

Gruppo Italiano di Patologia  
Pleuropolmonare SIAPeC - GIPP

## Master di Patologia Toracica Oncologica

Dalla terapia di precisione alla diagnosi  
di precisione in patologia toracica.

Master per patologi sulla diagnostica  
della patologia toracica neoplastica



Napoli,  
20-21 Giugno 2023  
NH Panorama Hotel



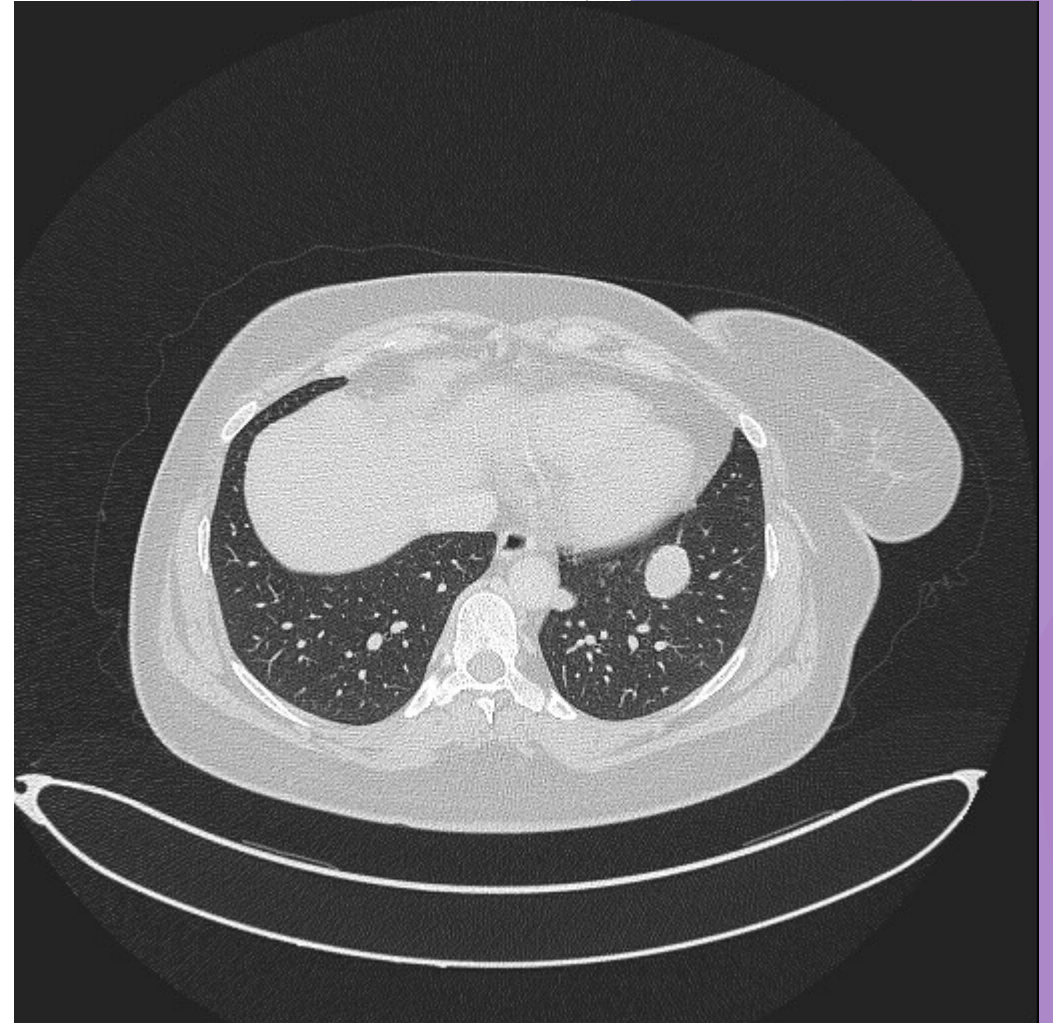
# An unusual metastasis diagnosed on lung biopsy

