気管支動脈塞栓術後の塞栓物質がリンパ節metaに集積した1例

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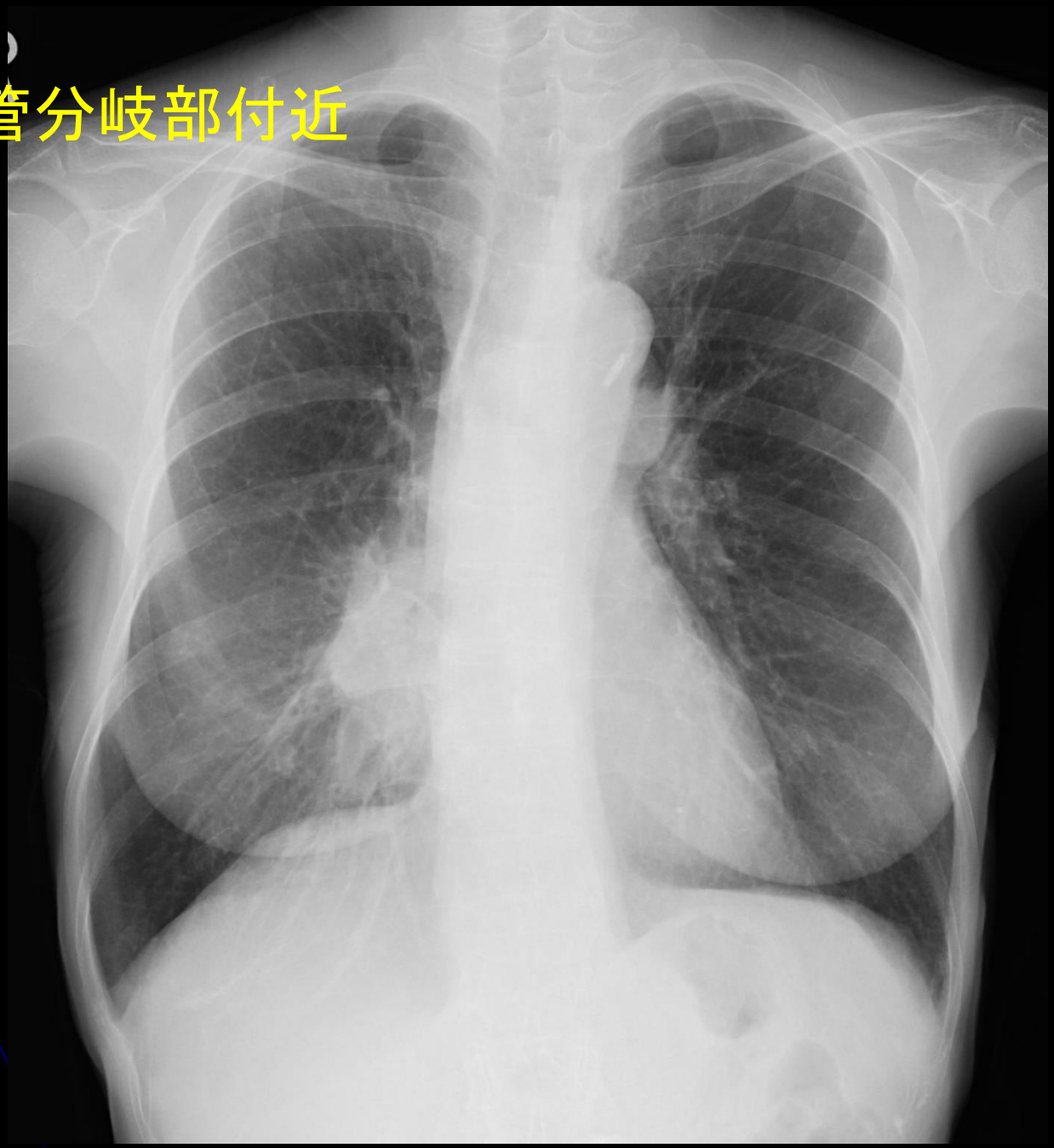
症例　　60歳代　女性

