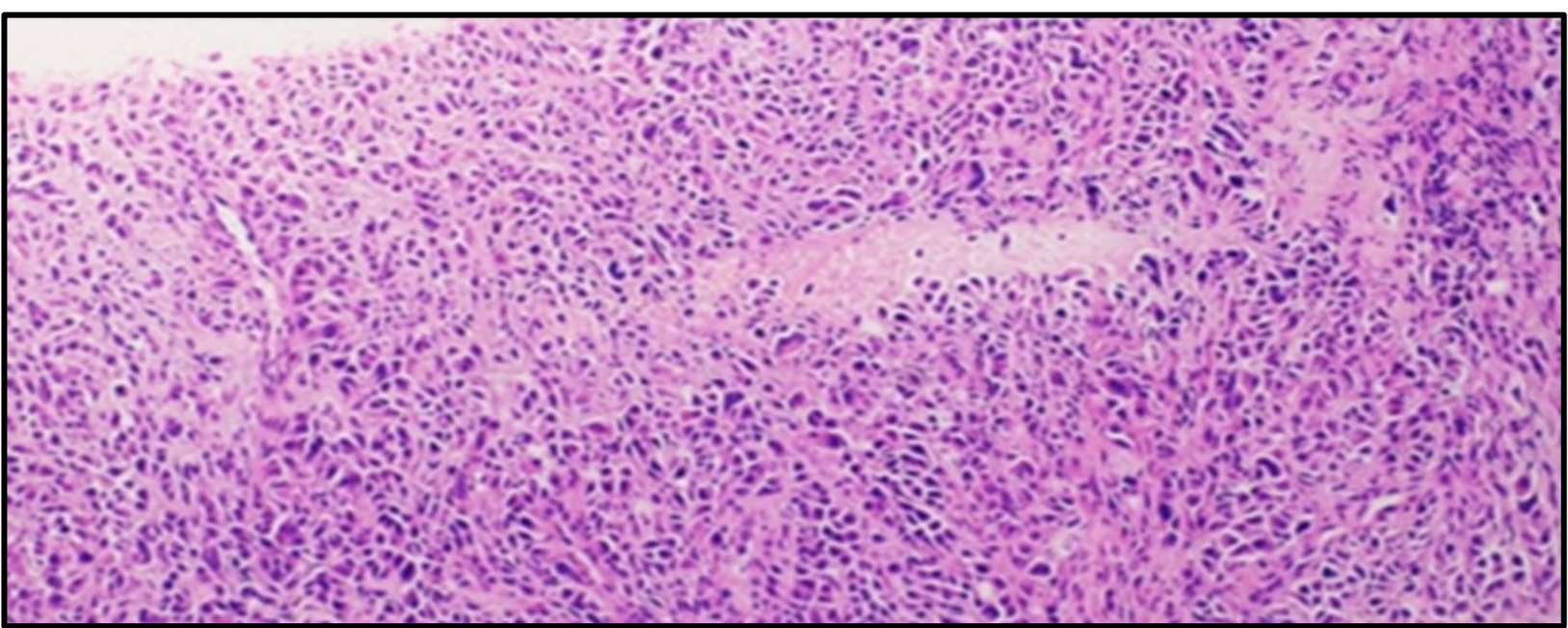


HISTOLOGICAL SUBTYPES (MORPHOLOGICAL SPECTRUM)



