LA DIAGNOSI DELLE MASSE MEDIASTINICHE
RUOLO DEL RADIOLOGO INTERVENTISTA

DOTT.SSA PAOLA D'ARIENZO
RADIOLOGIA OSPEDALE CA' FONCELLO TREVISO

HIGHLIGHTS IN EMATOLOGIA
TREVISO, 1-2 DICEMBRE 2023

Disclosures of Name Surname

Company name	Research support	Employee	Consultant	Stockholder	Speakers bureau	Advisory board	Other

NO DISCLOSURE

ACR Appropriateness Criteria®
Imaging of Mediastinal Masses

Expert Panel on Thoracic Imaging: *Jeanne B. Ackman, MD[a], Jonathan H. Chung, MD[b], Christopher M. Walker, MD[c], Tami J. Bang, MD[d], Brett W. Carter, MD[e], Stephen B. Hobbs, MD[f], Asha Kandathil, MD[g], Michael Lanuti, MD[h], Rachna Madan, MBBS[i], William H. Moore, MD[j], Sachin D. Shah, MD[k], Franco Verde, MD[l], Jeffrey P. Kanne, MD[m]*

Abstract

Mediastinal masses can present with symptoms, signs, and syndromes or incidentally. Selecting the appropriate diagnostic imaging study for mediastinal mass evaluation requires awareness of the strengths and weaknesses of the various imaging modalities with regard to tissue characterization, soft tissue contrast, and surveillance. This publication expounds on the differences between chest radiography, CT, PET/CT, ultrasound, and MRI in terms of their ability to decipher and surveil mediastinal masses. Making the optimal imaging choice can yield diagnostic specificity, avert unnecessary biopsy and surgery, guide the interventionist when necessary, and serve as a means of surveillance for probably benign, but indeterminate mediastinal masses.

reviewed journals and the application of well-established methodologies (RAND/UCLA Appropriateness Method and Grading of Recommendations Assessment, Development, and Evaluation or GRADE) to rate the appropriateness of imaging and treatment procedures for specific clinical scenarios. In those instances where evidence is lacking or equivocal, expert opinion may supplement the available evidence to recommend imaging or treatment.

Key Words: Appropriateness Criteria, Appropriate Use Criteria, AUC, CT, Mediastinal cyst, Mediastinal mass, MRI, Soft tissue contrast, Tissue characterization

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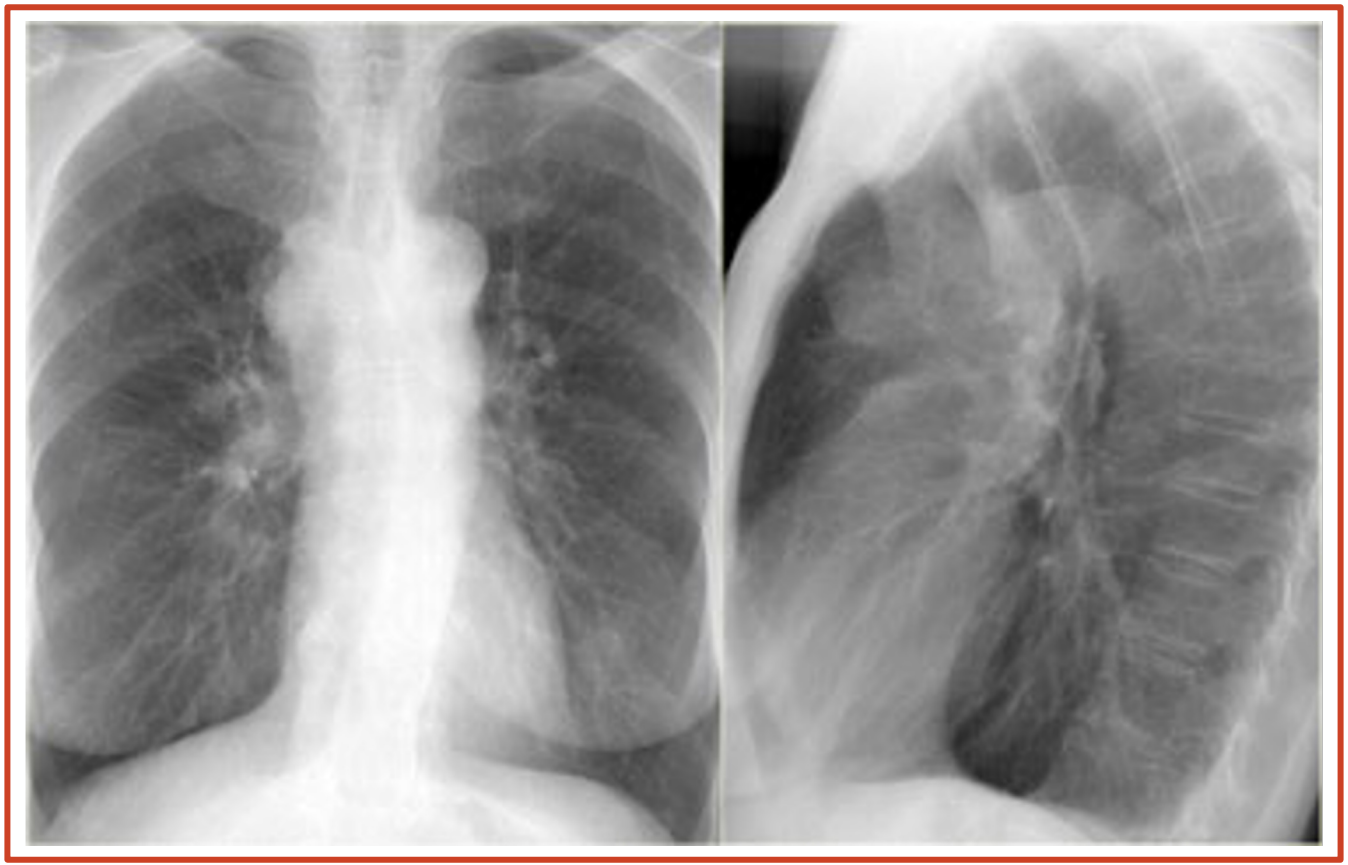
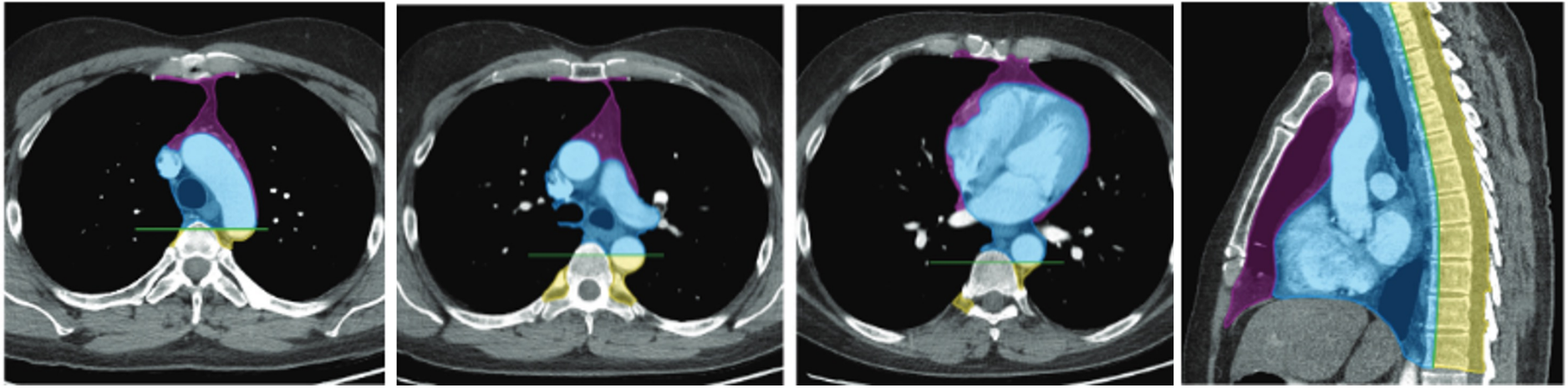
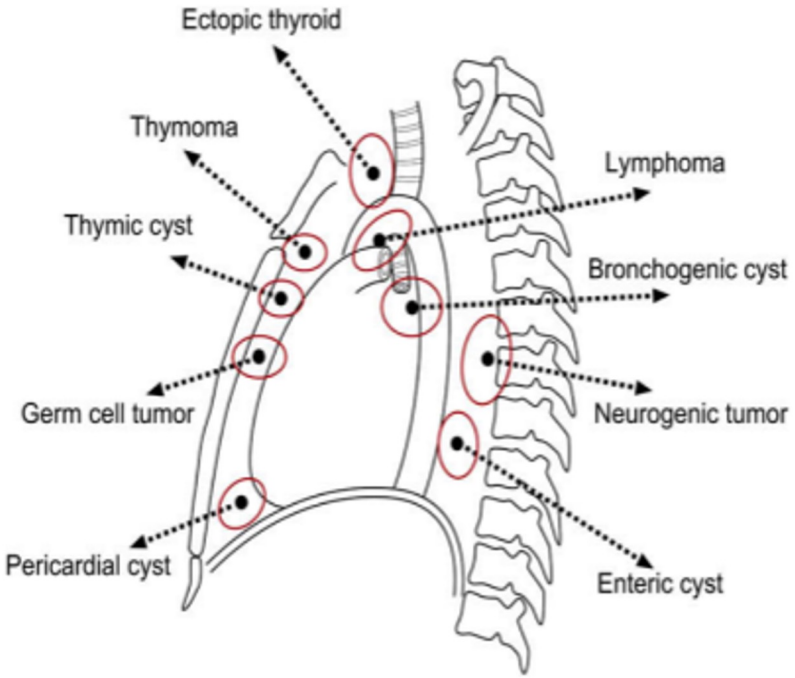