1年前より右肺癌(NSCLC)、多発性meta（脳、右腎、リンパ節など）で加療されていた。

数日前より咳嗽が増悪、比較的多量の喀血も出現、緊急入院となり、IVRを依頼された。

喫煙歴：20本/40年

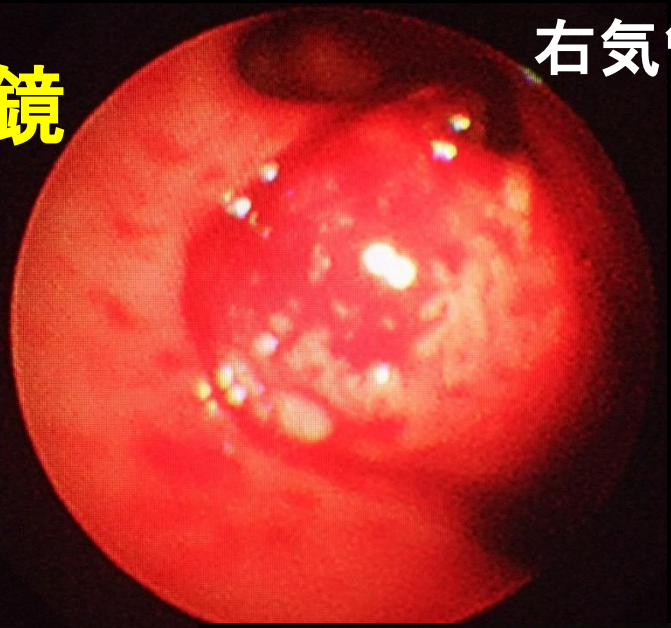
気管支鏡にて気管分岐部付近の出血疑い



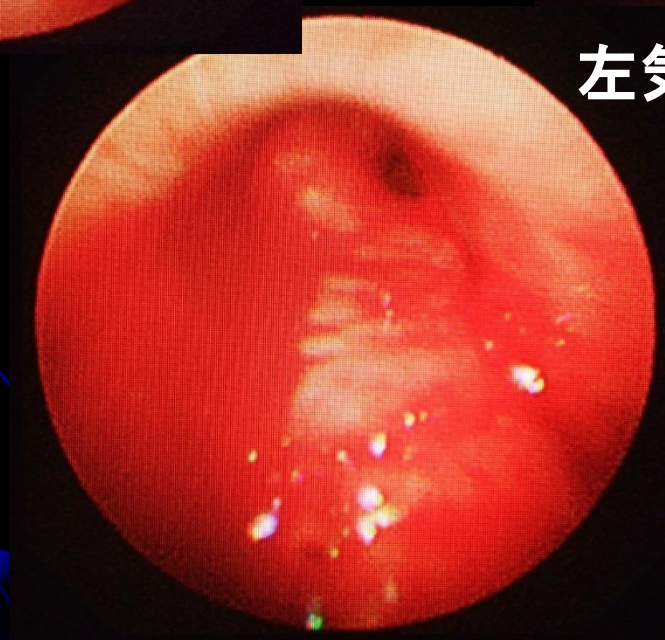
塞栓前
気管支鏡

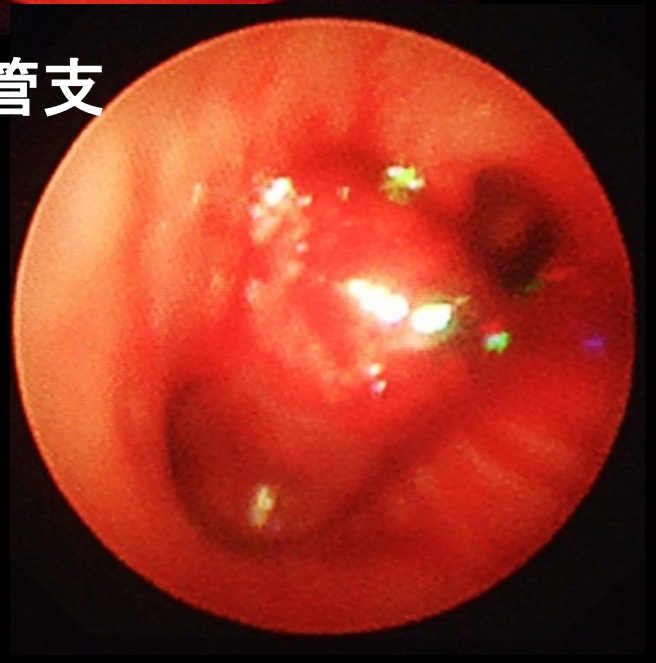
気管

右気管支



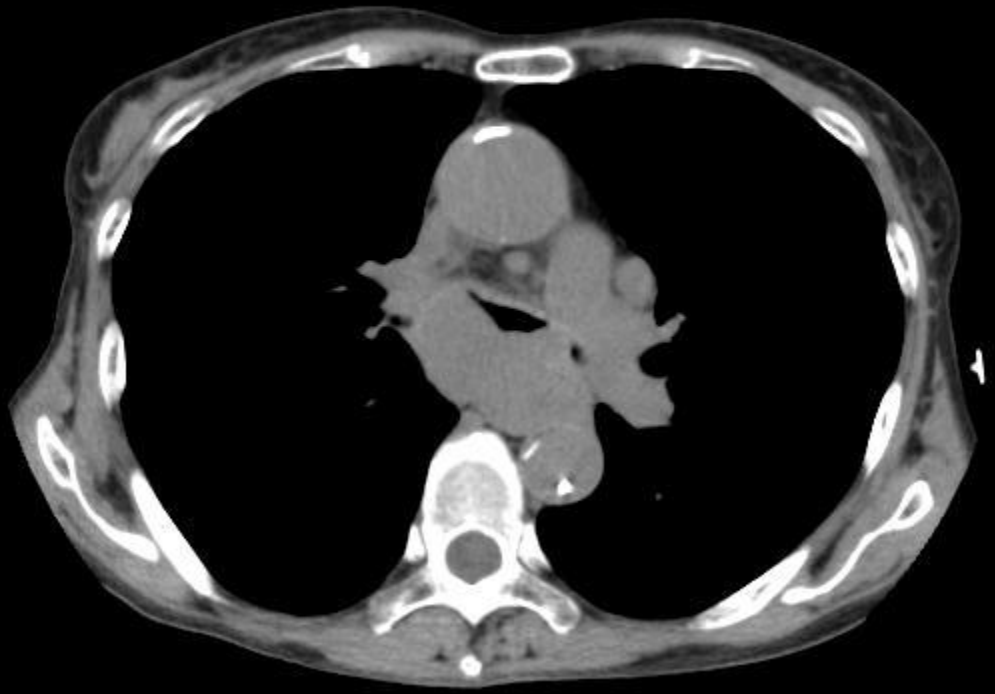
左気管支



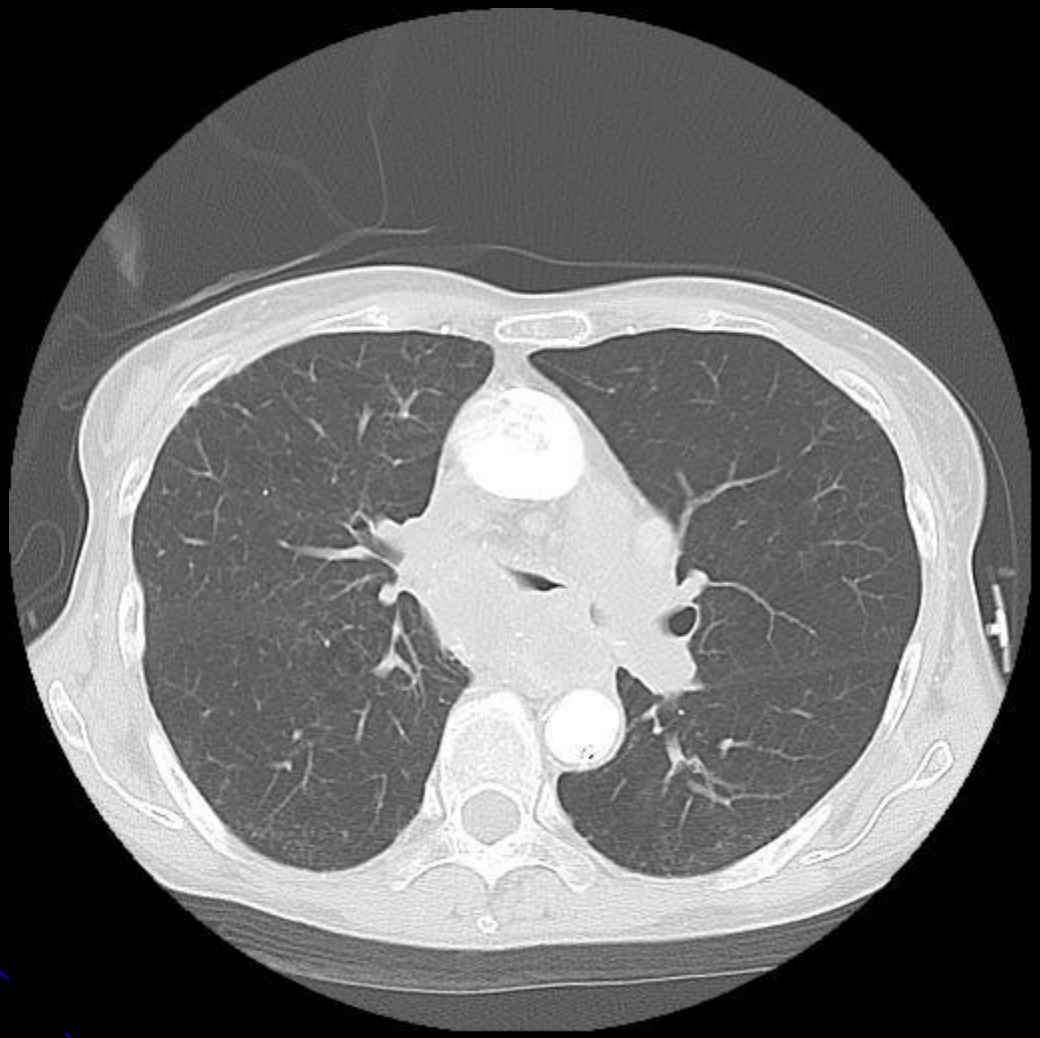


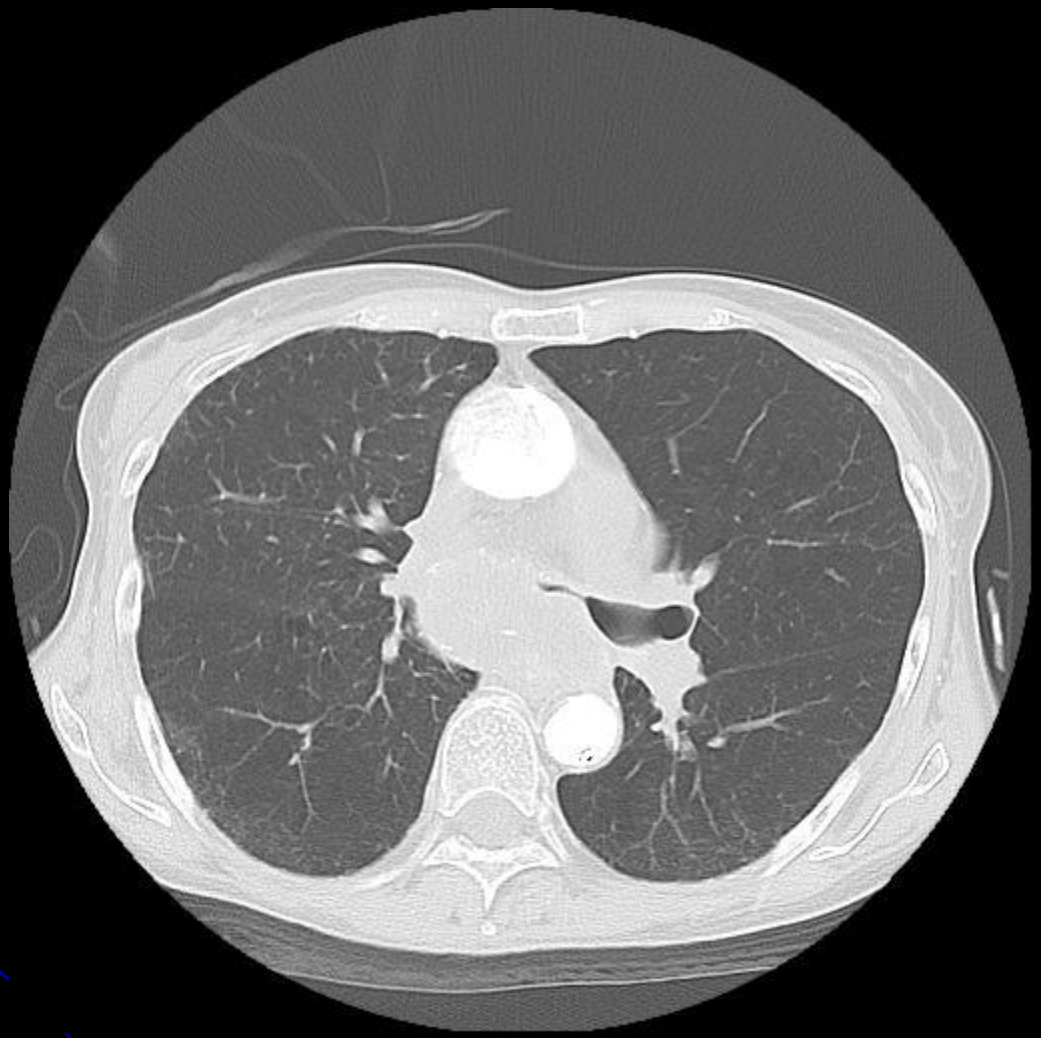