E. Merenda, A. Pernazza, M. Antonelli, G. d'Amati

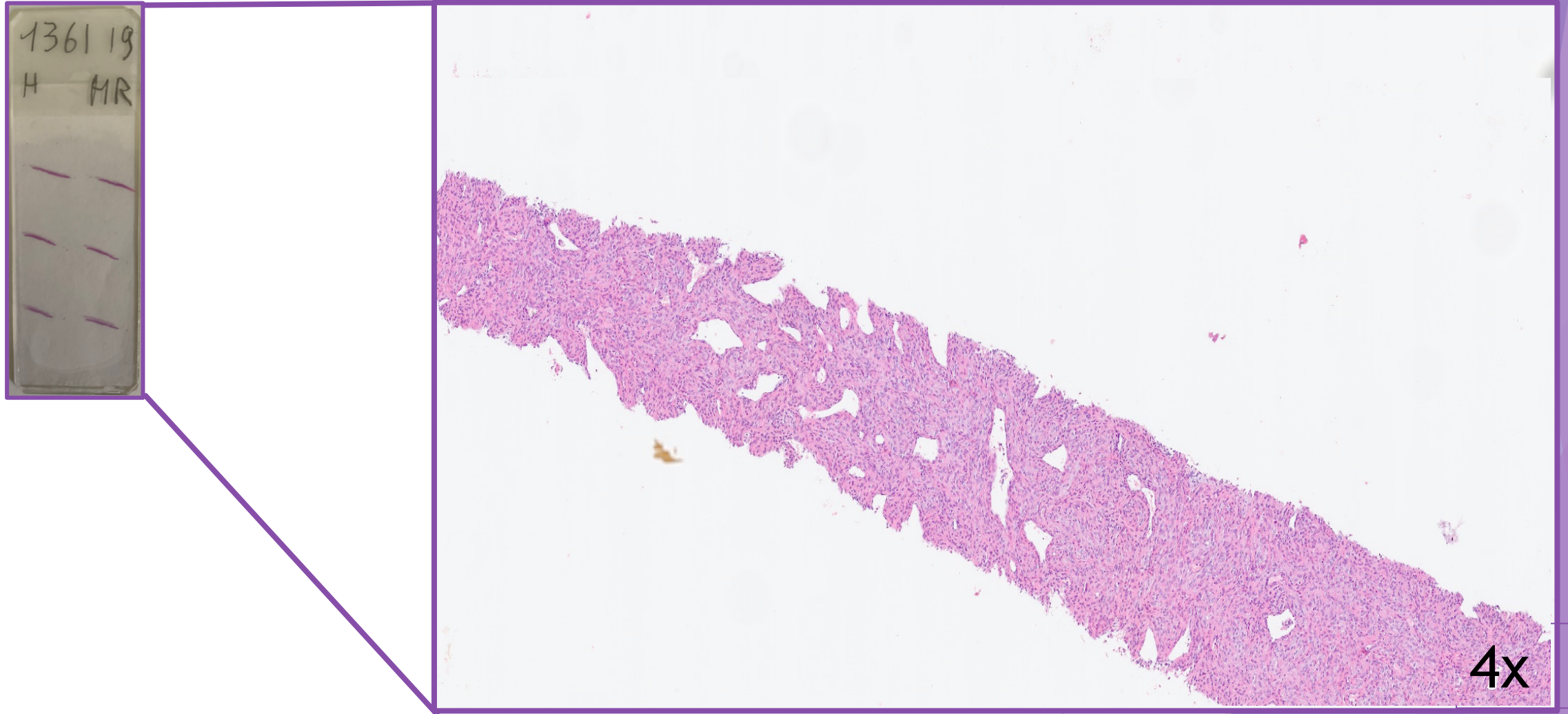
Dr. Elisabetta Merenda  
Department of Radiological, Oncological and Pathological Sciences  
Residency Program "Sapienza" University of Rome, Italy

2019

- Woman, 48 yo
- PMH 2018 IDC G1 (1+2+1)  
Luminal A pT2m pN1(1/19)