ITMG CLASSIFICATION OF MEDIASTINAL COMPARTMENTS



Common mediastinal tumors and cysts according to representative location in the mediastinum.

	Lesions	Fluid	Fat	Vascular
Anterior	Thymic Lymphoma Germ Cell Goiter	Thymic C Thymoma Pericardial C Germ Cell Lymphoma	Germ cell-b Thymolipoma Fat Pad	Thyroid Cardiac Coronary
Middle	Lymph nodes Duplication C Arch anomaly	Duplication C Necrotic nodes Pericard recess Retroperitoneal	Lipoma Esophageal FV polyp	Arch anomaly Azygous Vein Vascular nodes
Posterior	Neurogenic Bone and marrow	Neuroenteric C Schwannoma Meningocoele	Extramedullary Hematopoiesis	Desc Aorta
>1 comp	Infection Hemorrhage Lung Cancer	Lymphangioma Mediastinitis	Liposarcoma	Hemangioma

clinical practice guidelines

Annals of Oncology 26 (Supplement 5): v40–v55, 2015
doi:10.1093/annonc/mdv277

Thymic epithelial tumours: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up†

N. Girard[1], E. Ruffini[2], A. Marx[3], C. Faivre-Finn[4] & S. Peters[5], on behalf of the ESMO Guidelines Committee*

[1]Department of Respiratory Medicine, Expert Centre for Thymic Malignancies, Reference Centre for Orphan Pulmonary Diseases, Hôpital Louis Pradel, Hospices Civils de Lyon, Lyon, France; [2]Department of Thoracic Surgery, University of Torino, Turin, Italy; [3]Institute of Pathology, University Medical Centre Mannheim, University of Heidelberg, Mannheim, Germany; [4]Institute of Cancer Sciences, The University of Manchester, Manchester Academic Health Science Centre, The Christie NHS Foundation Trust, Manchester, UK; [5]Department of Medical Oncology, Centre Hospitalier Universitaire Vaudois (CHUV), Lausanne, Switzerland

Thymic epithelial tumours are the most frequent cause of anterior mediastinal mass, accounting for 35% of cases; the most relevant differential diagnoses include lymphomas (Hodgkin's or non-Hodgkin's) in ~25% of cases and germ-cell tumours (teratoma or seminoma/non-seminomatous tumours) in ~20% of cases [13]. Thymic carcinoma must be differentiated from lung carcinoma, as well as from rarer entities, such as *NUT* carcinomas [17].

Clinical judgement based on a complete history and physical, especially neurological, examination, correlated with laboratory tests and radiological features, helps to develop a presumptive diagnosis. Thymoma is the most likely diagnosis when facing a mediastinal mass associated with one of the above autoimmune diseases, while thymic carcinoma patients typically have unspecific local symptoms [IV, A]. Lymphoma may be considered in case of rapid onset of B-signs, coexistent lymphadenopathy or elevated lactate dehydrogenase. Teratoma usually shows a heterogeneous morphology on imaging, with fat and cystic pattern [18]. Seminomas and non-seminomatous germ-cell tumours may be large and have a fulminant onset. Elevated serum β-human chorionic gonadotropin may be observed in seminomas, along with elevated alphafetoprotein in non-seminomatous germ-cells tumours.

Differentiating thymic malignancy from hyperplasia or non-involuted thymus may be challenging. Thymic rebound hyperplasia should be considered after stress, injuries, chemotherapy, radiotherapy, anti-hormonal treatment or corticosteroids. Thymic lymphoid hyperplasia is most common-

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diagnosis approach

The diagnosis of any thymic epithelial tumour relies on making the differential diagnosis with other anterior mediastinal tumours and non-malignant thymic lesions [13]. CT is the imaging modality of choice. The need for pretreatment biopsy depends on the resectability of the tumour [14–16].

TC CON MDC:

ESAME DI ELEZIONE

LOCALIZZAZIONE DELLA SEDE DELLA LESIONE
(COMPARTIMENTO ANTERIORE, MEDIO, POSTERIORE, PLURICOMPARTIMENTALE)

VALUTAZIONE DEI RAPPORTI DELLA MASSA CON LE ALTRE STRUTTURE MEDIASTINICHE (VASCOLARI, BRONCHIALI, PLEURA, PERICARDIO, PARETE TORACICA)
EVENTUALI SEGNI DI INFILTRAZIONE

COMPOSIZIONE DELLA MASSA:
CONTENUTO CISTICO, ADIPOSO, SOLIDO, VASCOLARIZZAZIONE

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MRI allows tissue characterization of mediastinal masses beyond that of CT and FDG-PET/CT because of its ability to detect not only serous fluid and macroscopic fat but also hemorrhagic and proteinaceous fluid, microscopic or intravoxel fat, cartilage, smooth muscle and fibrous material, though not calcium.

MRI can prove the cystic nature of an indeterminate, non–water attenuation thymic mass on CT, preventing unnecessary biopsy and thymectomy.

MRI can show sites of restricted diffusion of water within lesions by employing DWI,further assisting in lesion characterization and can employ DCE and post processed subtraction imaging for further differentiation of lesions and for direction of biopsy toward areas of cellularity, as opposed to hemorrhagic necrosis, the latter of which can be hyperattenuating and mimic solid tissue on CT.