塞栓前CT

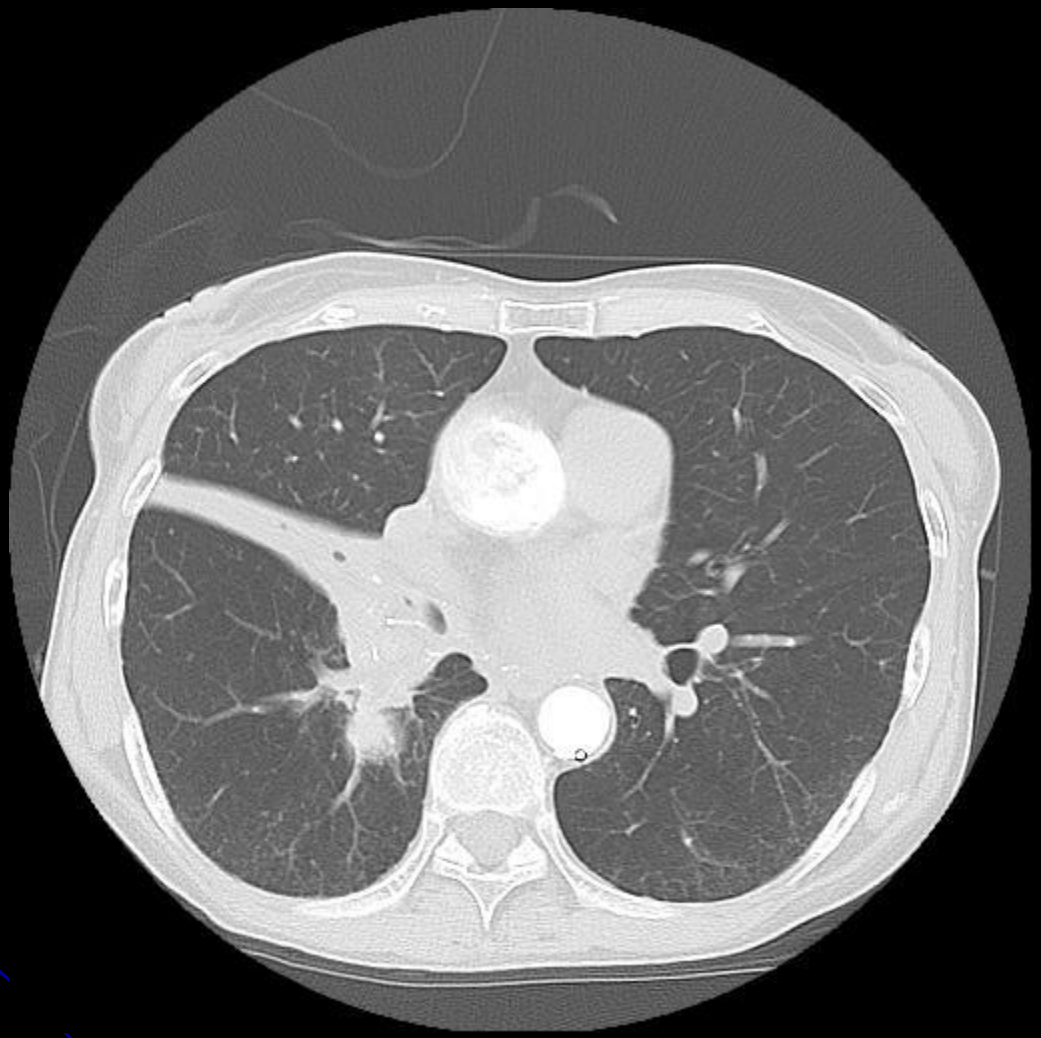
単純

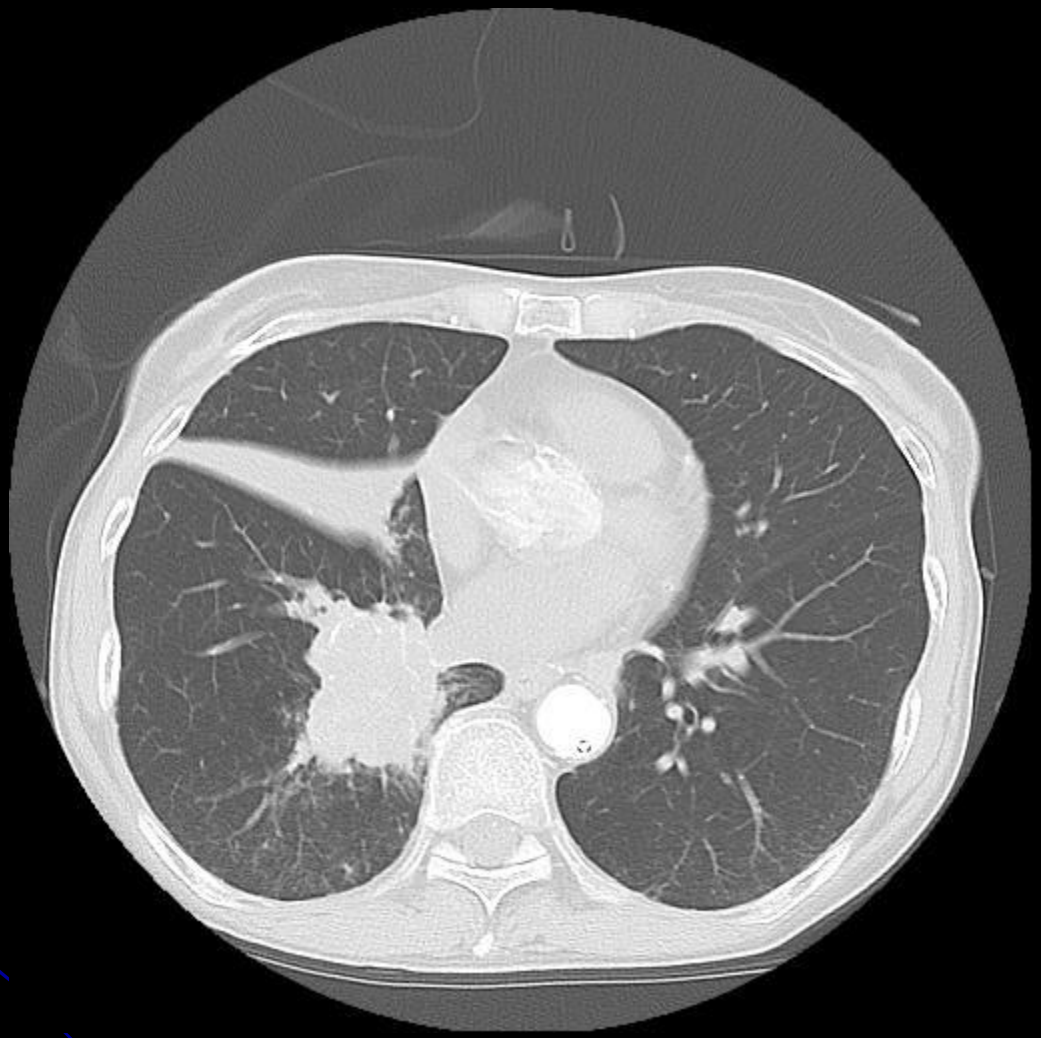


術前CT

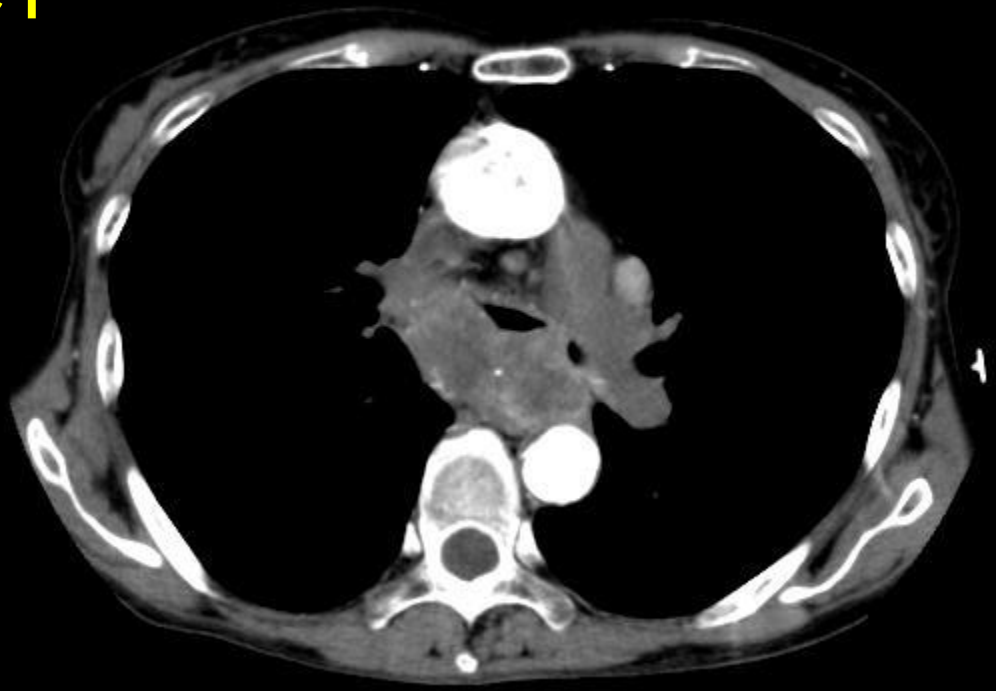


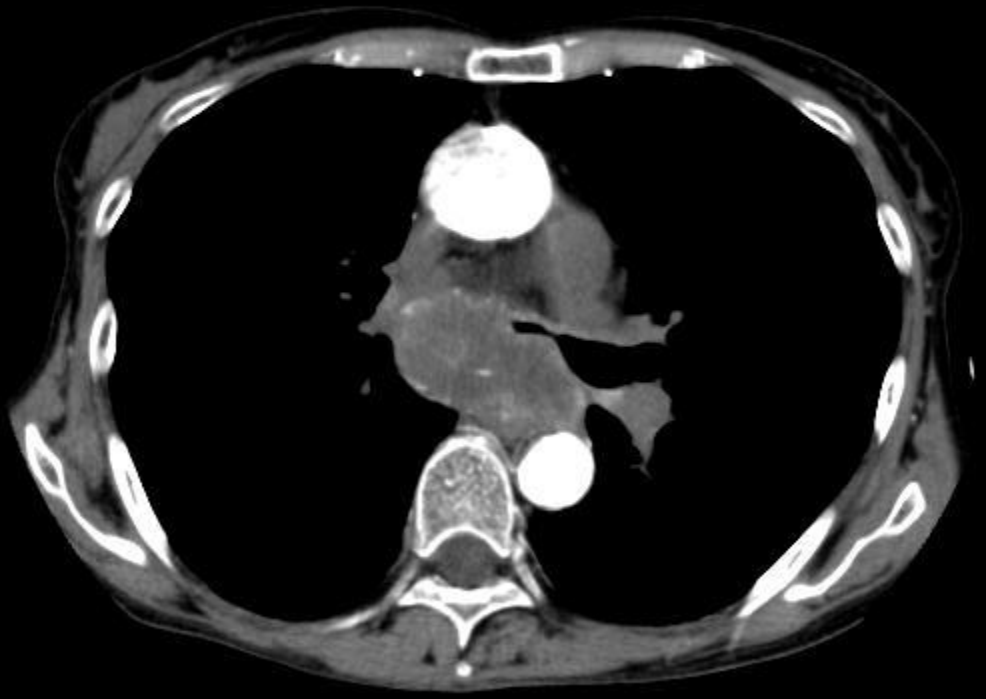


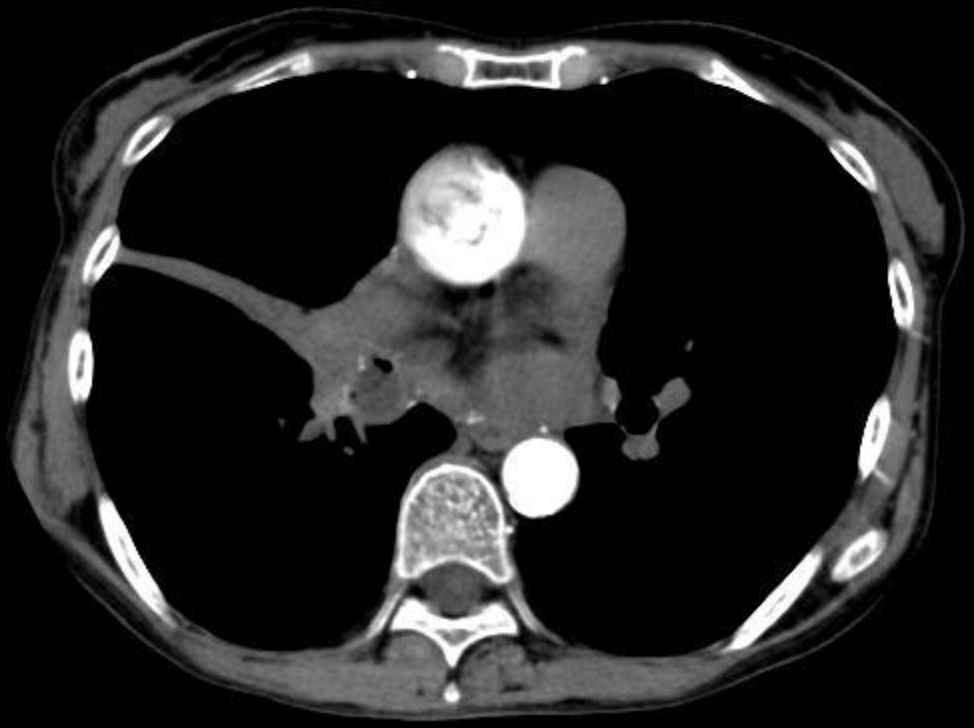


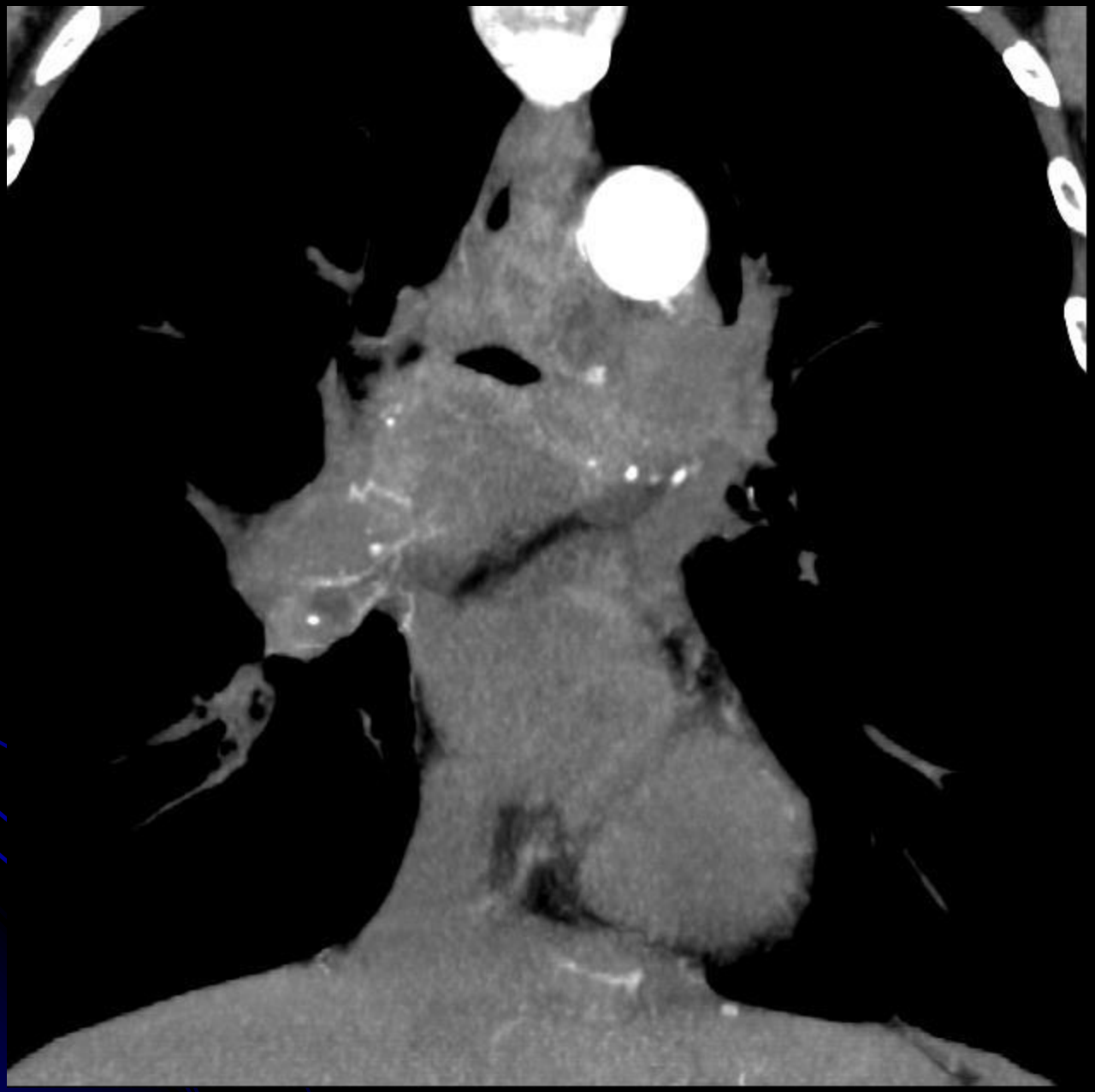


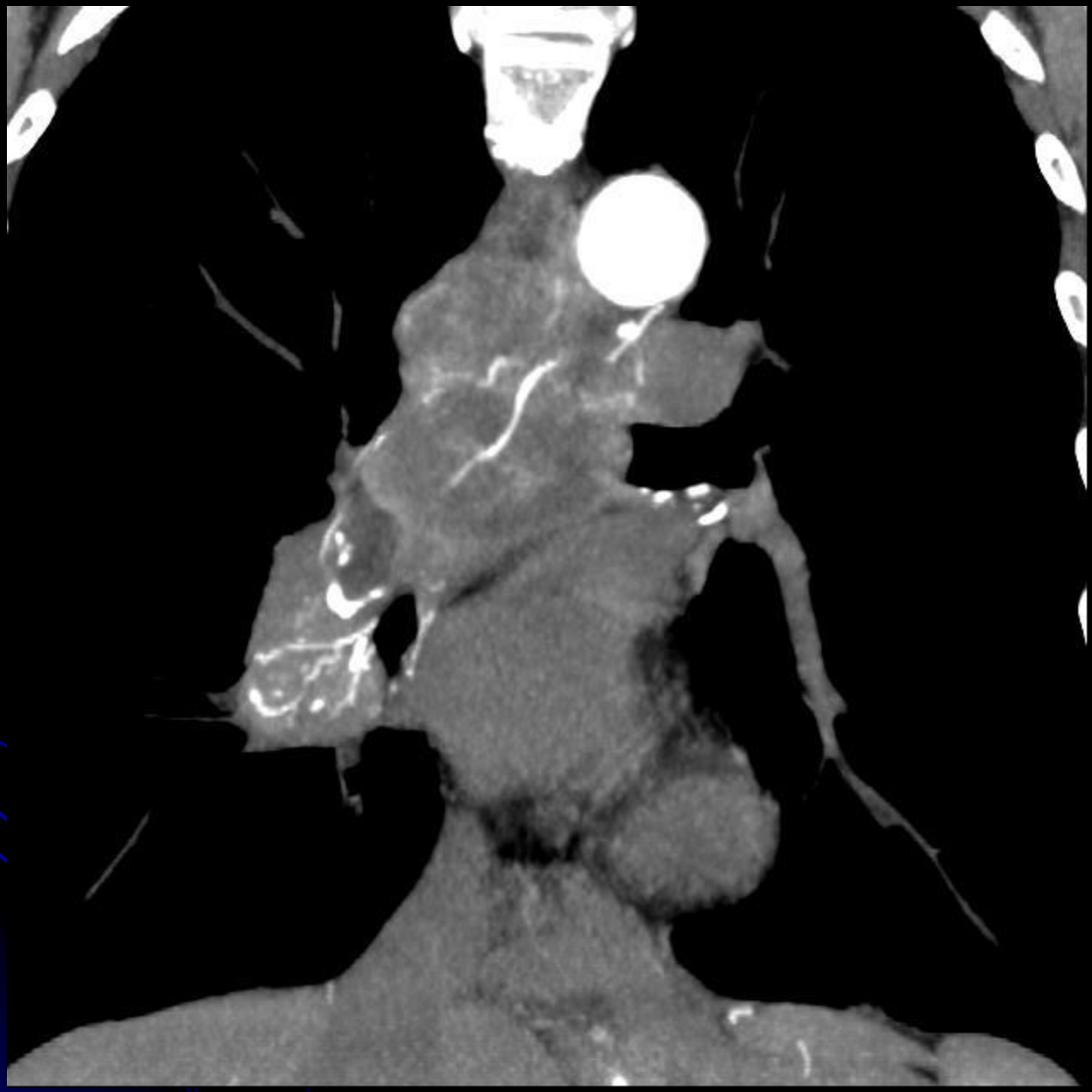
術前大動脈造影下CT

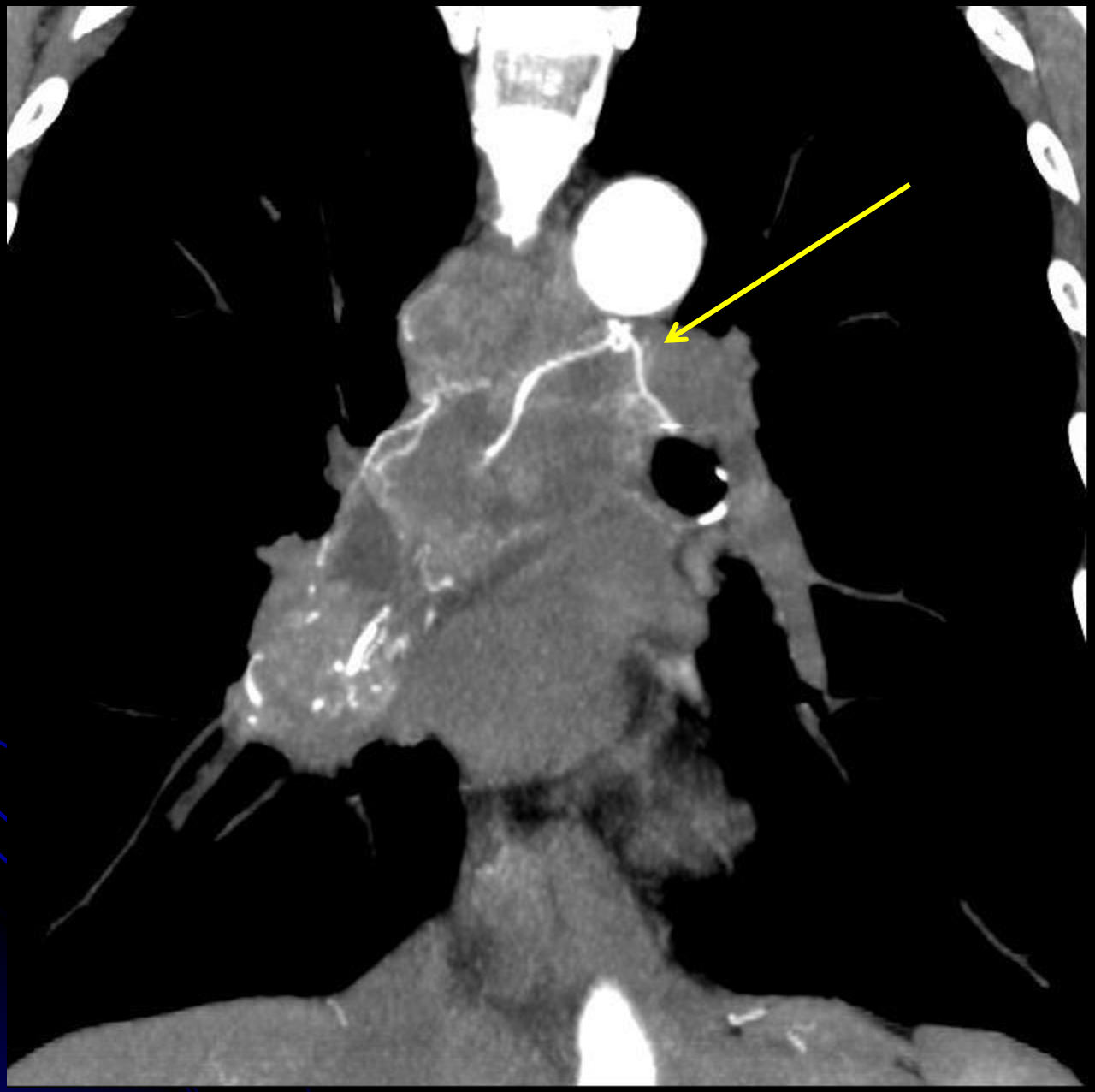




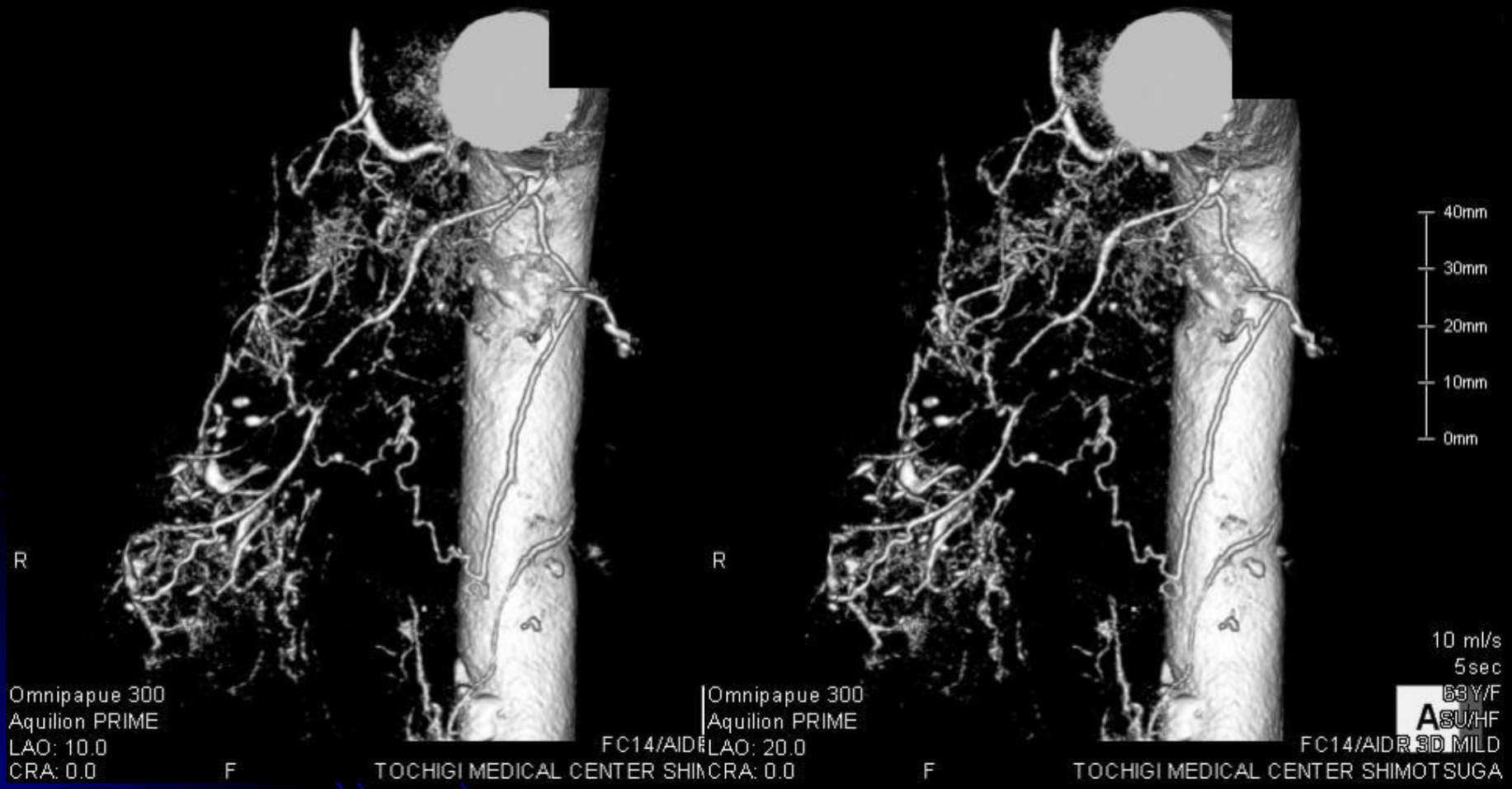