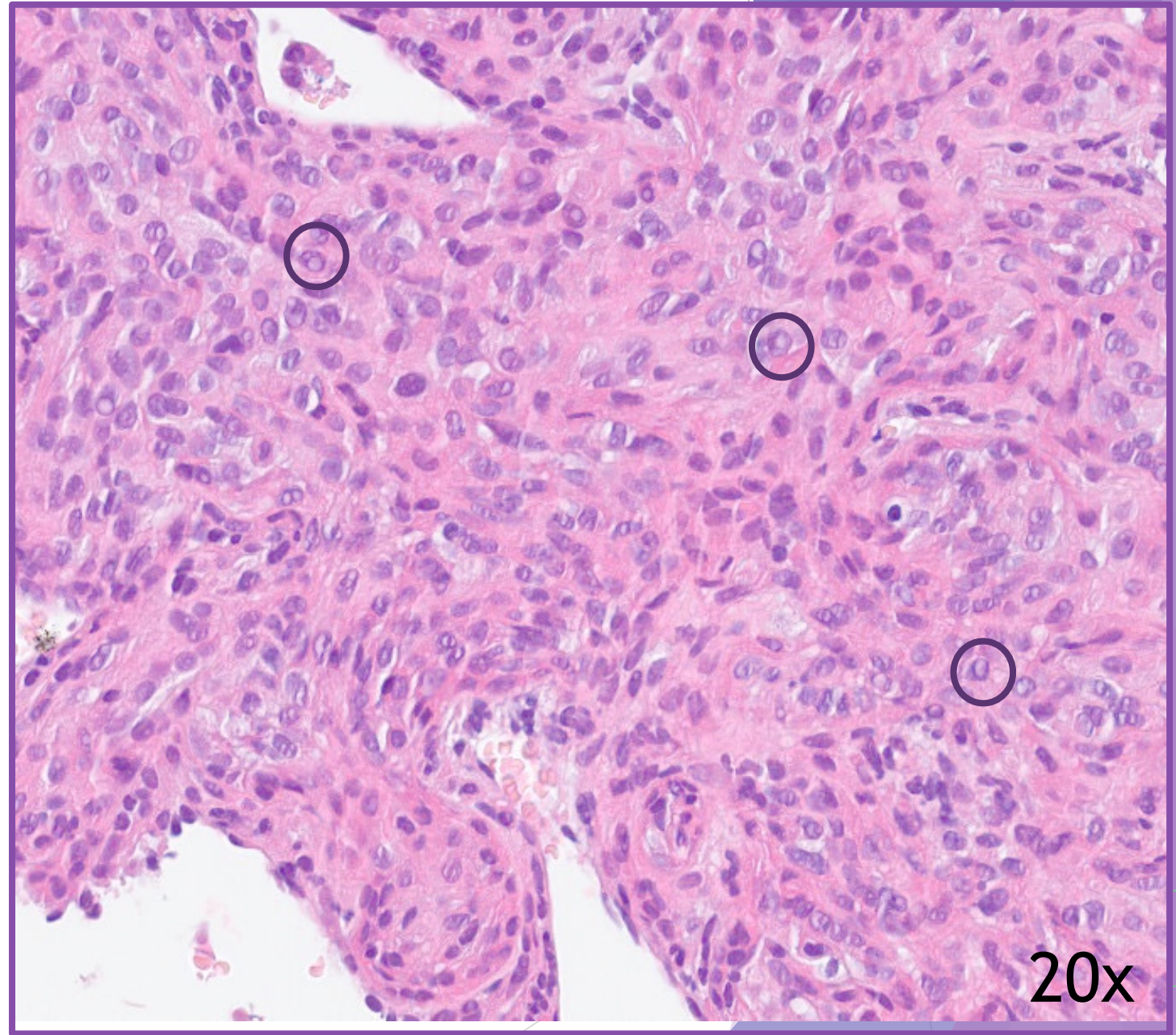


# Lung Biopsy

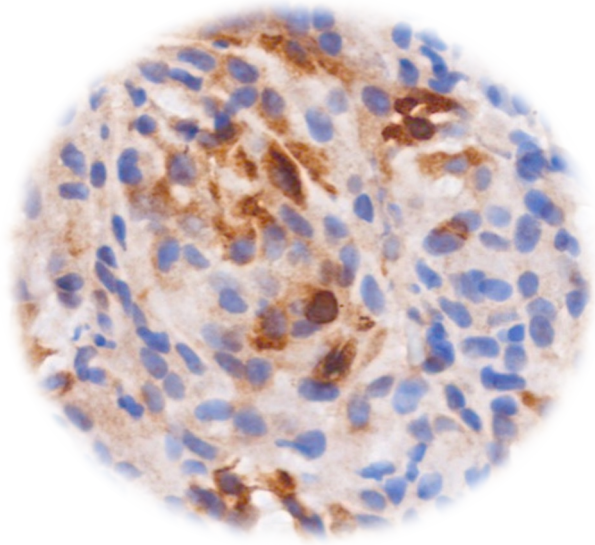




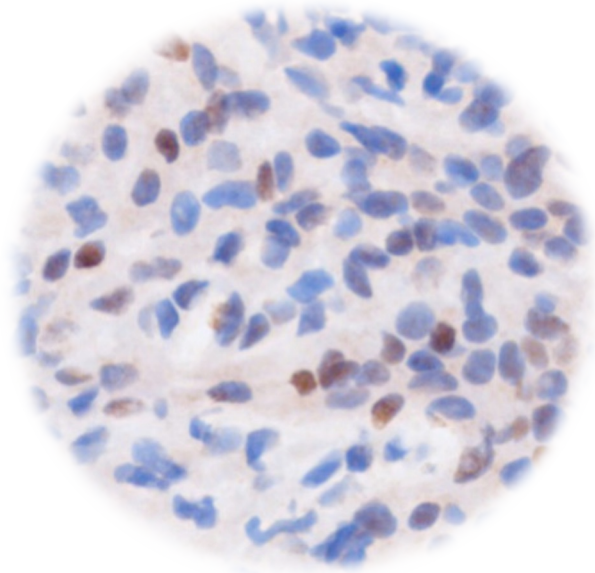
- epithelioid and spindle cells
  - nuclear pseudo-inclusions
  - hemangiopericytoma-like pattern
- pattern