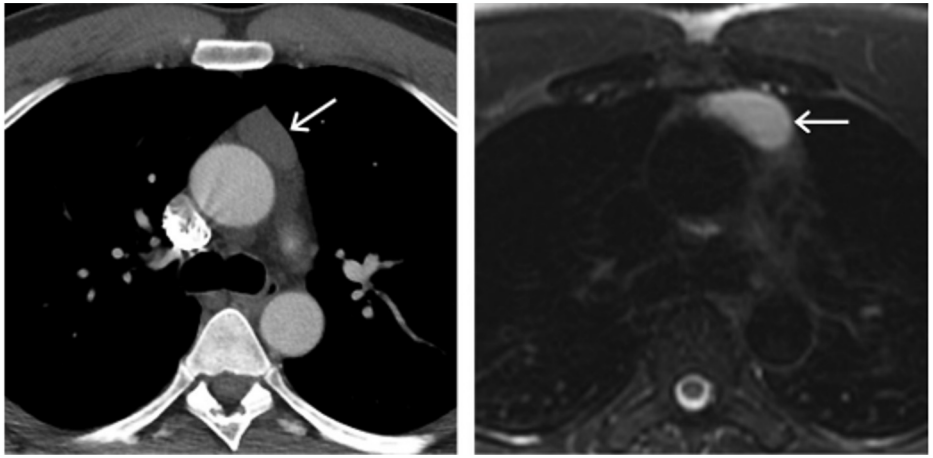
MRI can distinguish normal and hyperplastic thymus from thymic tumors and lymphoma, whether by chemical-shift MRI or by DWI with ADC mapping.

MRI remains superior to CT for detection of invasion of the mass across tissue planes, including the chest wall and diaphragm, and involvement of neurovascular structures, secondary to its higher soft tissue contrast.

MRI can also help differentiate low-risk from high-risk thymomas, thymic carcinoma, and lymphoma by the DCE pattern of these lesions and by DWI. CT currently cannot achieve this degree of tissue characterization.

MRI has been shown to be slightly superior to CT for surveillance of treated TETs, although, if there is susceptibility artifact from sternotomy

MEDIASTINO ANTERIORE



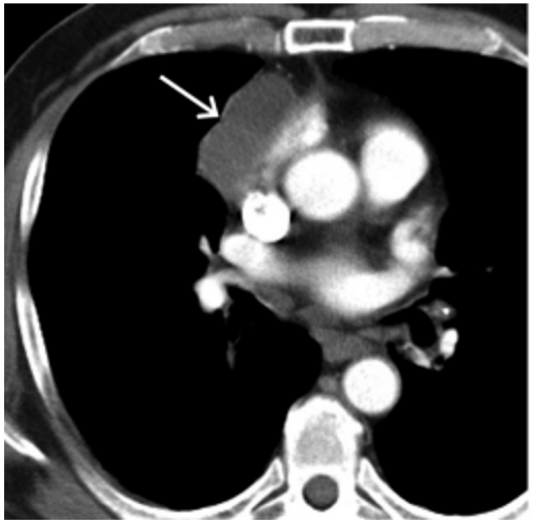
CISTI TIMICA

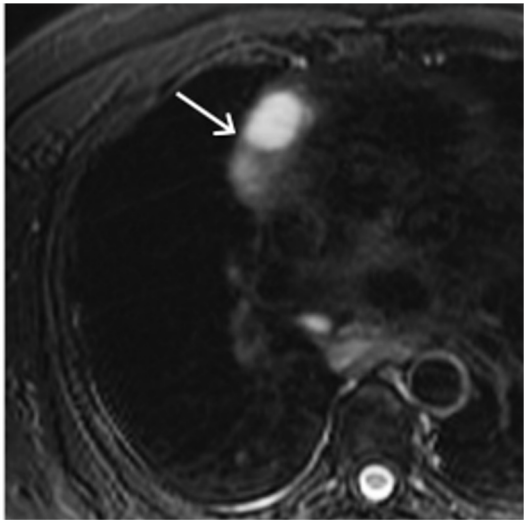
FORMAZIONE A CONTENUTO FLUIDO

SENZA SETTI O COMPONENTI SOLIDE

CON PARETI SOTTILI E REGOLARI

MEDIASTINO ANTERIORE





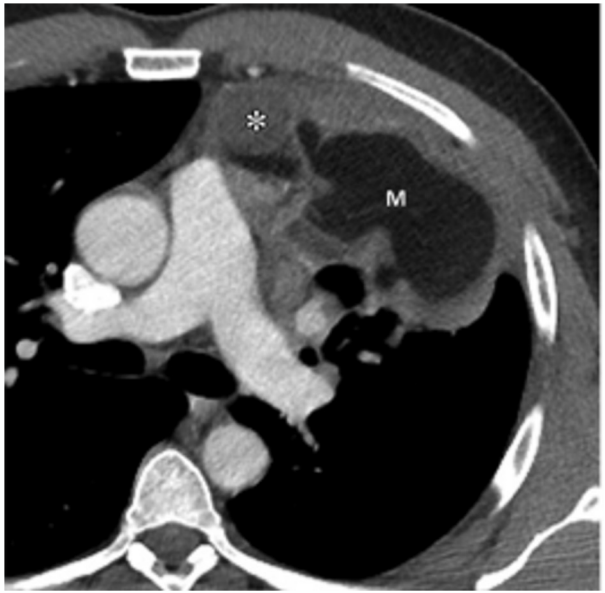
FORMAZIONE CON COMPONENTE CISTICA (SETTI)

COMPONENTE SOLIDA CON ENHANCEMENT CONTRASTOGRAFICO

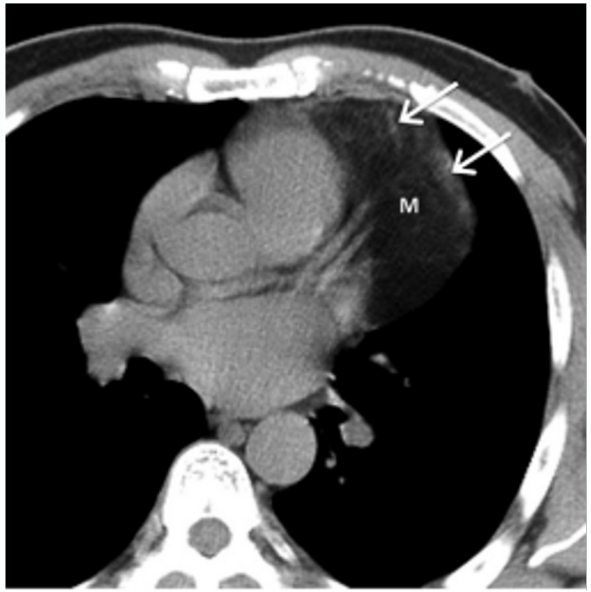
DATI CLINICI (MIASTENIA GRAVIS, SINDROMI PARANEOPLASTICHE)

TIMOMA CISTICO (DD: CISTI TIMICA MULTILOCULATA, LINFANGIOMA, TERATOMA CISTICO)