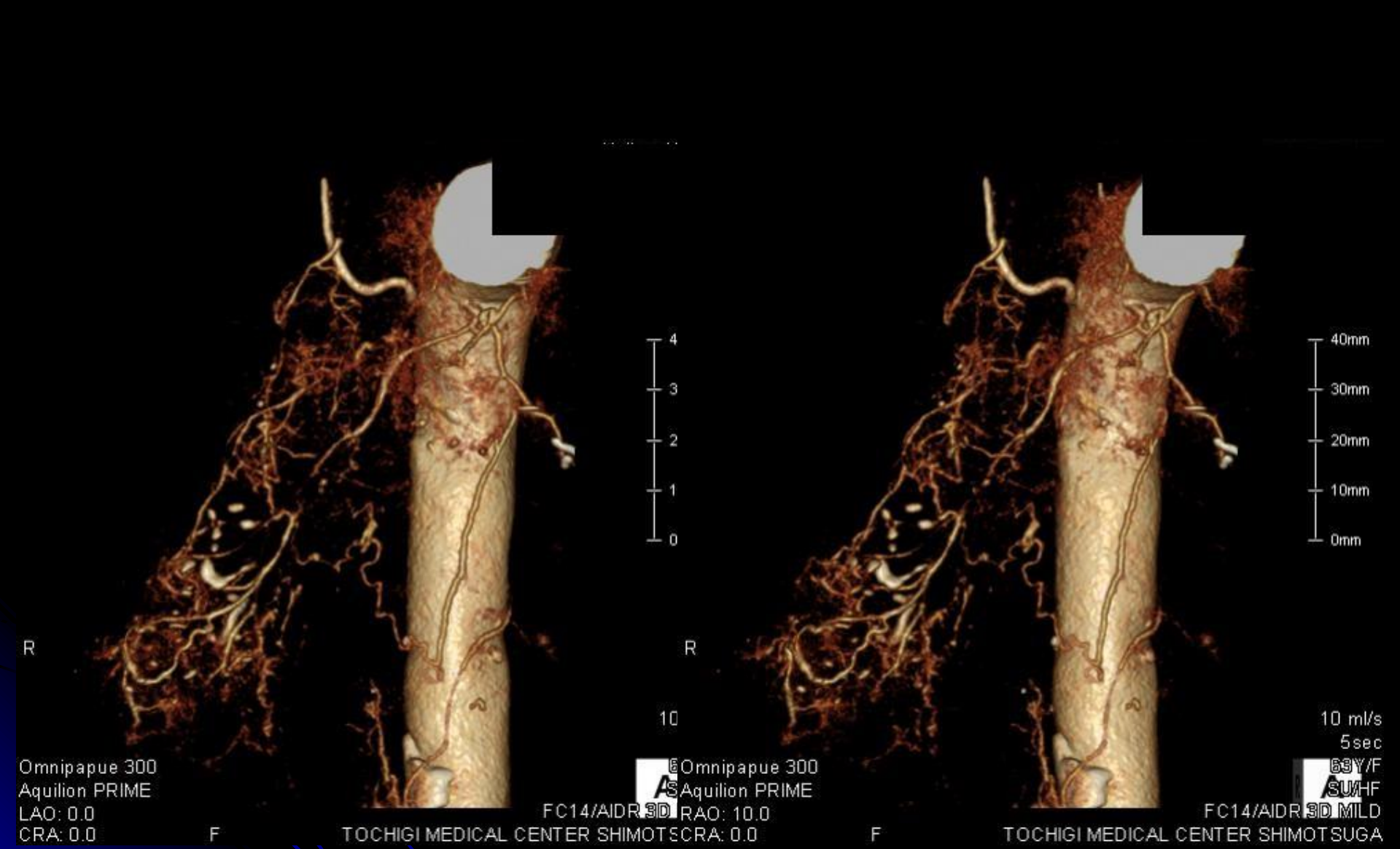


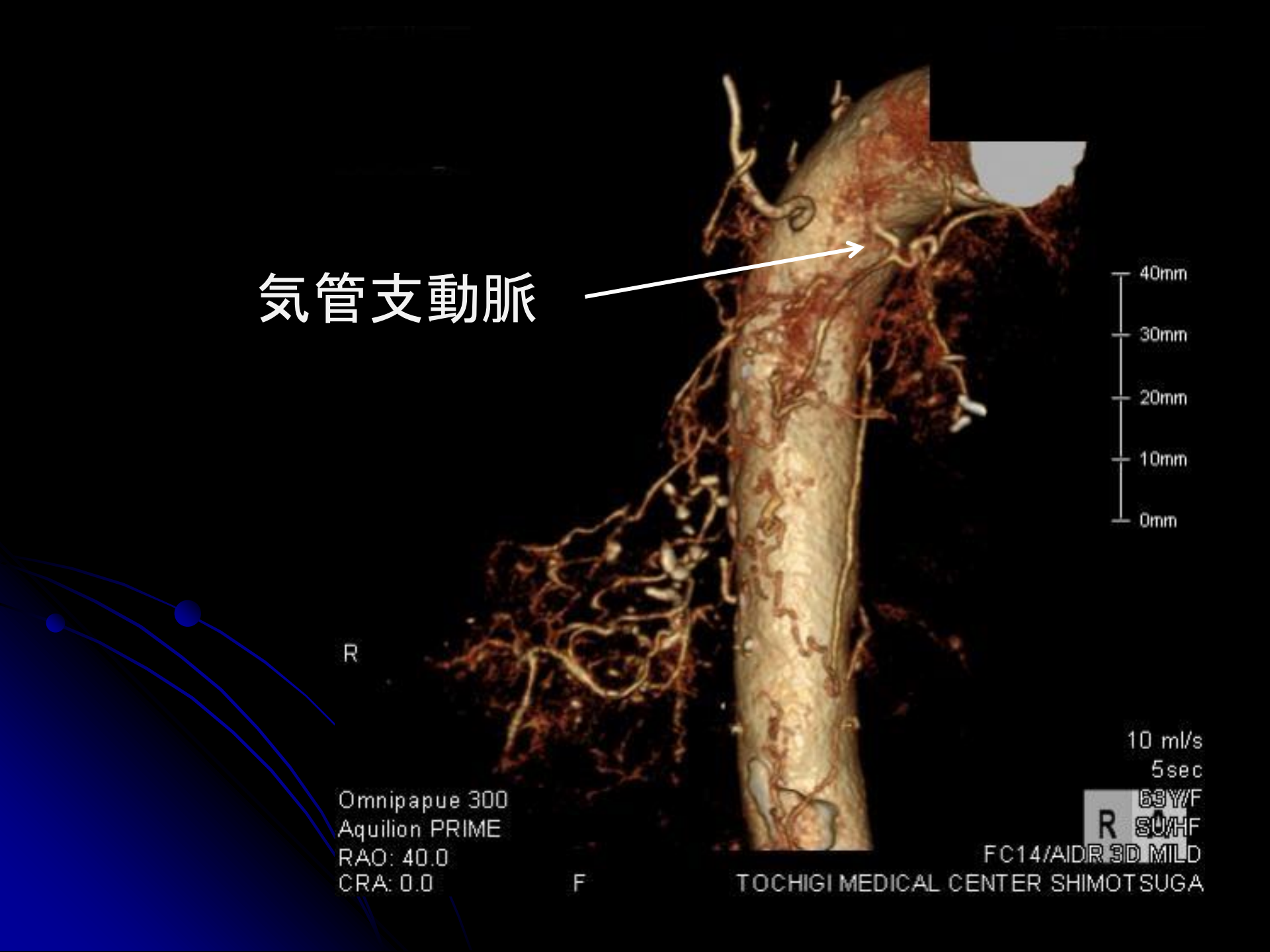




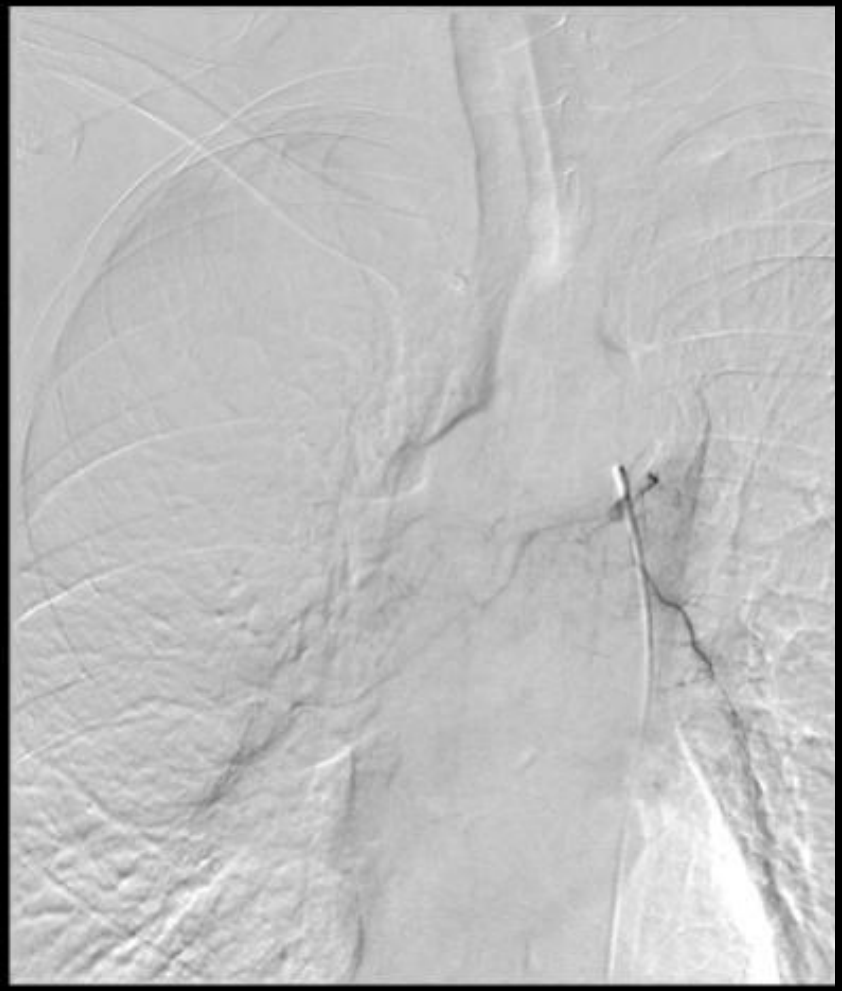
術前大動脈造影下CT　VR像




4
3
2
1
0
R
10
Omnipapue 300
Aquilion PRIME
LAO: 0.0
CRA: 0.0
F
FC14/AIDR 3D
TOCHIGI MEDICAL CENTER SHIMOTS
Omnipapue 300
Aquilion PRIME
RAO: 10.0
CRA: 0.0
F
40mm
30mm
20mm
10mm
0mm
10 ml/s
5sec
FC14/AIDR 3D MILD
TOCHIGI MEDICAL CENTER SHIMOTSUGA