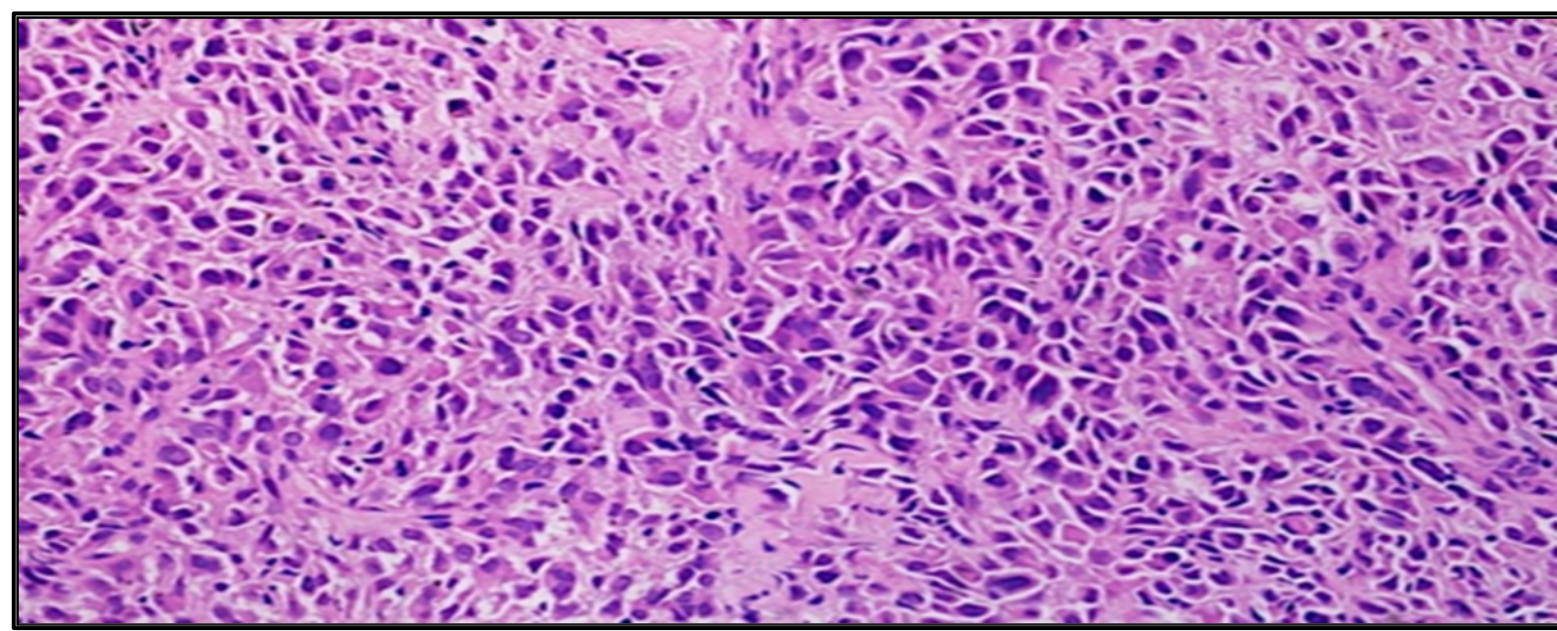
- Spindle cell carcinoma n=7
- Pleomorphic variants n=2
- Giant cell features n=1
- Pulmonary blastoma n=1

MORPHOLOGICAL FEATURES (H&E)



H&E – Low Power

Poorly differentiated malignant neoplasm composed of spindle and pleomorphic tumor cells arranged in intersecting fascicles and sheets with marked nuclear atypia and a sarcomatoid appearance