MEDIASTINO ANTERIORE



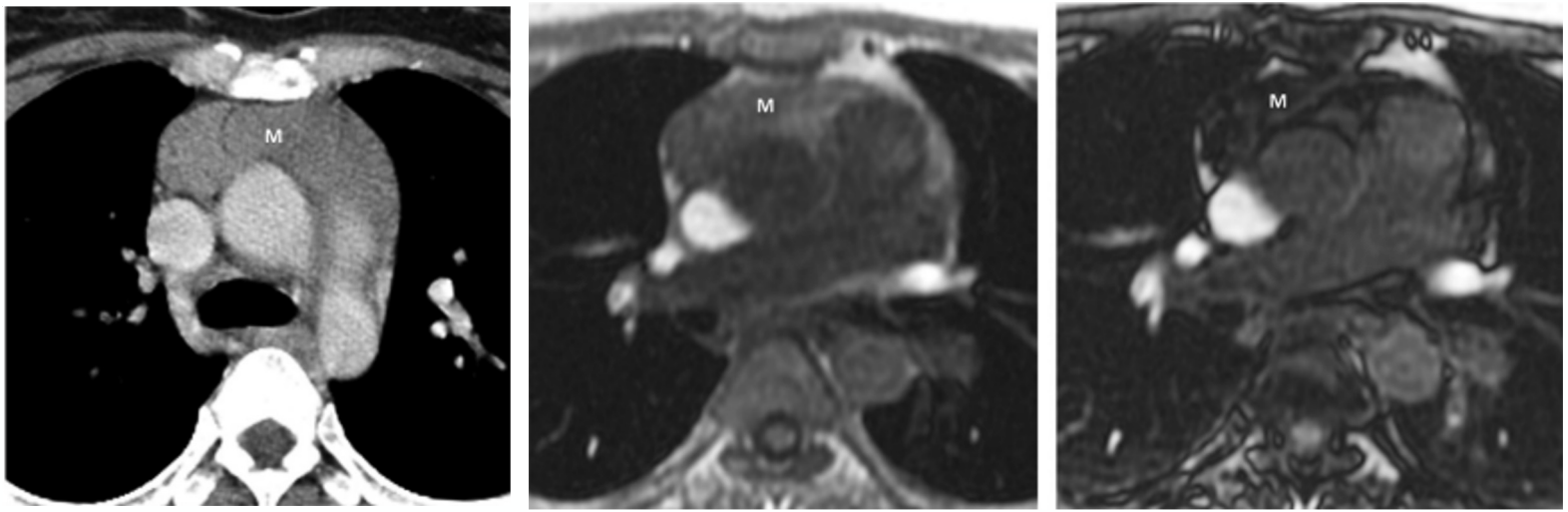
TERATOMA



TIMOLIPOMA

FORMAZIONE CON AMPIA
COMPONENTE ADIPOSA
O COMPLETAMENTE ADIPOSA

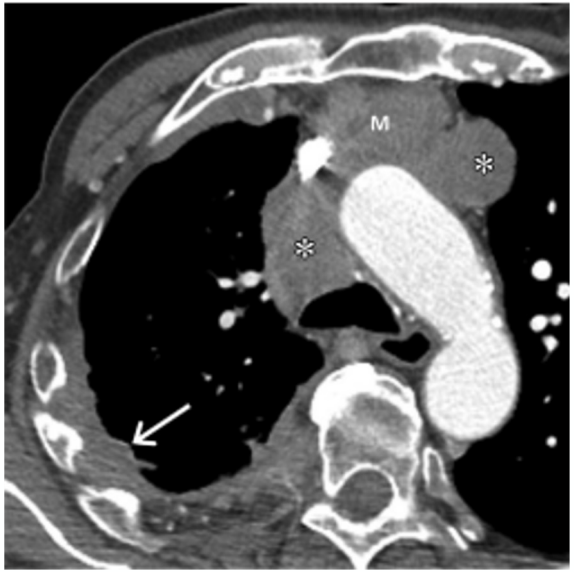
MEDIASTINO ANTERIORE



FORMAZIONE SOLIDA IL LOGGIA TIMICA CON ABBATTIMENTO DI SEGNALE NELLE SEQUENZE OUT OF PHASE IN RM

IPERPLASIA TIMICA

MEDIASTINO ANTERIORE



FORMAZIONE SOLIDA DISOMOGENEA

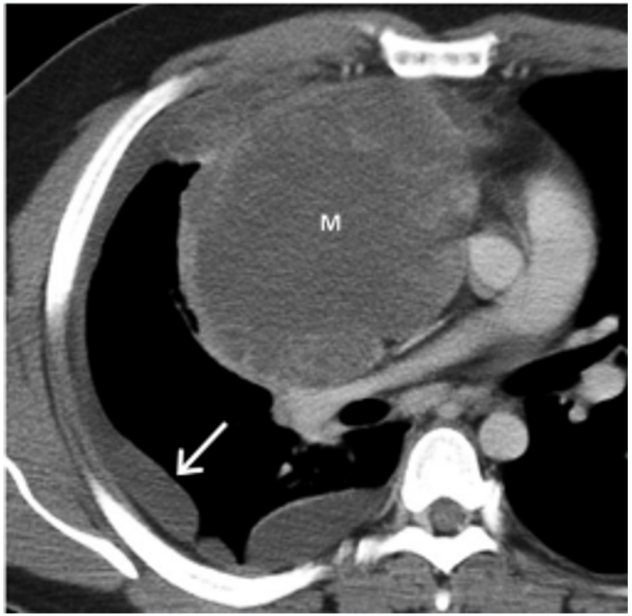
SEGNI DI INVASIVITÀ' LOCALE

ADENOPATIE ASSOCIATE

METASTASI A DISTANZA (PLEURICHE)

CARCINOMA TIMICO/CARCINOIDE TIMICO

MEDIASTINO ANTERIORE E MEDIO



DISGERMINOMA

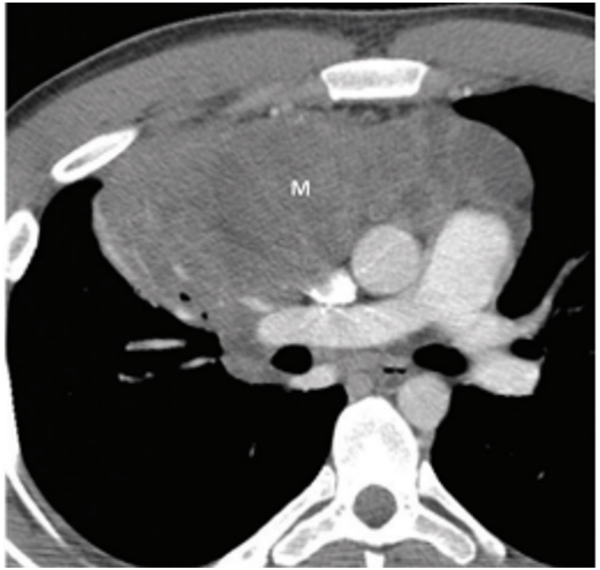
VOLUMINOSA MASSA DISOMOGENEA

AMPIE AREE NECROTICHE

DISLOCA LE STRUTTURE MEDIASTINICHE

GIOVANE ETÀ

MEDIASTINO ANTERIORE E MEDIO



VOLUMINOSA MASSA DISOMOGENEA

AVVOLGE LE STRUTTURE ADIACENTI
SENZA INFILTRARE

CLINICA/ES LABORATORIO

LINFOMA DI HODGKIN

LA BIOPSIA NON È QUINDI SEMPRE INDICATA

clinical practice guidelines

Annals of Oncology 26 (Supplement 5): v40–v55, 2015
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Thymic epithelial tumours: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up†

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Table 7. Summary of recommendations

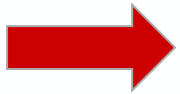
Diagnosis

- Thymic epithelial tumours are classified according to the WHO histopathological classification.
- Although designed for surgical resection specimen, the WHO classification may be used for small biopsies [V, A].
- Immunohistochemistry with anti-CD117/KIT and anti-CD5 antibodies is useful to establish the thymic primary nature of a mediastinal carcinoma [V, A].
- Each component of heterogeneous tumours may be quantified by 10% increments [V, C].
- Consultation with a second pathologist or referral of the case to a thymic tumour pathology panel is recommended whenever there is any diagnostic difficulty.
- Oncogenetic assessment should be carried out in case of familial thymic epithelial tumour, looking especially at MEN1.