気管支動脈
40mm
30mm
20mm
10mm
0mm
R
10 ml/s
5sec
63Y/F
SU/HF
R
FC14/AIDR 3D MILD
Omnipapue 300
Aquilion PRIME
RAO: 40.0
CRA: 0.0
F
TOCHIGI MEDICAL CENTER SHIMOTSUGA

気管支動脈造影



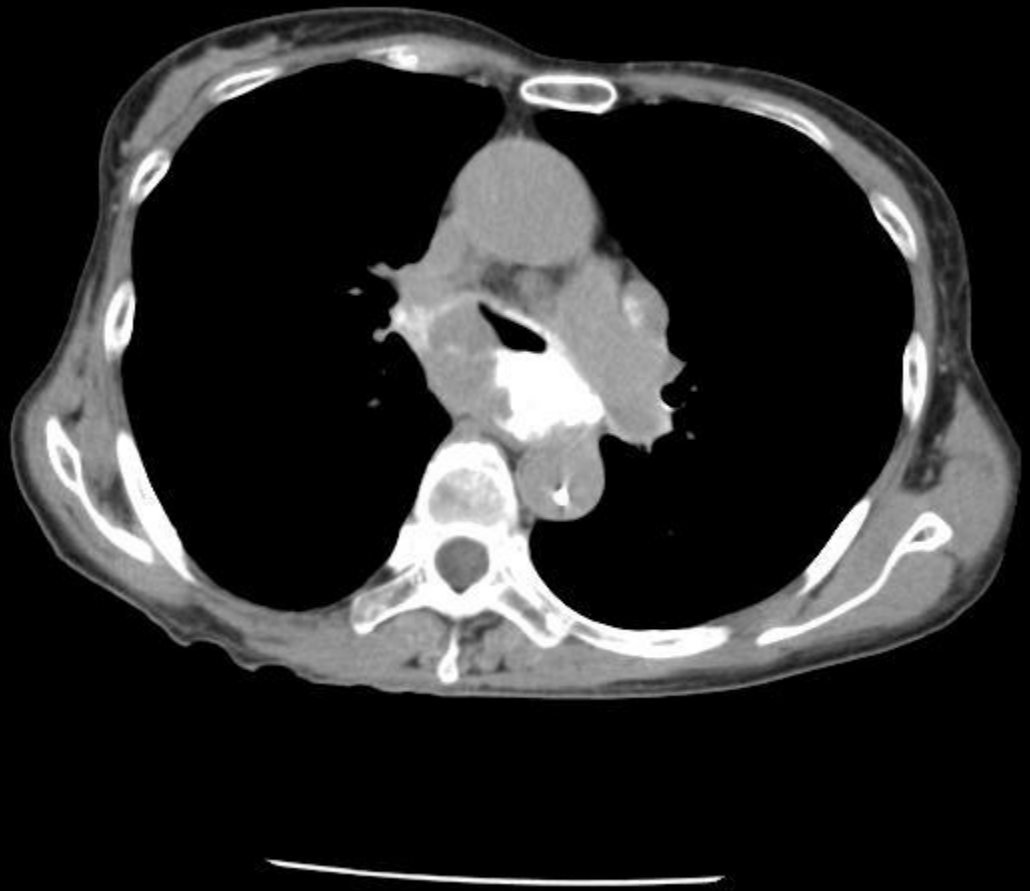
Gelatin spongeで塞栓

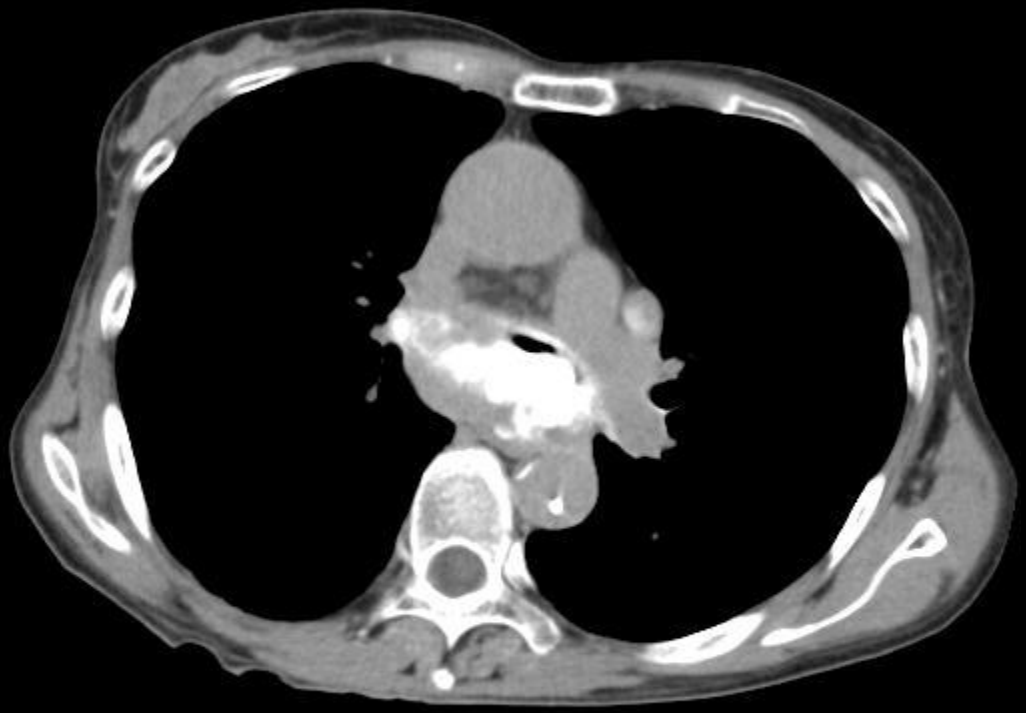
前

後

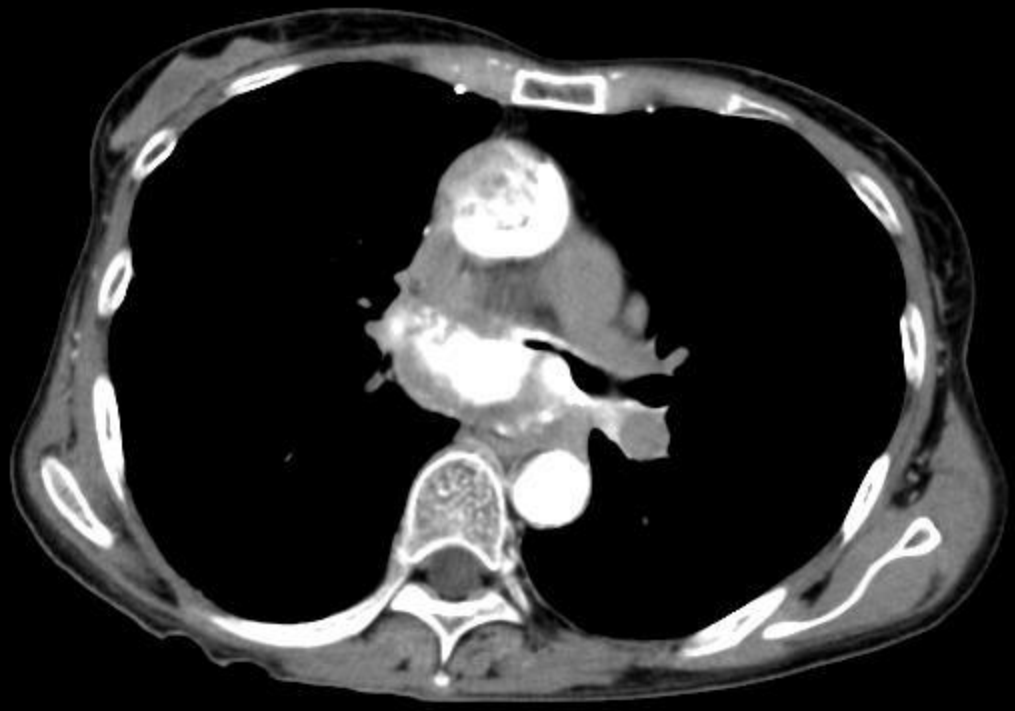
塞栓直後CT

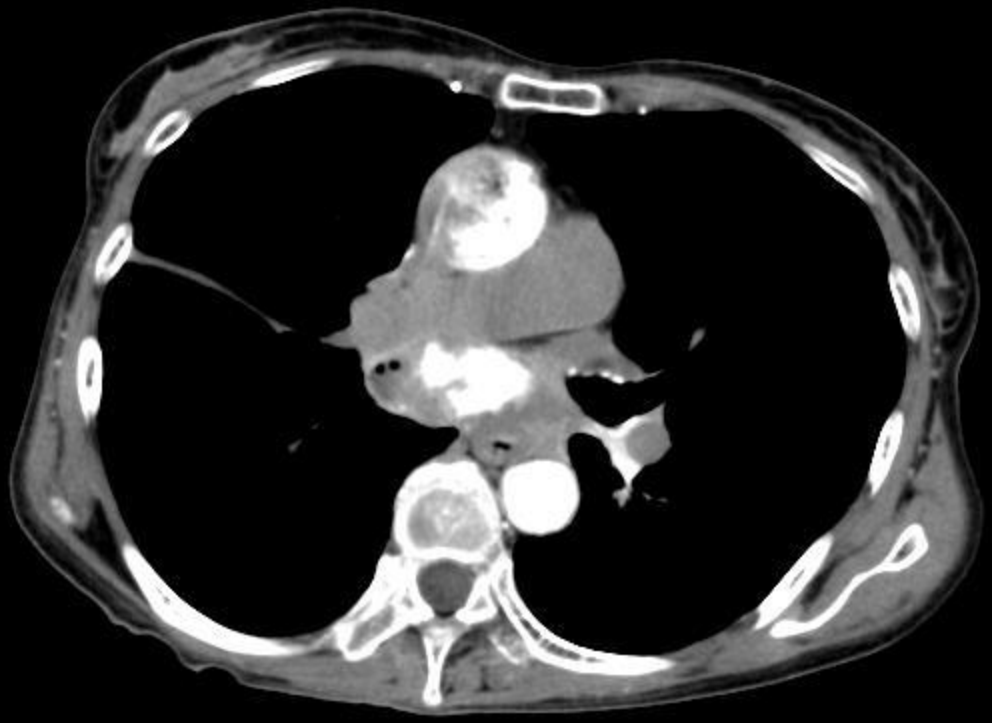
単純





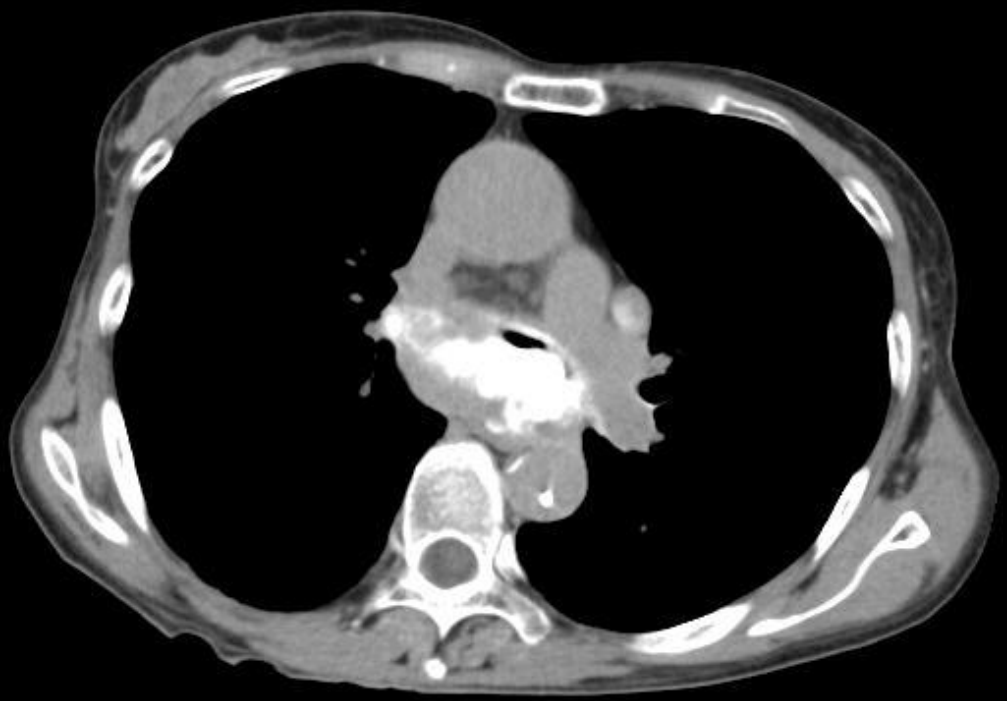
塞栓直後大動脈
造影下CT





前

後

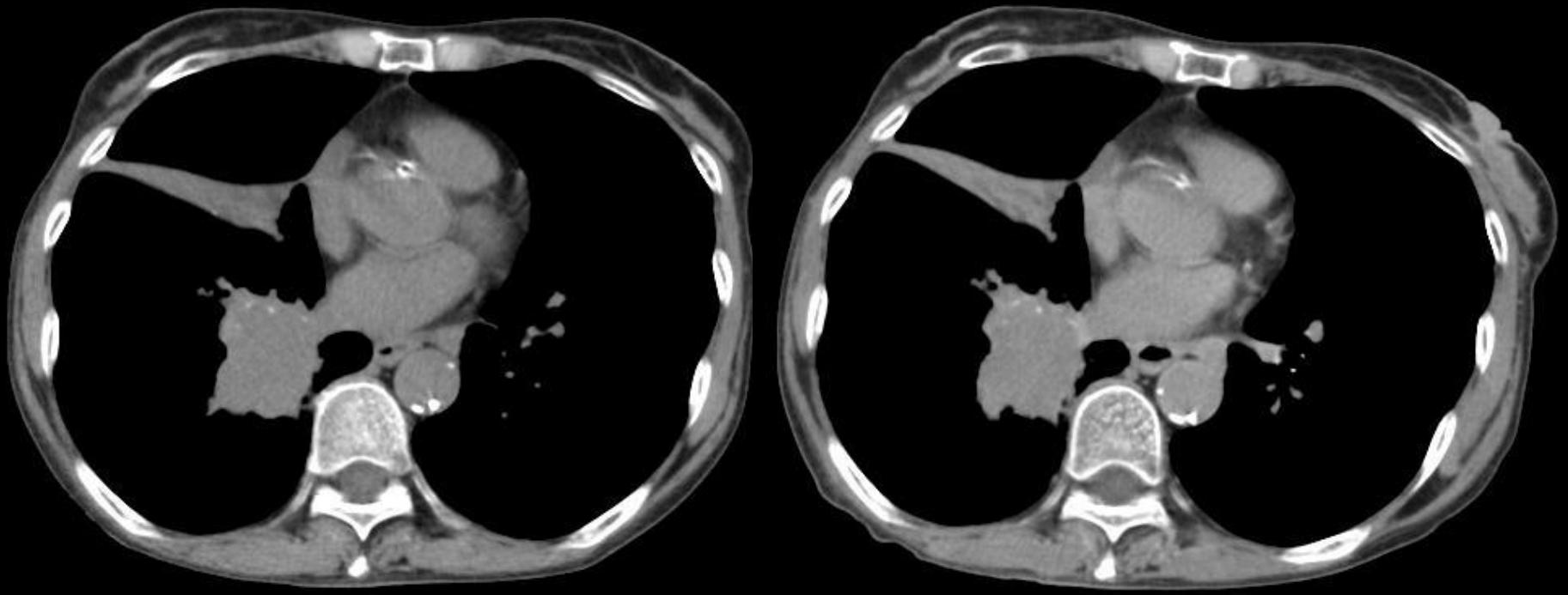


前

後

前

後

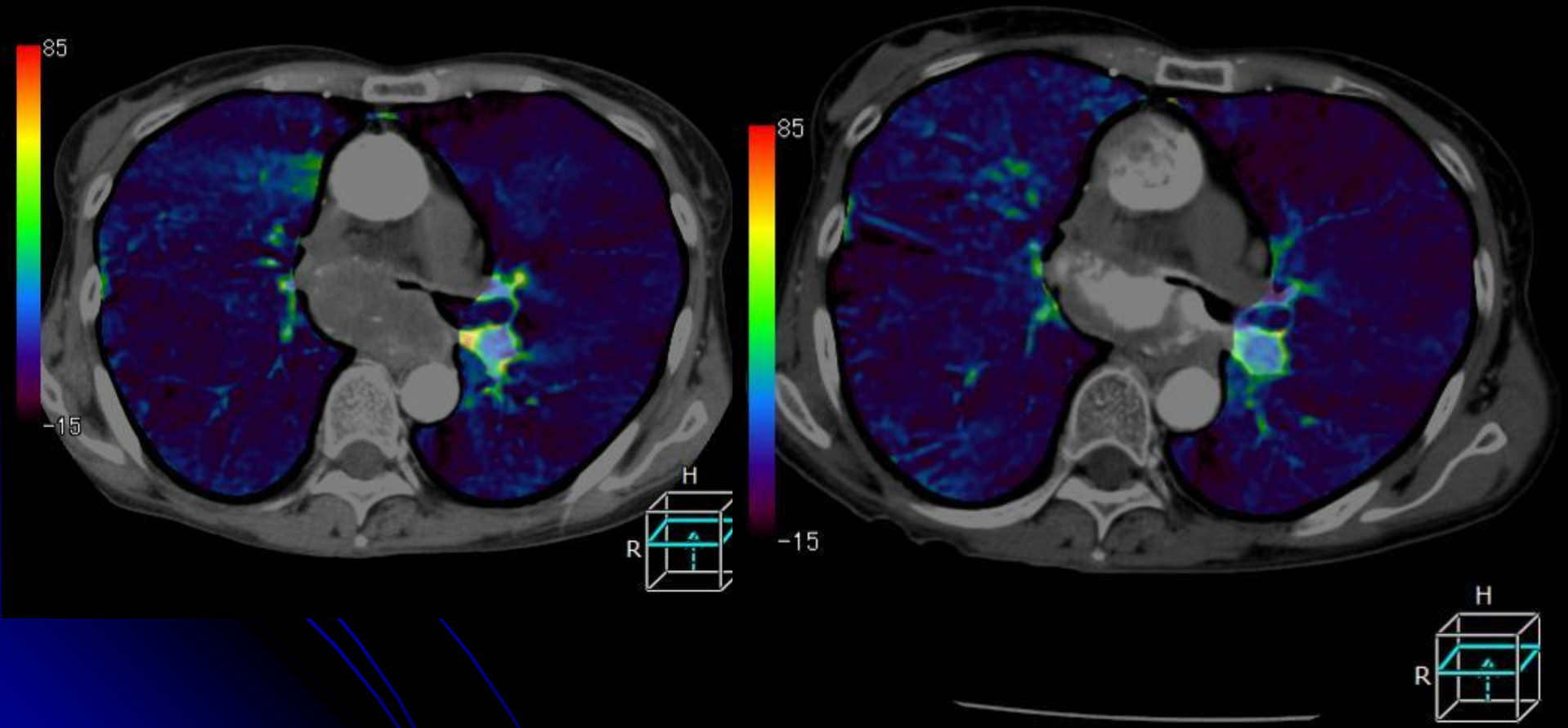


肺血流画像

＊止血は成功

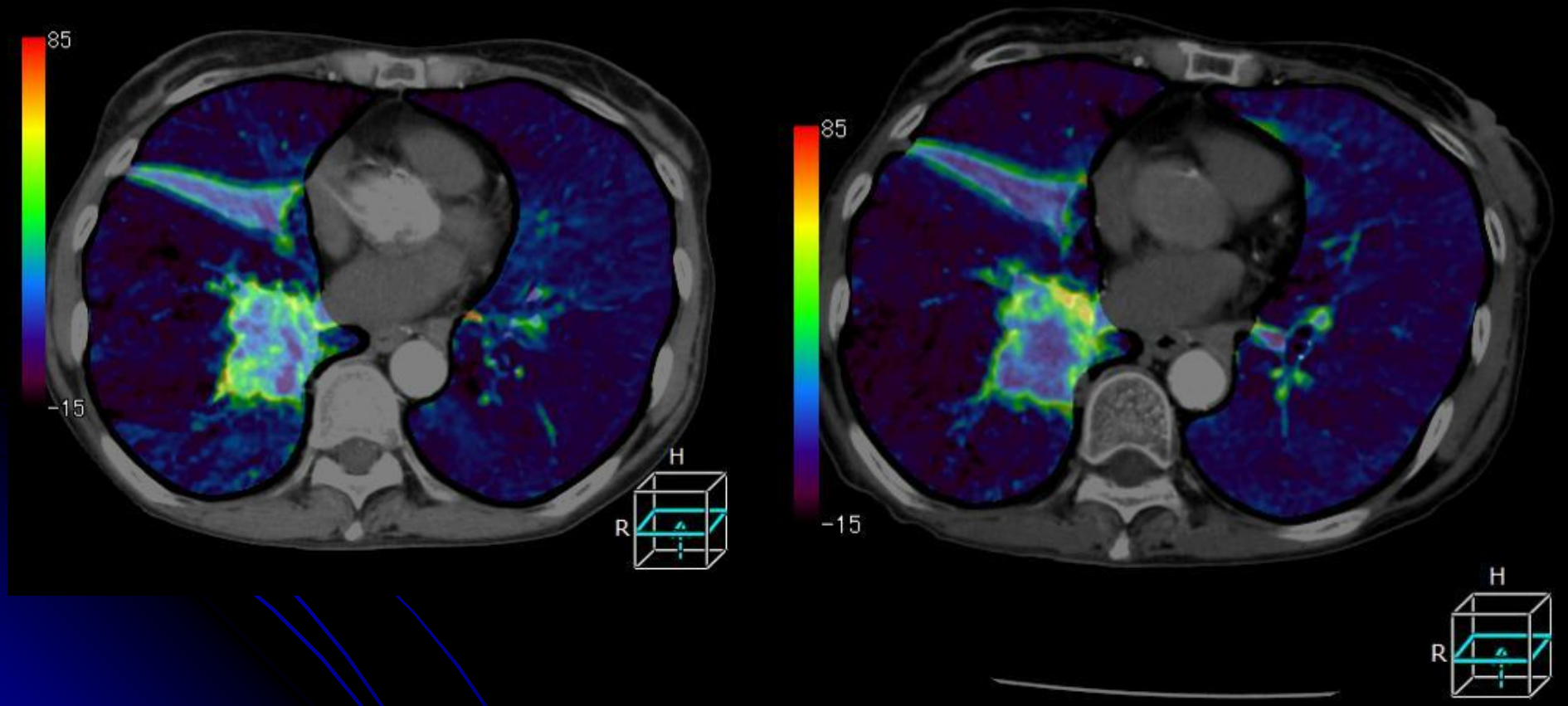
前

後



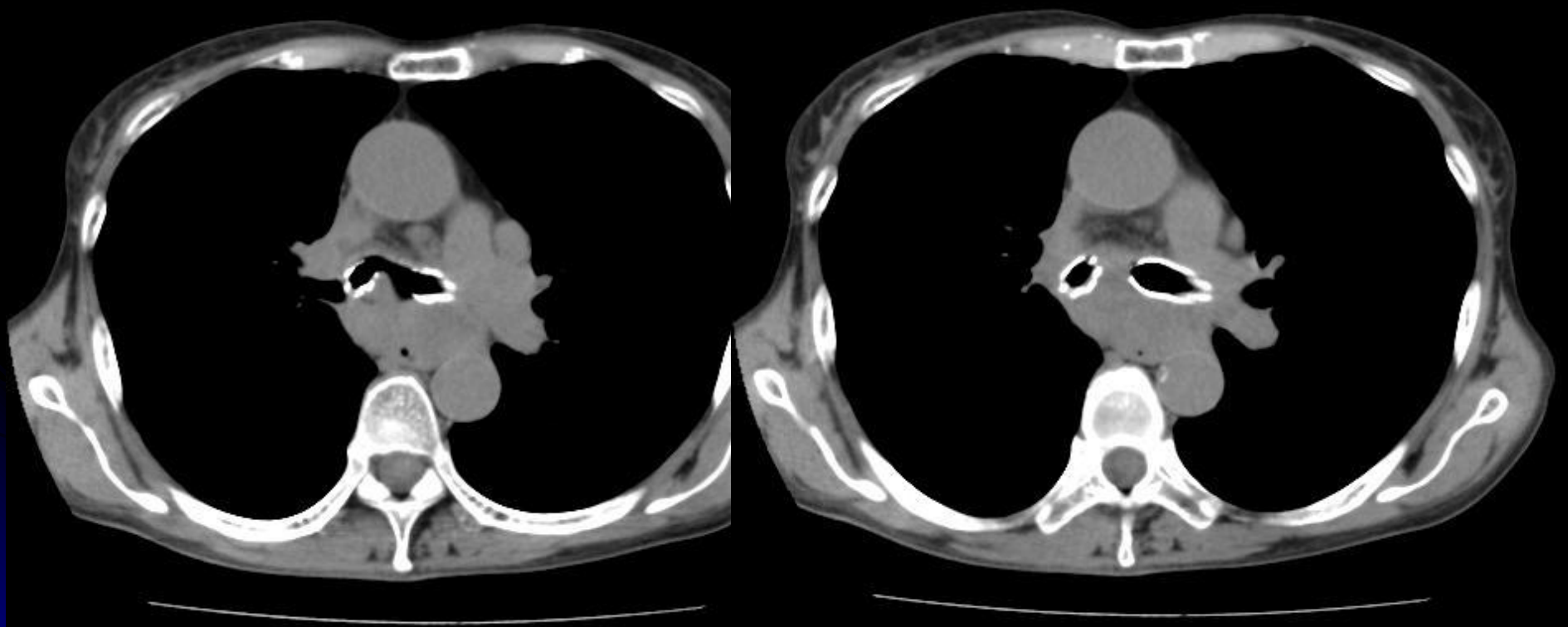
前

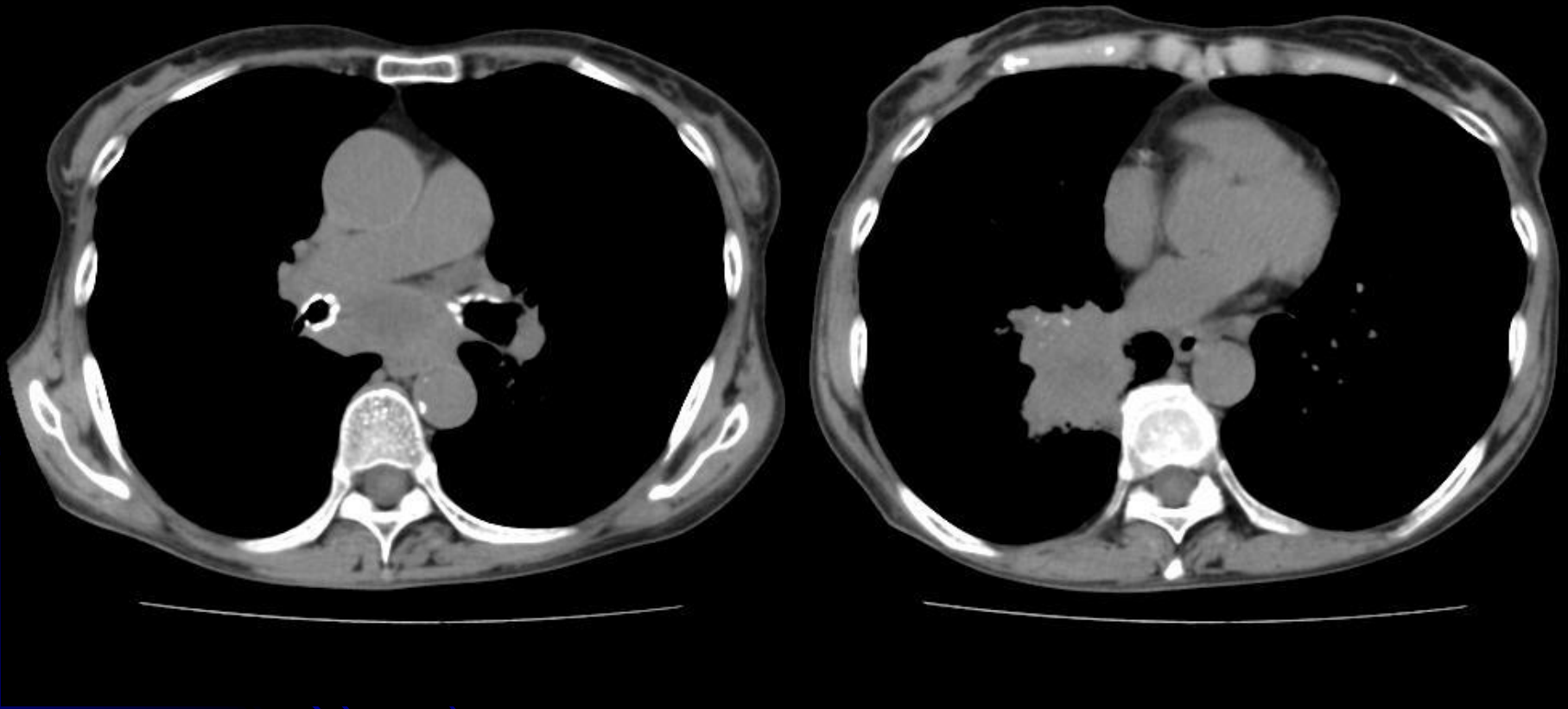
後



塞栓7日後　単純CT　気管支にステント挿入後

＊造影剤は消失

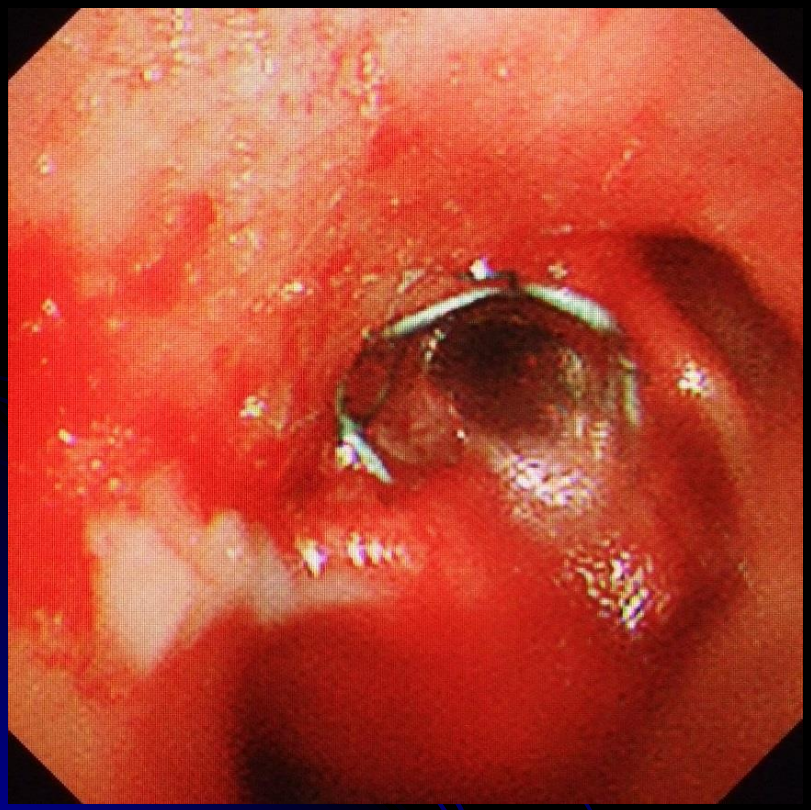


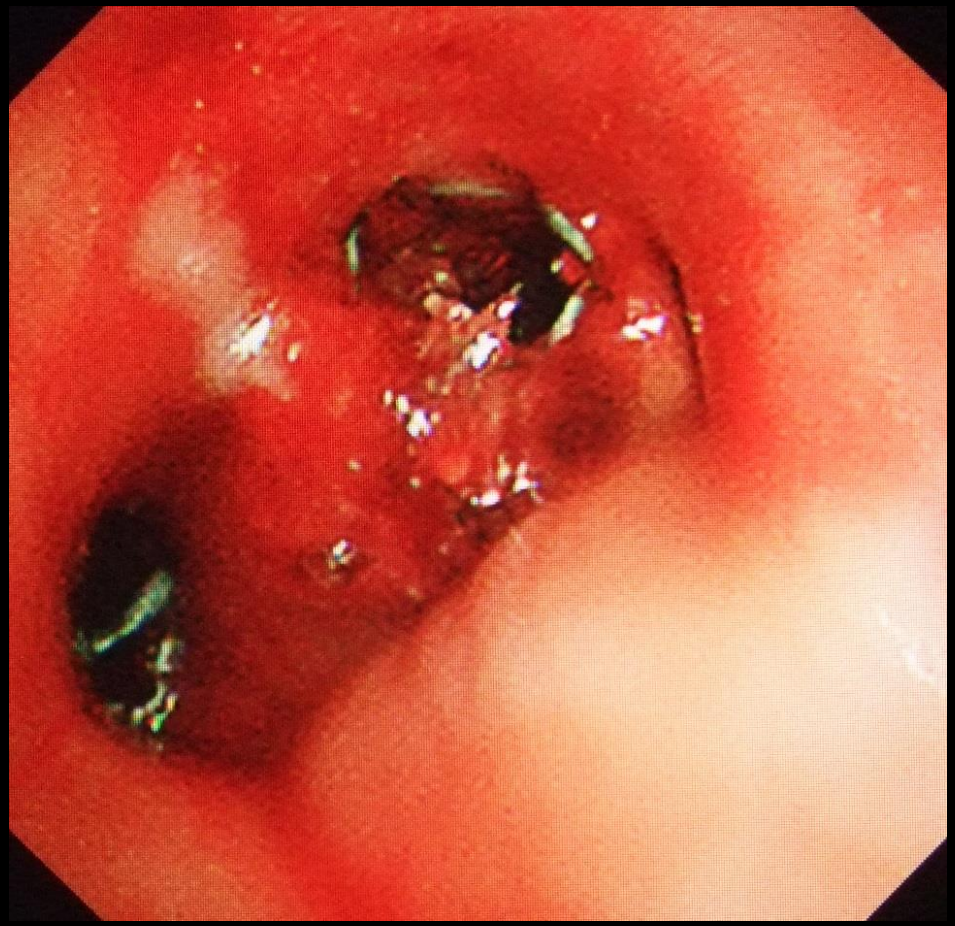


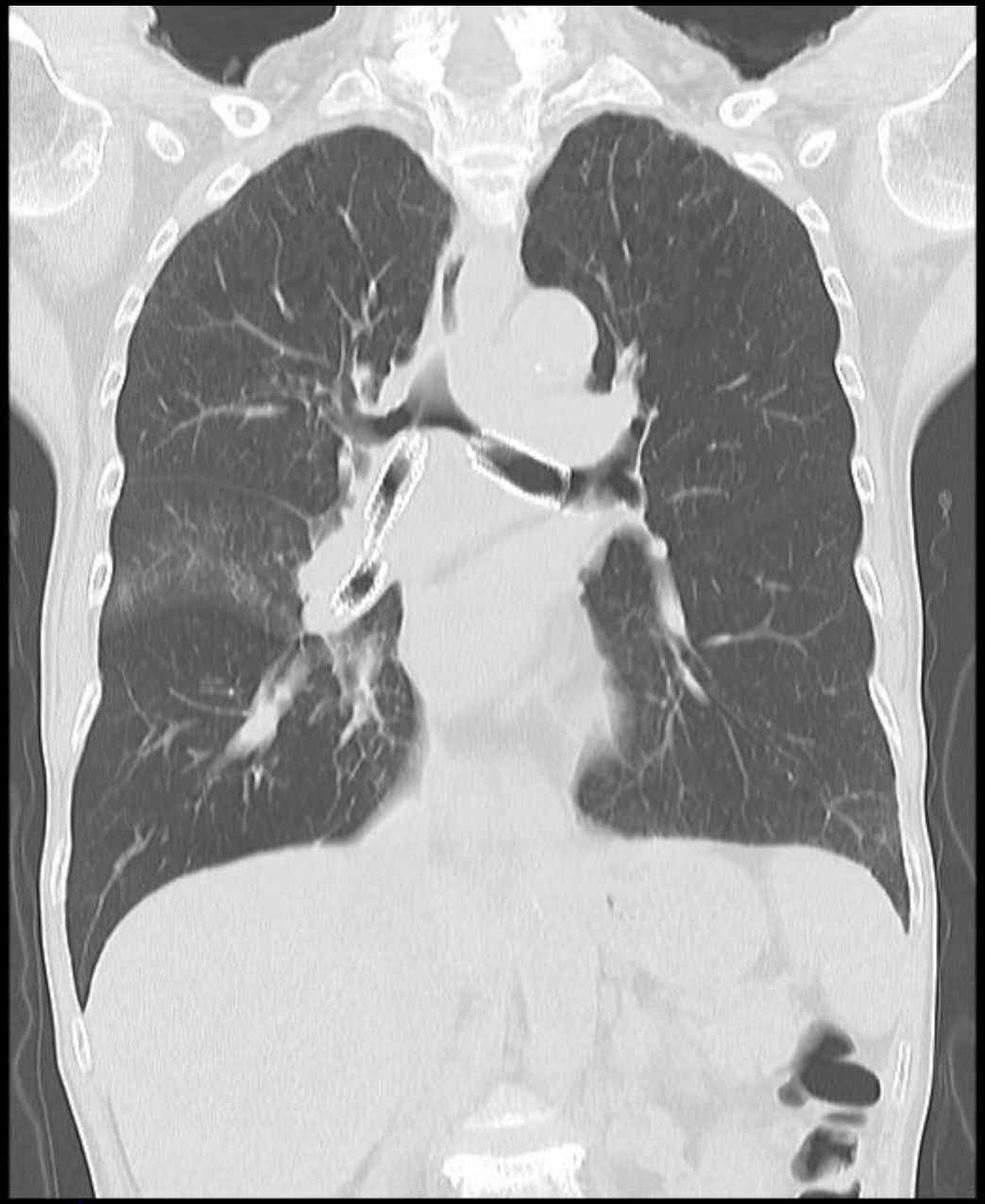
塞栓後ステント挿入
気管支鏡

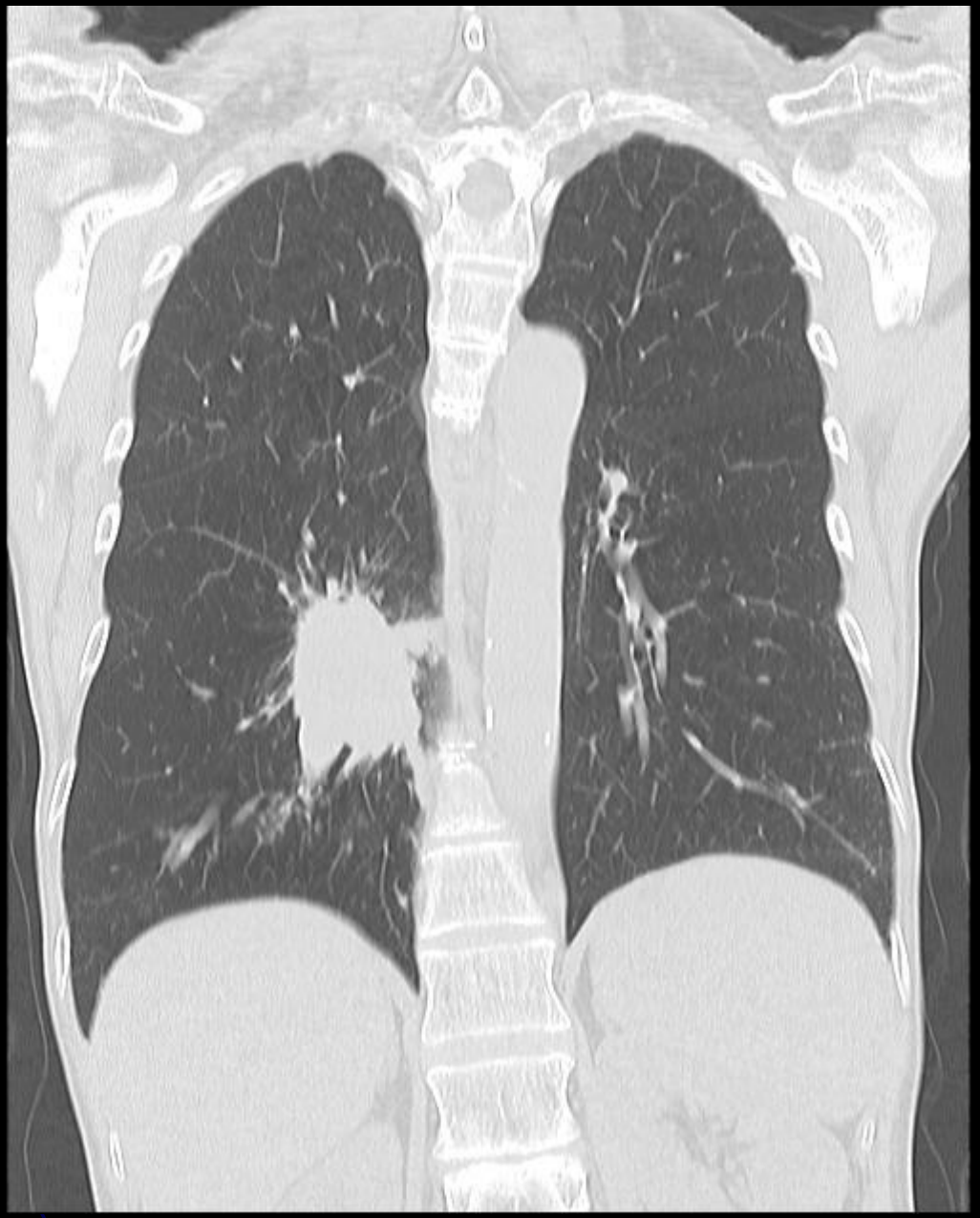
気管

右気管支









その後の経過

・喀血は止血され、両側気管支にステントを挿入後に退院となったが、1ヶ月後より血痰、呼吸困難、発熱などで再入院となった。

・経時的に胸水が増量、全身状態が悪化、約2ヶ月後に永眠された。

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ORIGINAL ARTICLE

Transarterial chemoembolization for management of hemoptysis: initial experience in advanced primary lung cancer patients

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Abstract
Purpose To evaluate the hemostatic effects of transarterial infusion chemotherapy in addition to embolization (chemoembolization) for advanced primary lung cancer with tumor-related hemoptysis.