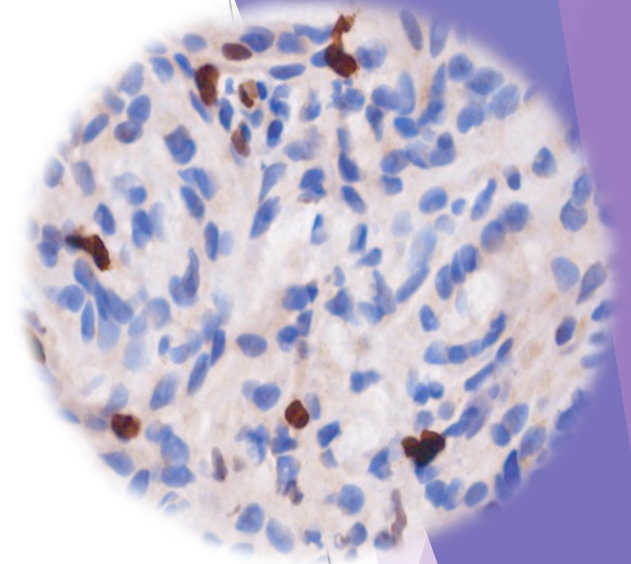




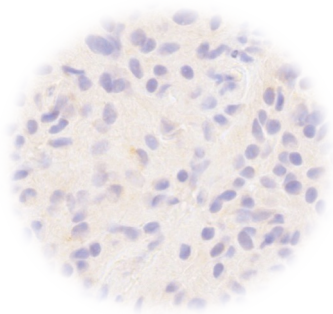
**CKAE1/AE3**



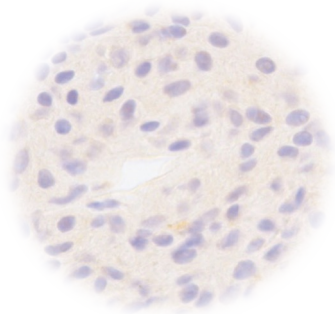
**p63**



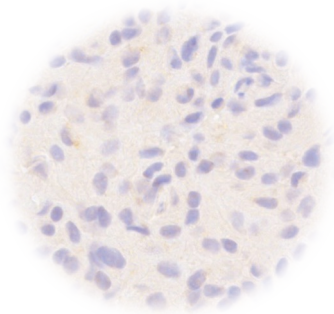
**Ki67**



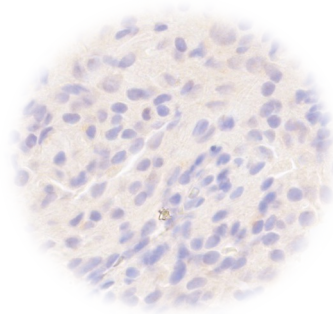
**CD34**



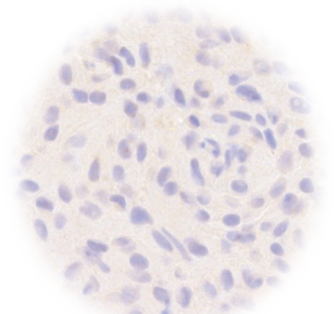
**TTF1**



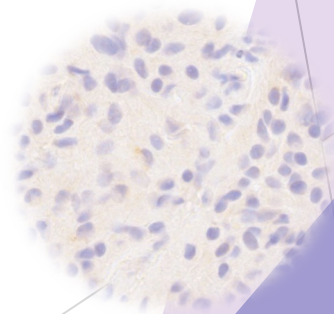
**SMA**



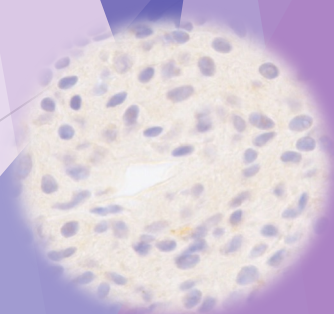
**S100**



**HMB45**



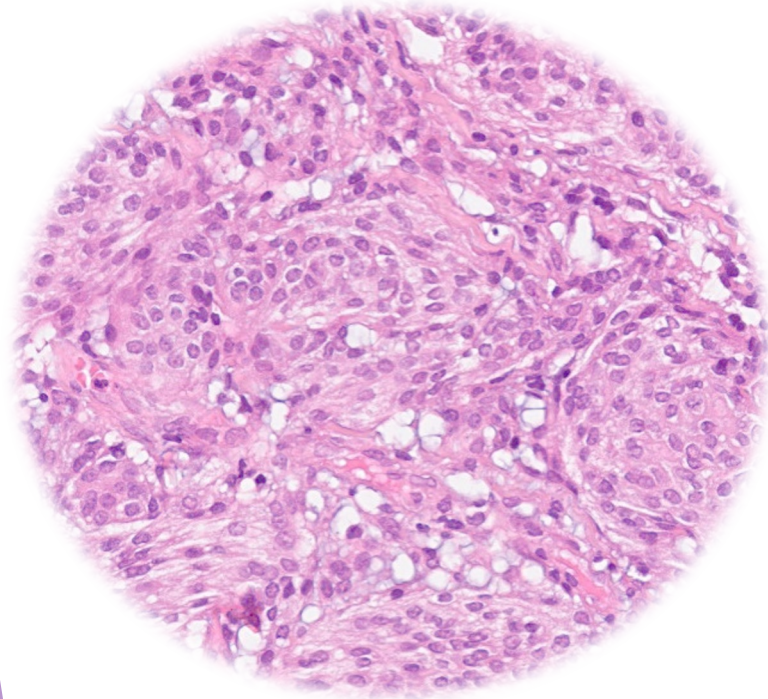
**CD34**



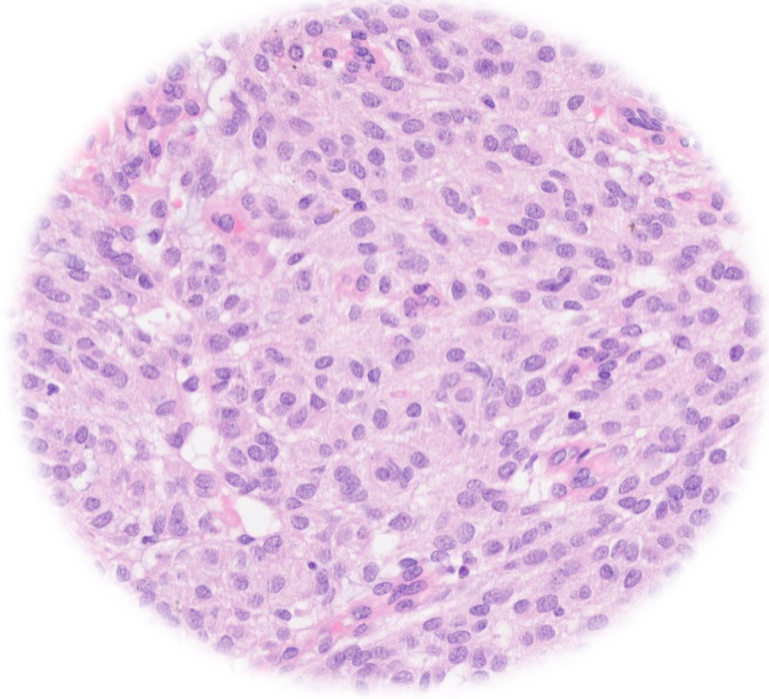
**Desmin**



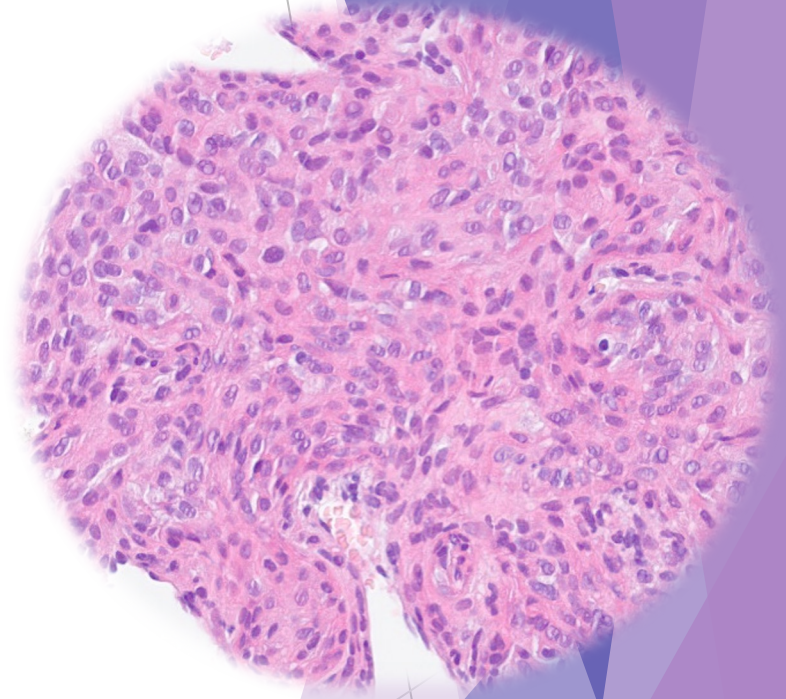




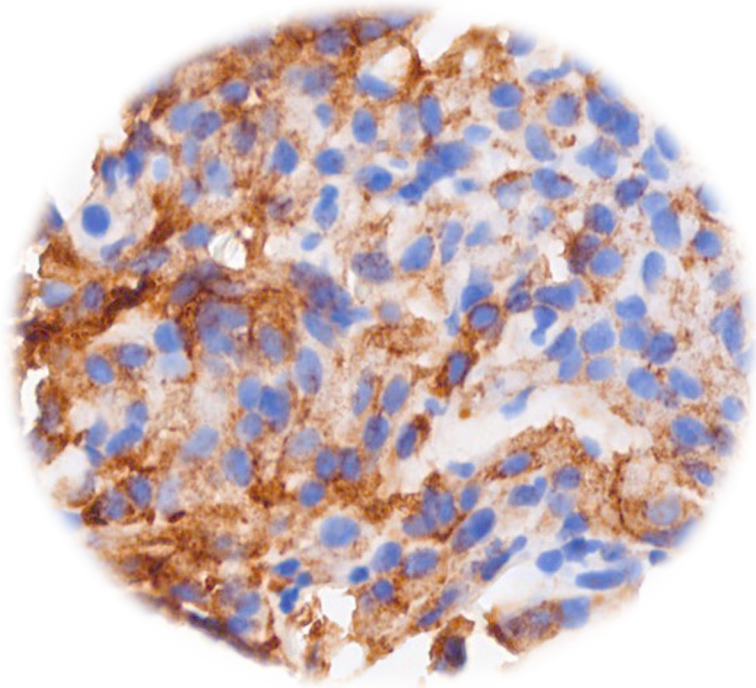
**2016**



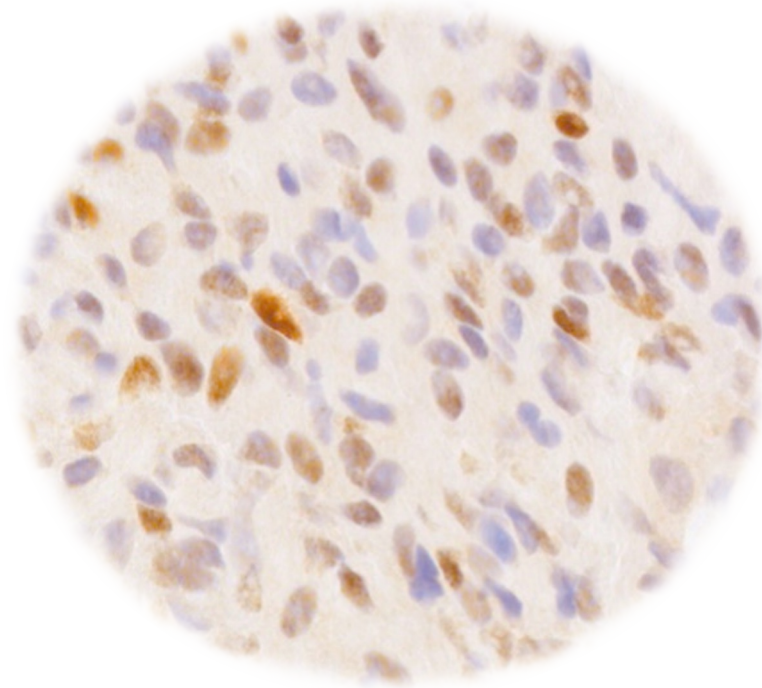