Imaging and diagnostic tests

- Thymoma is the first diagnosis to consider when facing a mediastinal mass associated with autoimmune disease [IV, A].
- The diagnosis of any thymic epithelial tumour relies on making the differential diagnosis with other anterior mediastinal tumours and non-malignant thymic lesions.
- Standard imaging for thymic tumours is i.v. contrast-enhanced (CT) scan of the thorax [IV, A].
- MRI is recommended to differentiate thymic tumour from hyperplasia whenever CT scan is doubtful, or in case of cystic lesion [IV, B].
- PET scan is generally not recommended to assess thymic masses [IV, C].
- Therapeutic intervention is usually not required if the lesion is <30 mm, given a low risk of progression or thymic malignancy [III, D].
- Systematic immunological check-up is recommended, including complete blood cells count with reticulocytes and serum protein electrophoresis, as well as anti-acetylcholine receptor and anti-nuclear antibodies tests [V, A].

Need for a biopsy



Need for a biopsy

- Pretreatment biopsy is not required if the diagnosis of thymic epithelial tumour is highly suspected and upfront surgical resection is achievable [IV, E].
- Biopsy is required in all other clinical situations [IV, A]; approaches may consist of percutaneous core-needle biopsy or incisional surgical biopsy through mediastinotomy or mini-thoracotomy. Fine-needle aspiration is not recommended [IV, D].

- The Masaoka-Koga staging system should remain the standard for the routine management of patients, pending the approval of the AJCC and UICC [III, A].

Risk assessment

Table 5. Stage-matched therapeutic strategy

Masaoka-Koga stage	Thymoma	Thymic carcinoma
Stage I	Upfront surgery [IV, A] No biopsy [IV, E] If complete resection (R0): no postoperative radiotherapy [II, E] If incomplete resection (R1): postoperative radiotherapy (50–54 Gy) [IV, B]	Upfront surgery [IV, A] No biopsy [IV, E] If resection complete (R0): consider postoperative radiotherapy (45–50 Gy) [V, C] If incomplete resection (R1): postoperative radiotherapy (50–54 Gy) [IV, B]
Stage IIA	Upfront surgery [IV, A] No biopsy [IV, E] If complete resection (R0): – Type A–B2: no postoperative radiotherapy [IV, C] – Type B3: consider postoperative radiotherapy (45–50 Gy) [IV, C] If incomplete resection (R1): – Postoperative radiotherapy (50–54 Gy) [IV, B]	Upfront surgery [IV, A] No biopsy [IV, E] If complete resection (R0): – Consider postoperative radiotherapy (45–50 Gy) [IV, B] If incomplete resection (R1): – Postoperative radiotherapy (50–54 Gy) [IV, B] – Consider postoperative chemotherapy
Stage IIB	Upfront surgery [IV, A] No biopsy [IV, E] If complete resection (R0): – Type A–B1: no postoperative radiotherapy [IV, C] – Type B2–B3: consider postoperative radiotherapy (45–50 Gy) [IV, C] If incomplete resection (R1): – Postoperative radiotherapy (50–54 Gy) [IV, B]	Upfront surgery [IV, A] No biopsy [IV, E] If complete resection (R0): – Consider postoperative radiotherapy (45–50 Gy) [IV, B] If incomplete resection (R1): – Postoperative radiotherapy (50–54 Gy) [IV, B] – Consider postoperative chemotherapy
Stage III–IVA	Resectable tumour (TNM I–IIIA, i.e. T1–3): – Upfront surgery [IV, A] – Postoperative radiotherapy (45–50 Gy), with boost on areas of concern [IV, B] Unresectable tumour (TNM IIIA-B, i.e. T3-T4, IVA): – Biopsy – Primary chemotherapy (prefer anthracycline-based) [III, A] – If the tumour becomes resectable: – Surgery [III, A] – Postoperative radiotherapy (45–50 Gy), with boost on areas of concern (R0, R1 resection) [IV, B] – If the tumour remains unresectable or R2:	Resectable tumour (TNM I–IIIA, i.e. T1–3): – Upfront surgery [IV, A] – Postoperative radiotherapy (40–50 Gy), with boost on areas of concern [IV, B] – Consider postoperative chemotherapy Unresectable tumour (TNM IIIA-B, i.e. T3-T4, IVA): – Biopsy – Primary chemotherapy (prefer anthracycline-based) [III, A] – If the tumour becomes resectable: – Surgery [III, A] – Postoperative radiotherapy (45–50 Gy), with boost on areas of concern (R0, R1 resection) [IV, B]

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NCCN Guidelines Version 1.2021
Thymomas and Thymic Carcinomas

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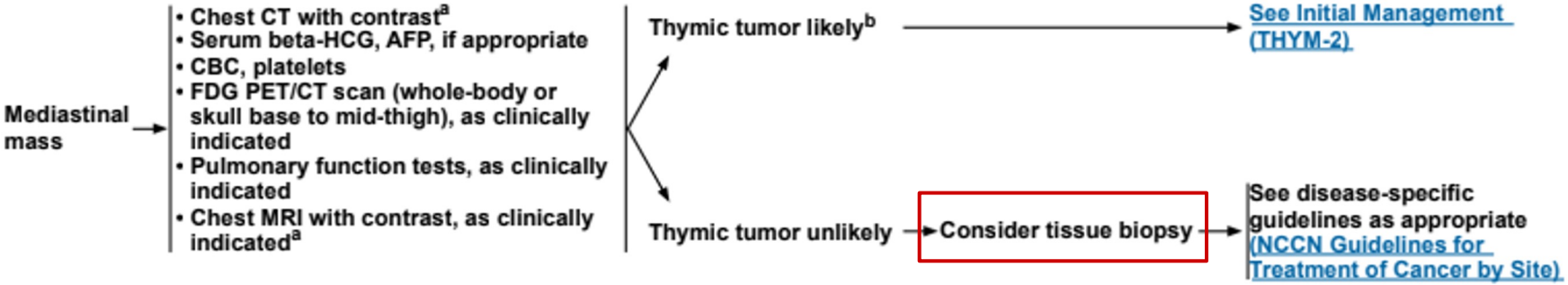
Discussion