Materials and methods Ten consecutive patients with stage IIIB/IV or recurrent primary lung cancer (squamous cell carcinoma in six, adenocarcinoma in four) who underwent chemoembolization for control of hemoptysis were enrolled. At enrollment, five patients were considered refractory and five had contraindications to standard therapies. The amount of hemoptysis was massive in two patients, moderate in seven, and slight in one. Transarterial infusion chemotherapy via feeding arteries using cisplatin (25 mg/m^2) and 5-fluorouracil (300 mg/m^2) was repeated every 3–4 weeks for three cycles. HepaSphere (100–150 μm) or gelatin sponge particles were selected as embolic materials depending on the presence of pulmonary shunts and were added for embolization just after drug infusion.
Results Hemoptysis improved in all patients (resolution in nine, significant decrease in one). The median hemostasis time was 11.9 months (range 2.7–25.9 months). The target pulmonary lesions shrank in seven patients, and pulmonary atelectasis disappeared in three of five patients.
Conclusions Chemoembolization may be a palliative option with favorable hemostasis time for advanced primary lung cancer with hemoptysis.

Keywords Bronchial artery embolization · Hemoptysis · Primary lung cancer · Transarterial infusion chemotherapy

Introduction

Hemoptysis is a life-threatening condition and factor for decreased quality of life in patients with locally advanced lung cancer. It was reported that up to 30% of lung cancer patients will develop hemoptysis [1]. Bronchial artery embolization (BAE) is a minimally invasive procedure considered the most effective nonsurgical treatment for management of hemoptysis resulting from various benign and