**2018**



**2019**



**EMA**



**PgR**

**Metastatic Meningioma**



# Pulmonary Metastasis of Malignant Meningioma


Jong Kook Rhim, M.D., Seung Hun Sheen, M.D.,  
Jae Sub Noh, M.D., Bong Sub Chung, M.D.

Department of Neurosurgery, Bundang Jesaeng General Hospital, Seongnam, Korea

CASE REPORT

Open Access

## Solitary pulmonary metastasis after meningioma surgery of the head: a case report

Takahiro Utsumi<sup>1</sup>, Tomohito Saito<sup>1\*</sup> , Mitsuaki Ishida<sup>2</sup>, Natsumi Maru<sup>1</sup>, Hiroshi Matsui<sup>1</sup>, Yohei Taniguchi<sup>1</sup>,  
Haruaki Hino<sup>1</sup> and Tomohiro Murakawa<sup>1</sup>

CASE REPORT

Open Access

## Metastatic meningioma presenting as a malignant soft tissue tumour

Catherine McCarthy<sup>1</sup>, Monika Hofer<sup>2</sup>, Marianna Vlychou<sup>3</sup>, Robar Khundkar<sup>4</sup>, Paul Critchley<sup>4</sup>, Simon Cudlip<sup>5</sup>,  
Olaf Ansorge<sup>2</sup> and Nick A. Athanasou<sup>3\*</sup>

## Atypical primary pulmonary meningioma: a report of a case suspected of being a lung metastasis

Daniela Lepanto<sup>1</sup>, Fausto Maffini<sup>1</sup>, Francesco Petrella<sup>2</sup>, Marzia Colandrea<sup>3</sup>, Carlo Putzu<sup>4</sup>, Massimo Barberis<sup>1</sup>, Giovanni Paganelli<sup>3</sup>  
and Giuseppe Viale<sup>1,5</sup>

Case Report

## Meningioma Metastatic to the Lung

ARUN ADLAKHA, MD; KRISHNA RAO, MD; HARKIRAN ADLAKHA, MD; ARIE PERRY, MD;  
THOMAS B. CROTTY, MD; BERND W. SCHEITHAUER, MD; AND JAY H. RYU, MD



## Liver Metastasis from Typical Meningioma

*Bin Sheng<sup>1,2</sup>, Yinhua Liu<sup>3</sup>, Cegang Liu<sup>1</sup>*

## Metastatic Meningioma of the Neck: A Case Report and Systematic Review

Hoang C.B. Nguyen<sup>a</sup> Leila J. Mady<sup>b</sup> Kush Panara<sup>b</sup> Stefen Andrianus<sup>c</sup>  
Kumarasen Cooper<sup>c</sup> Isaac H. Chen<sup>d</sup> Ara A. Chalian<sup>b</sup> Robert M. Brody<sup>b</sup>



# Metastatic Meningioma: A systematic review of incidence and risk factors<sup>☆</sup>

Eric Y. Montgomery<sup>1</sup>, Chandrasekhar Sundarrajan<sup>1</sup>, Mark N. Pernik, James P. Caruso, Tomas Garzon-Muvdi<sup>\*</sup>

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**Table 1**

Summary of studies reporting extracranial metastases of primary intracranial meningioma.