INITIAL EVALUATION



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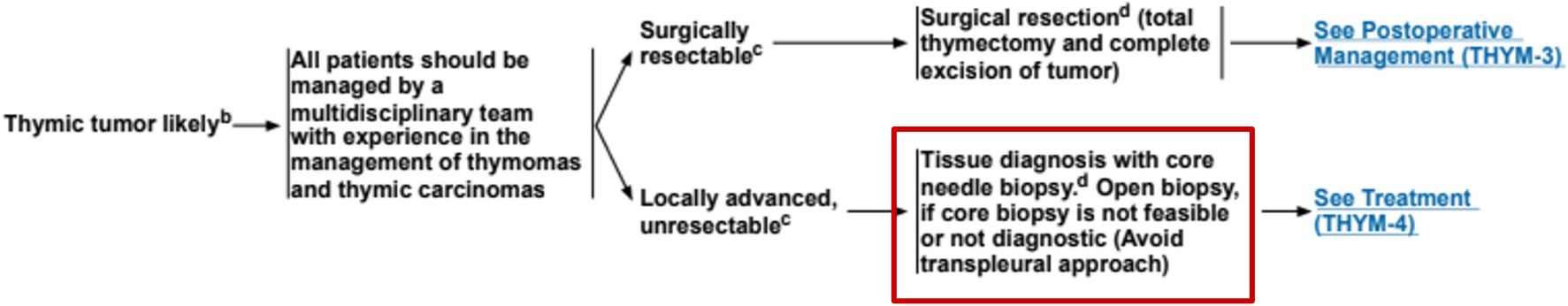
INITIAL MANAGEMENT



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PRINCIPLES OF SURGICAL RESECTION

- Surgical resection should be performed on carefully evaluated patients by thoracic surgeons with experience in managing thymomas and thymic carcinomas. Locally advanced (unresectable) and resectable stage ≥ II cases should be discussed and evaluated by a multidisciplinary team.
- Surgical biopsy should be avoided if a resectable thymoma is strongly suspected based on clinical and radiologic features because of the substantial potential of tumor seeding when the tumor capsule is violated.
- Biopsy of a possible thymoma should avoid a transpleural approach because of the substantial risk of converting a stage I thymoma to a stage IV thymoma by spreading tumor within the pleural space.
- Prior to surgery, patients should be evaluated for signs and symptoms of myasthenia gravis and should be medically controlled prior to undergoing surgical resection.
- Goal of surgery is complete excision of the lesion with total thymectomy and complete resection of contiguous and noncontiguous disease.
- Complete resection may require the resection of adjacent structures, including the pericardium, phrenic nerve, pleura, lung, and even major vascular structures. Bilateral phrenic nerve resection should be avoided due to severe respiratory morbidity.
- Surgical clips should be placed at the time of resection to areas of close margins, residual disease, or tumor adhesion to unresected normal structures to help guide accurate radiation therapy when indicated.
- During thymectomy, the pleural surfaces should be examined for pleural metastases. If feasible, resection of pleural metastases to achieve complete gross resection is appropriate.
- Minimally invasive procedures are not routinely recommended due to the lack of long-term data. However, minimally invasive procedures may be considered for clinical stage I–II if all oncologic goals can be met as in standard procedures, and if performed in specialized centers by surgeons with experience in these techniques.[1-6]

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Published online 2021 Apr 26. doi: 10.3390/diagnostics11050781 PMID: 3392604

Percutaneous CT Fluoroscopy-Guided Core Needle Biopsy of Mediastinal Masses: Technical Outcome and Complications of 155 Procedures during a 10-Year Period

Caroline Burgard,[1,*] Robert Stahl,[2] Giovanna Negrao de Figueiredo,[3] Julien Dinkel,[3] Thomas Liebig,[2] Dania Cioni,[4] Emanuele Neri,[4] and Christoph G. Trumm[2]

Dimitrios Filippiadis, Academic Editor

PERCUTANEOUS BIOPSY: we have shown that CT fluoroscopy-guided core needle biopsy of mediastinal masses is effective, safe and minimally invasive and therefore represents a reliable alternative to endosonographic, transbronchial, mediastinoscopy or surgical tissue sampling. The rate of severe complications was 1.9% after CT-fluoroscopy-guided biopsy in our study and between 0.4 and 2.9% in other comparable studies including mostly pneumothoraces.

MEDIASTINOSCOPY requires general anesthesia as well as an operation room and can be associated with severe complications in 1 to 3% of patients including recurrent laryngeal nerve palsy (0.05%), hemorrhage (0.32%), and tracheal injury (0.09%).

EBUS-FNA compared to CT-guided procedures has the advantage of is the missing radiation exposure to patients and medical staff and a very low complication rate of 0.05%, but major limitations of this approach are the lack of accessibility to anterior lymph nodes as well as the need for sedation and and the possibility to obtain fine needle aspirates (FNA) or small core samples from enlarged subcarinal and paratracheal lymph nodes.

PERCORSO DIAGNOSTICO:

RILIEVI TC ED RM/ MEDICINA NUCLEARE

DATI CLINICI E DI LABORATORIO

VALUTAZIONE CHIRURGICA

VALUTAZIONE ONCOLOGICA

VALUTAZIONE PNEUMOLOGICA

VALUTAZIONE EMATOLOGICA

MEETING MULTIDISCIPLINARE

BIOPSIA PERCUTANEA - TECNICHE:

GUIDA TC:

PRECISA VISUALIZZAZIONE DELLA SEDE DELLA MASSA E DELLE STRUTTURE ADIACENTI (ANCHE REAL TIME - FLUORO-TC)

PIANIFICAZIONE ACCURATA DEL TRAGITTO SICURO (EVENTUALMENTE ANCHE CON SOMMINISTRAZIONE DI MDC)

PRELIEVO ANCHE SU LESIONI NON ADESE ALLA PARETE ANTERIORE

MIGLIOR CONTROLLO DI EVENTUALI COMPLICANZE

GUIDA US:

NON ESPOSIZIONE A RADIAZIONI

LIMITATA ALLE MASSE ADESE ALLA PARETE TORACICA ANTERIORE

ACCESSO ANCHE SOVRACLAVEARE

VISIONE REAL TIME

PROCEDURA TC

TC BASALE DI PIANIFICAZIONE CON PROTOCOLLO DEDICATO “INTERVENTIONAL”

EVENTUALE ACQUISIZIONE CON MDC (FASE VENOSA ED ARTERIOSA) PER LESIONI ADIACENTI ALLE ARTERIE MAMMARIE INTERNE O INGLOBANTI GROSSI VASI

RICOSTRUZIONI NEI TRE PIANI DELLO SPAZIO

PIANIFICAZIONE DEL PERCORSO

BIOPSIA

ACQUISIZIONE TC DI CONTROLLO AL TERMINE DELLA PROCEDURA PER ESCLUDERE EVENTUALI COMPLICANZE

PROCEDURA TC

ANESTESIA LOCALE (L'AGO DELL'ANESTESIA PER LA CENTRATURA)

ACQUISIZIONI RIPETUTE DI PACCHETTI TC DI VOLUME RIDOTTO (POCHI CM NELLA SEDE DI INTERESSE) CON SLIDES DI 3 MM DI SPESSORE ED IMMAGINI RICOSTRUITE NEI TRE PIANI DELLO SPAZIO

POSIZIONAMENTO DI AGO INTRODUTTORE

UTILIZZO DI AGO TRANCIANTE COASSIALE (CALIBRO 18G)