malignant lung diseases, including bronchiectasis, cystic fibrosis, tuberculosis, and cancer [2, 3]. Some previous reports have focused exclusively on BAE in patients with hemoptysis associated with lung tumors [4–9]. According to these studies, BAE in patients with tumor-related hemoptysis caused by lung malignancies frequently provides immediate decreased bleeding in a relatively short period, but is associated with increased hemoptysis recurrence and high mortality, relative to patients with hemoptysis arising from benign pulmonary diseases.

Transarterial infusion chemotherapy via the bronchial artery (BA) and non-bronchial systemic arteries (NBSAs) is a palliative local treatment for advanced lung cancer. Nakanishi et al. [10] reported that transarterial infusion chemotherapy without embolization has a favorable response rate with less toxicity for patients with locally

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Table 2 Treatment information and clinical outcomes after TACE

Patient no.	No. of TACE	Embolic material	No. of treated arteries	Local response	Change in hemoptysis	Change in PS (baseline/best state)	Post treatment	New lesions after TACE	Recurrence of hemoptysis (hemostasis time, months)	Current state (survival time, months)
1	3	GS	2	PR	Resolution	3/1	TACE RT, chemo	LN	No (25.9)	Alive (25.9)
2	3	Hepaspheres	2	SD	Resolution	2/1	BSC	Lung, brain	Yes (9.0)	Dead (13.0)
3	2	GS	2	SD	Significant decrease	3/2	BSC	Spleen, kidney	No (5.6)	Dead (5.6)
4	1	Hepaspheres	1	PR	Resolution	1/1	BSC	None	No (16.0)	Lost (16.0)
5	3	Hepaspheres	1	PR	Resolution	3/1	Surgery (brain) BSC	Brain	No (23.0)	Dead (23.0)