H&E – High Power

IMMUNOHISTOCHEMISTRY PROFILE



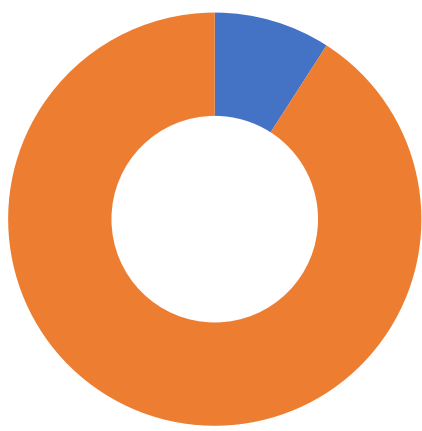
PanCK
45.5%
Positive



Vimentin
45.5%
Positive

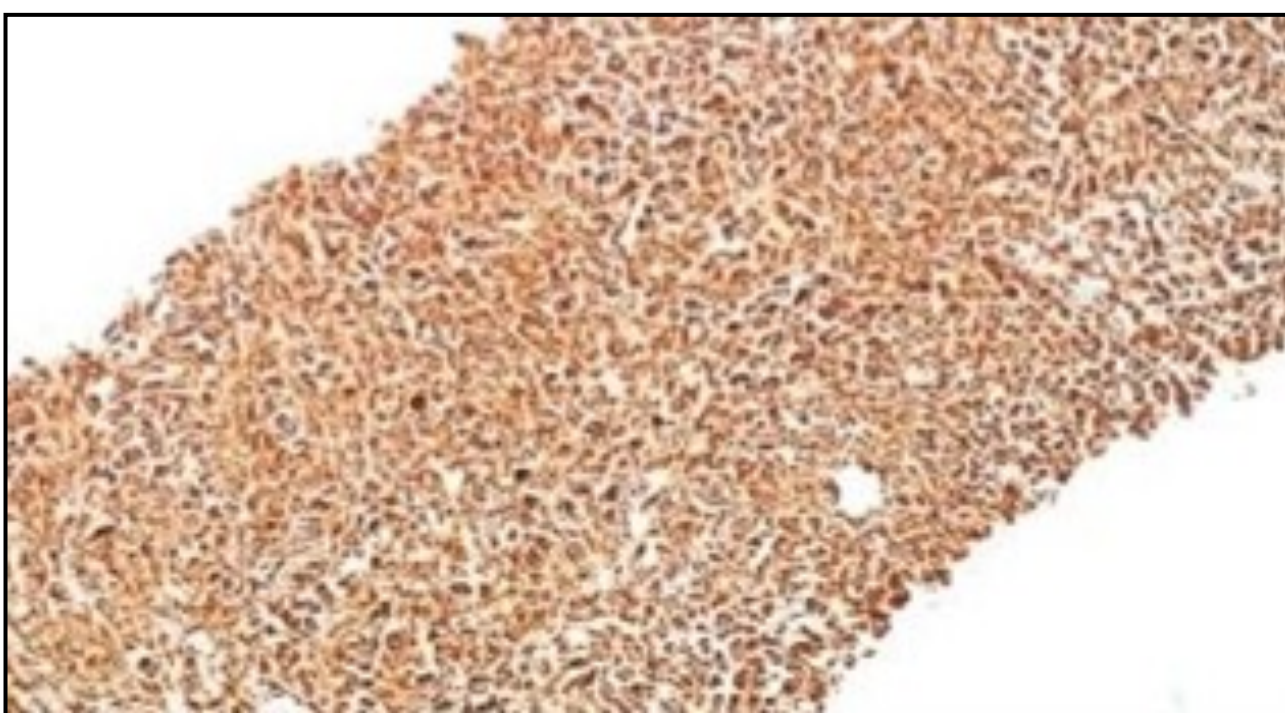


TTF-1
63.6%
Negative

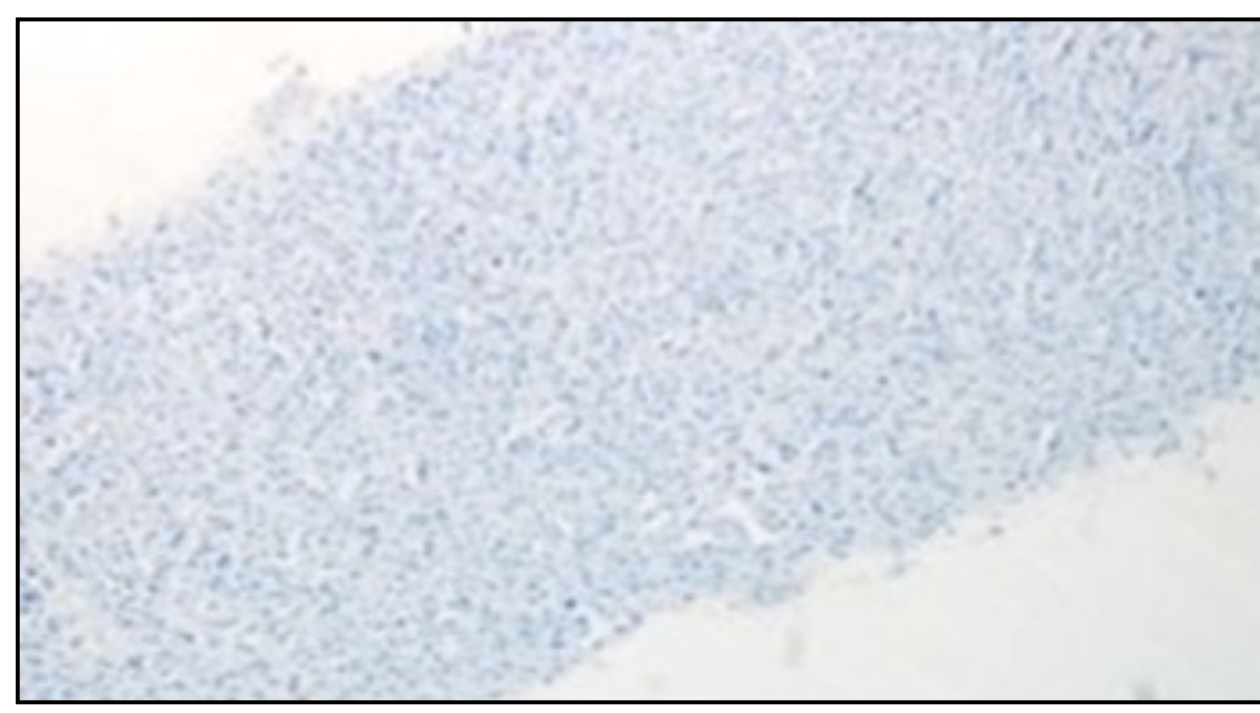


p63
9.1%
Retained

REPRESENTATIVE IHC



Vimentin – Positive



TTF-1 – Negative

TREATMENT

- All patients received chemotherapy.
- Common regimens: Gemcitabine + platinum-based
- Palliative radiotherapy: 5 patients (45.5%)

OUTCOMES

- Outcomes were poor (Median survival 10.2 months)
- Limited response to therapy.
- High rates of progression .

CONCLUSION

- **Rare, aggressive tumour** with poor clinical outcomes.
- **Accurate diagnosis** requires integration of morphology and IHC.
- **Conventional therapies remain suboptimal**, highlighting the need for novel treatment strategies.
- **High treatment default rates** reflect real-world barriers beyond treatment efficacy.
- **Multidisciplinary and personalized approaches** are needed to improve outcomes.

REFERENCES

- 1) WHO Classification of Tumours Editorial Board. *Thoracic tumours*. 5th ed. Lyon: International Agency for Research on Cancer; 2021
- 2) Weissferdt A. Pulmonary sarcomatoid carcinomas: a review. *Adv Anat Pathol*. 2018;25:304-313.
- 3) Terra SBSP, Aubry MC, Yi ES, Boland JM. Immunohistochemical study of 36 cases of pulmonary sarcomatoid carcinoma—sensitivity of TTF-1 is superior to napsin. *Hum Pathol*. 2014;45:294-302.
- 4) Rossi G, Cavazza A, Sturm N, Migaldi M, Facciolo N, Longo L, et al. Pulmonary carcinomas with pleomorphic, sarcomatoid, or sarcomatous elements: a clinicopathologic and immunohistochemical study of 75 cases. *Am J Surg Pathol*. 2003;27:311-324.
- 5) Shum E, Stuart M, Borczuk A, Wang F, Cheng H, Halmos B. Recent advances in the management of pulmonary sarcomatoid carcinoma. *Expert Rev Respir Med*. 2016;10:407-416.

AI DISCLOSURE

No AI tools were used in the preparation of this poster.