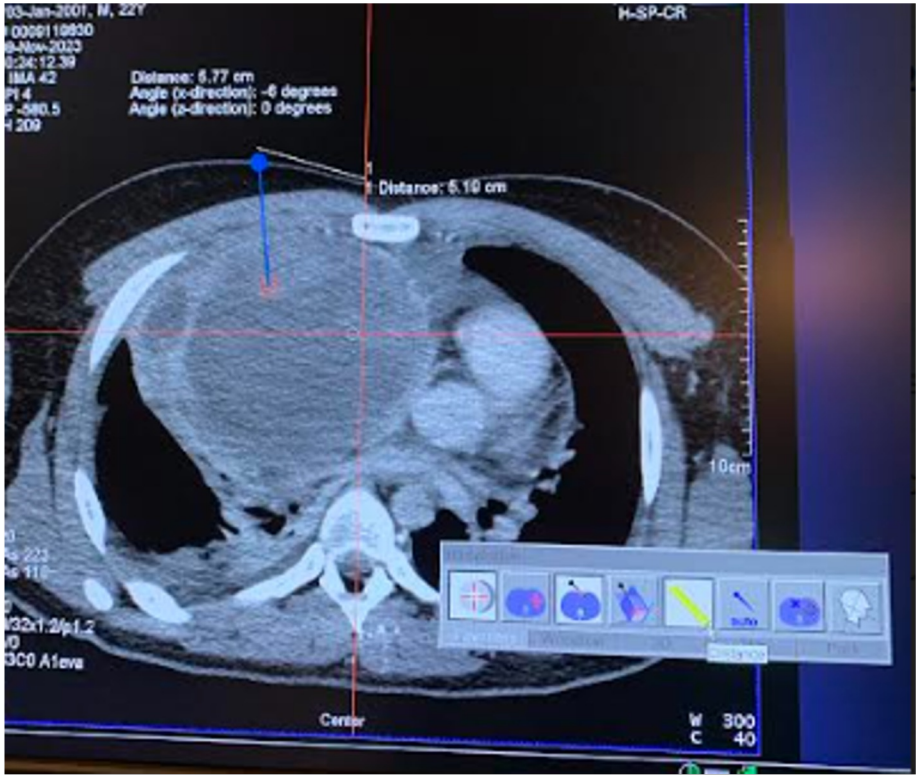
PRELIEVO MINIMO DI DUE FRUSTOLI (SOLITAMENTE 2-3 FRUSTOLI)

PROCEDURA:

CONSENSO INFORMATO

VALUTAZIONE PARAMETRI COAGULAZIONE

TC DI CENTRATURA SOFTWARE DEDICATO (INTERVENTIONAL)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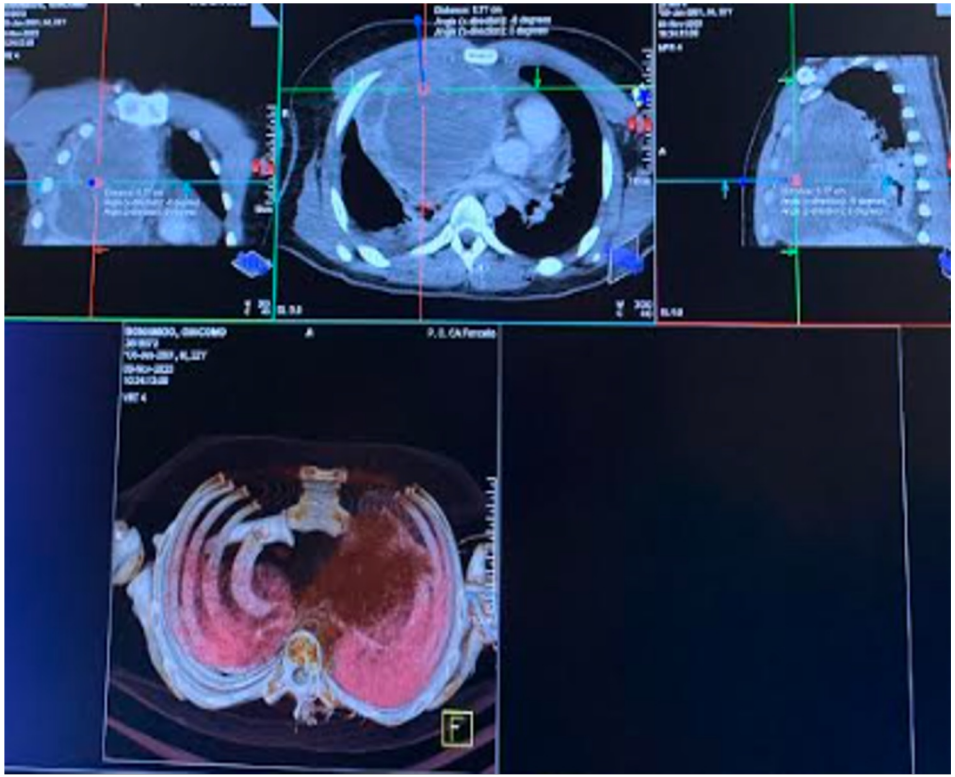
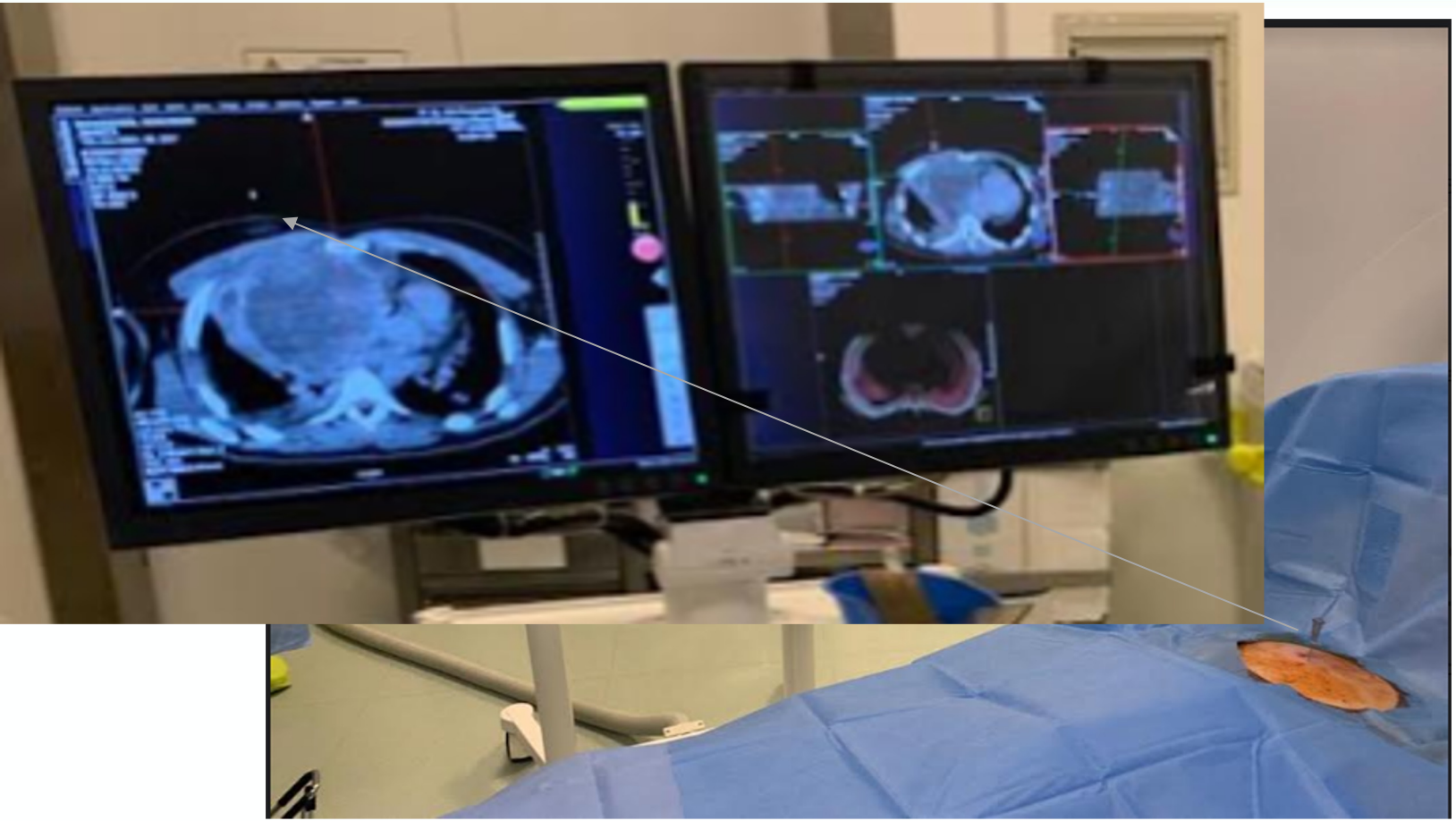
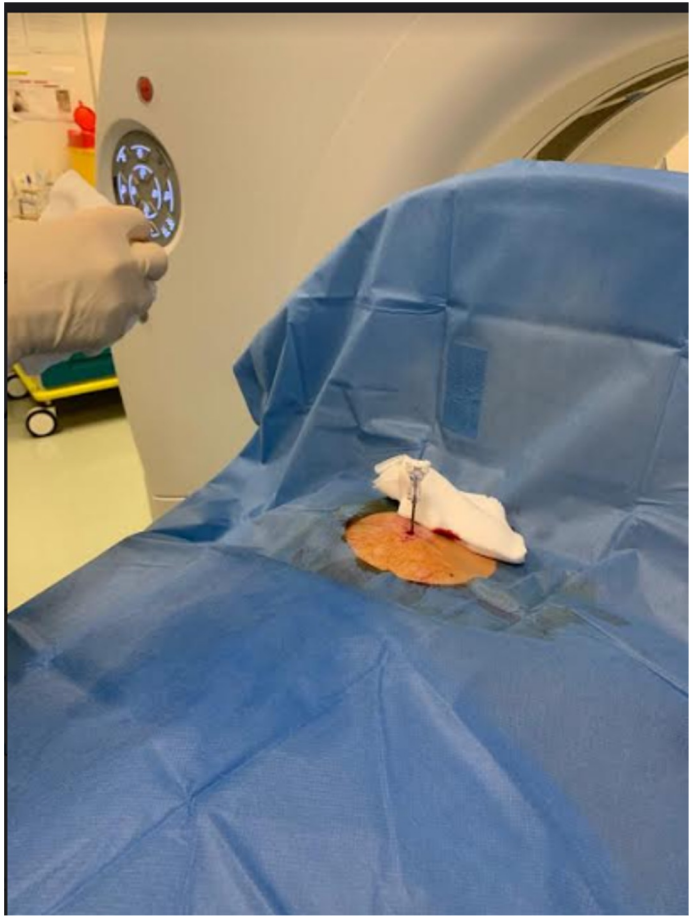
W 300
C 40