6	3	Hepaspheres	1	PR	Resolution	3/0	Chemo	None	No (19.7)	Alive (19.7)
7	3	Hepaspheres	1	PR	Resolution	3/2	BSC	None	No (6.8)	Dead (6.8)
8	3	Hepaspheres	2	PR	Resolution	3/1	TACE	None	Yes (11.7)	Alive (16.0)
9	3	Hepaspheres	2	PR	Resolusion	3/1	BSC	Brain, LN	No (12.0)	Alive (15.0)
10	2	Hepaspheres	2	SD	Resolution	3/2	Chemo	Liver, LN	Yes (2.7)	Dead (3.5)

BSC best supportive care, *Chemo* systemic chemotherapy, *GS* gelatin sponge particles, *LN* lymph node, *RT* radiation therapy, *PS* ECOG performance status, *PR* partial response, *SD* stable disease, *TACE* transarterial chemoembolization

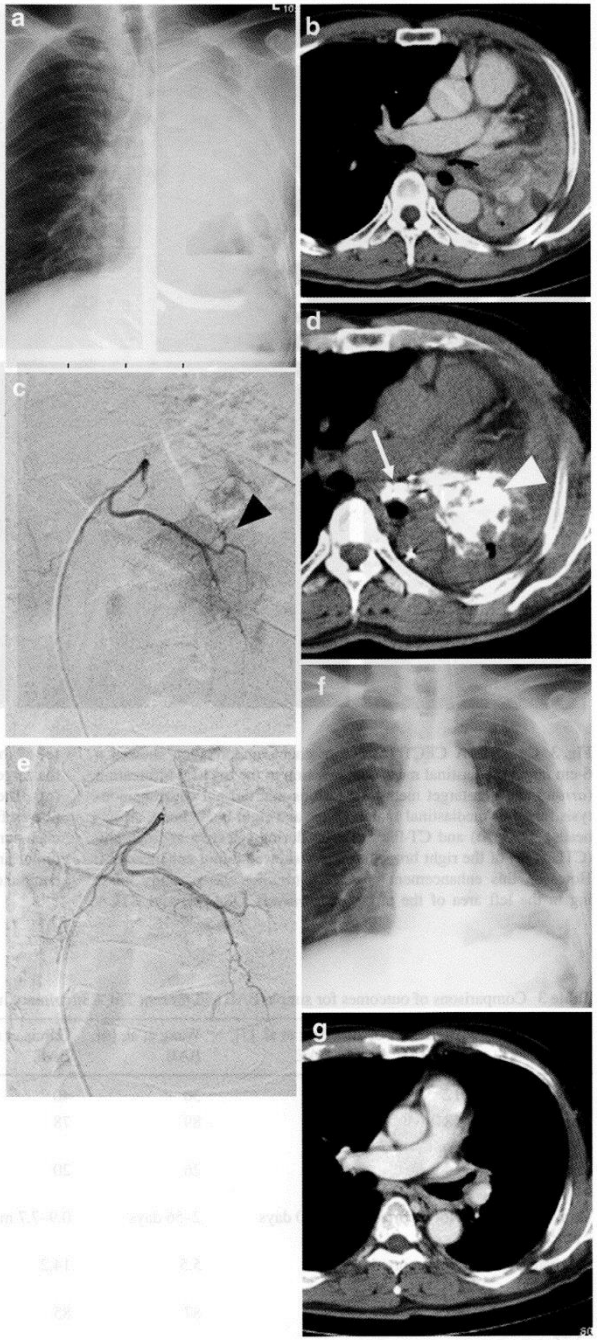
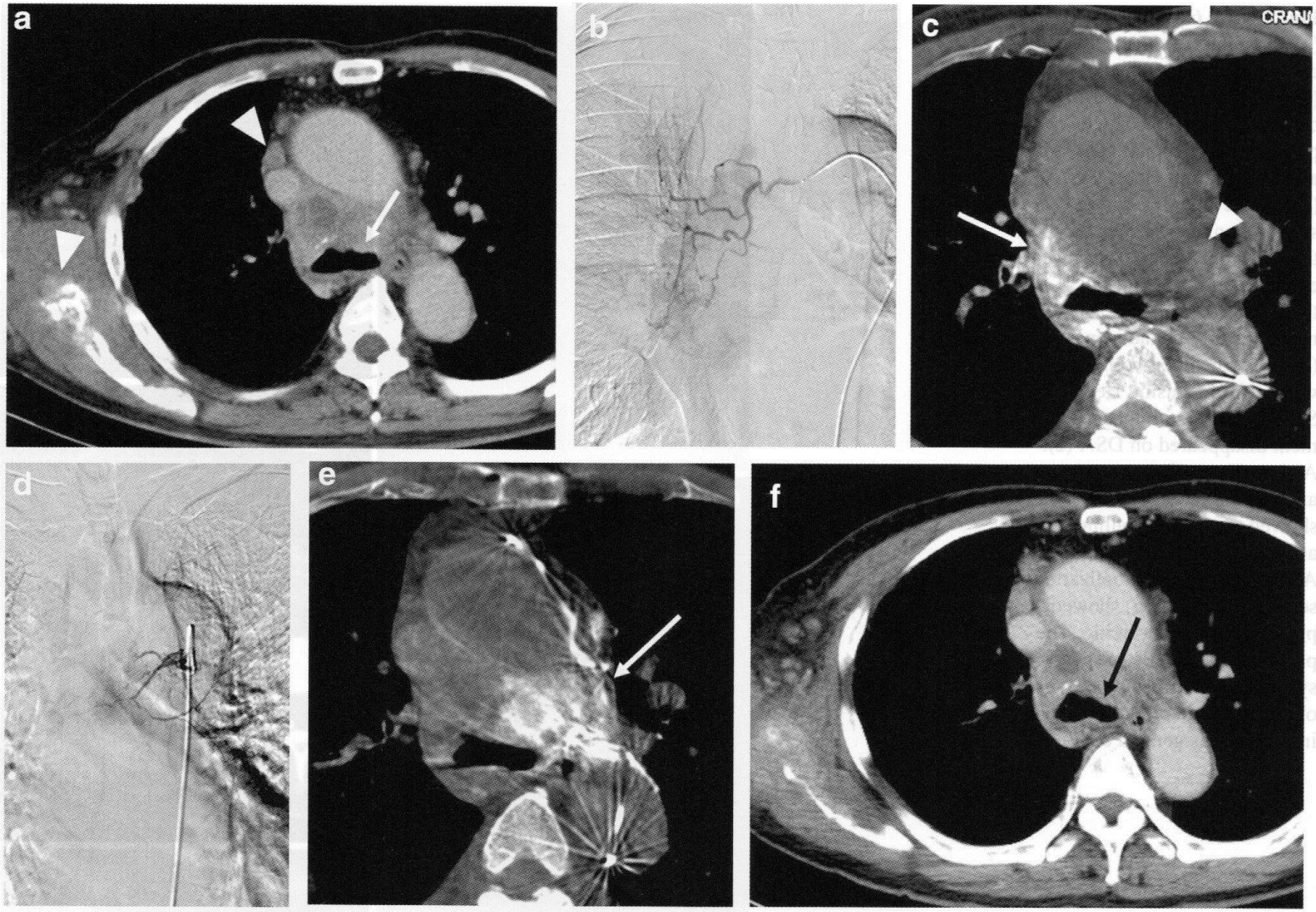


Fig. 2 Case 6. A chest X-ray (**a**) and contrast-enhanced computed tomography (CECT) (**b**) before transarterial chemoembolization showed left pulmonary atelectasis caused by a left lung hilum tumor. DSA (**c**) and CT imaging during selective angiography (**d**) of the left bronchial artery showed enhancement of almost all the tumor (*arrowhead*) and a mediastinal lymphadenopathy (*arrow*). Chemoembolization was performed using HepaSphere, and tumor enhancement disappeared on DSA (**e**). A chest X-ray (**f**) at 1 week after the initial procedure showed that the left pulmonary atelectasis had disappeared. After three chemoembolization sessions, a CECT (**g**) showed profound tumor shrinking. The patient subsequently received systemic chemotherapy because of a stopping hemoptysis and an improving his general condition


a
b
c
CRANI
d
e
f

ま と め

気管支動脈塞栓術後の塞栓物質がリンパ節metaに集積した1例を提示した。