| Author, year               | Total patients (Grade II/III) | Patients with MM | Sex (male) | Primary tumor in skull base | MM grade II | MM grade III | Primary tumor recurrence | Mean # of recurrences | Metastasis location (# of patients)                | Follow-up from primary tumor diagnosis (years) | Died of metastasis | GRADE Quality of Evidence |
|----------------------------|-------------------------------|------------------|------------|-----------------------------|-------------|--------------|--------------------------|-----------------------|--|--|--------------------|---------------------------|
| Garzon-Muvdi et al., 2020  | 149 (114/35)                  | 6 (4.0%)         | 3 (50%)    | 0                           | 3 (50%)     | 3 (50%)      | 4 (66.7%)                | 3                     | Lung (4), liver (2), mediastinum (1); vertebra (1) | 12.0   | 6 (100%)           | Moderate                  |
| Dalle Ore et al., 2019     | 271 (236/35)                  | 8 (3.0%)         | 2 (25%)    | 2 (25%)                     | 5 (62.5%)   | 3 (37.5%)    | 8 (100%)                 | 3.375                 | Lung (3), liver (5), bone (1), mediastinum (1)     | 17.6   | 2 (25%)            | Moderate                  |
| Frydrychowicz et al., 2015 | 66 (48/18)                    | 2 (3.0%)         | 0          | 0                           | 2           | 0            | 2 (100%)                 | 3                     | Lung (2)   | 10.0   | 0                  | Low                       |
| Wang et al., 2012          | 20 (13/7)                     | 2 (10.0%)        | 1 (50%)    | 0                           | 0           | 2 (100%)     | 2 (100%)                 | 2                     | Lung (2)   | 1.3  | 2 (100%)           | Very low                  |
| Andric et al., 2012        | 9 (9/0)                       | 2 (22.2%)        | 1 (50%)    | 0                           | 2 (100%)    | 0            | 2 (100%)                 | 4                     | Lung (2), abdomen (1)                              | 10.9   | 2 (100%)           | Very low                  |
| Hug et al., 2000           | 31 (15/16)                    | 3 (9.7%)         | –          | –                           | 0           | 3 (100%)     | 3 (100%)                 | –                     | Lung (2), abdomen (1), bone (3)                    | 1.5  | 3 (100%)           | Very low                  |

Abbreviations: MM, metastatic meningioma; #, number.



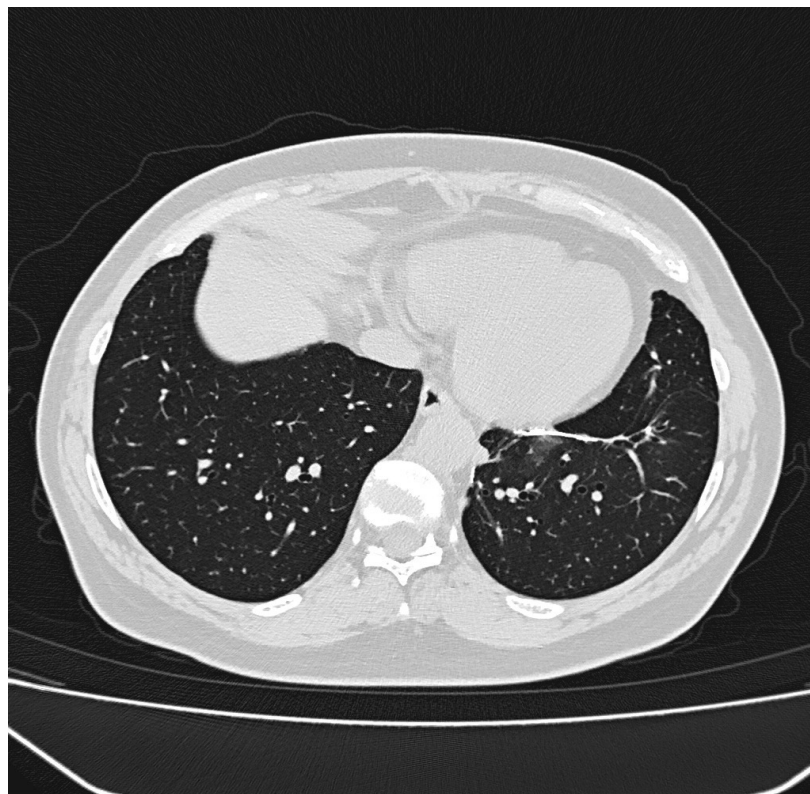
2019

2021

2023

NO Surgery

✓ TKi (Sunitinib)



**THANKS  
FOR  
LISTENING**