SIEMENS
SOMATOM
Definition Flash




Patient Options Help
Intervention
Viewing
3D
Send successfully completed to Pacs for patient name: PESSOT ...
08-Nov-2023 10:37:32


Patient Options Help
Intervention
Viewing
3D
Syngo Acquisition Workplace
Send successfully completed to Pacs for patient name: PESSOT ...
08-Nov-2023 10:30:33


SIEMENS
SOMATOM
Definition Flash

POST PROCEDURA

I PAZIENTI SONO TENUTI IN OSSERVAZIONE PER 2 H
REGIME DI DH NEL REPARTO DI RIFERIMENTO

MONITORAGGIO CLINICO-LABORATORISTICO

RX TORACE A 2 ORE PER ESCLUDERE COMPLICANZE

SE TUTTO OK POSSONO RIENTRARE AL DOMICILIO

COMPLICANZE BIOPSIA PERCUTANEA

MINORI (5-14 %):

PNEUMOTORACE SOTTILE

MINIMO SANGUINAMENTO LUNGO IL TRAGITTO DELL'AGO

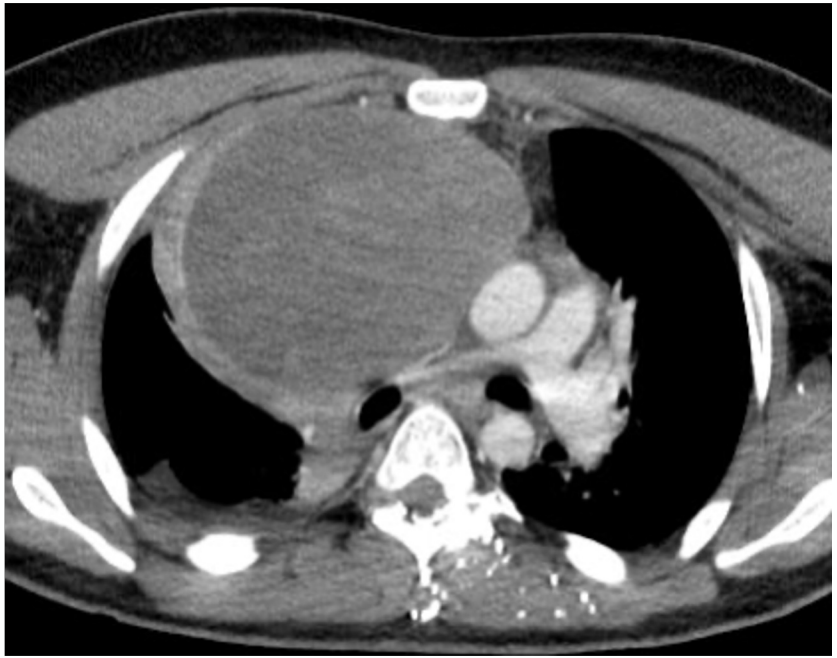
MAGGIORI (1-3%):

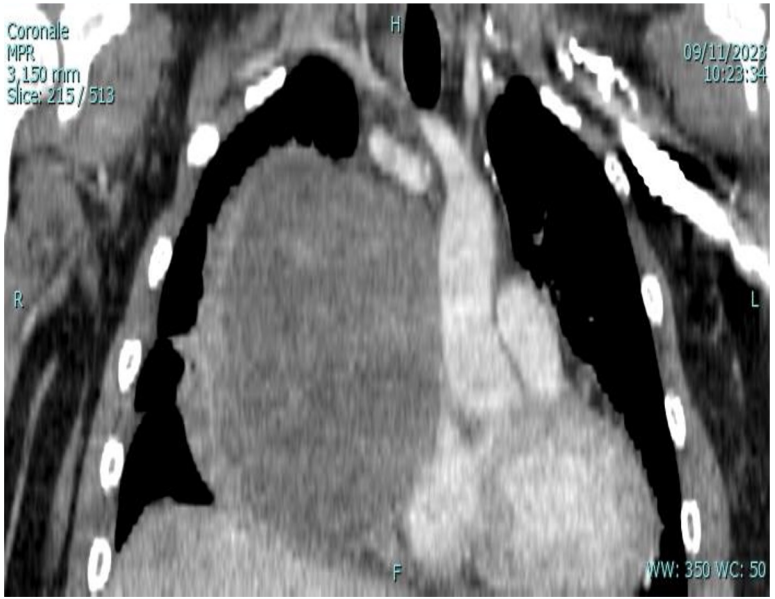
PNEUMOTORACE MAGGIORE CHE RICHIEDE POSIZIONAMENTO DI DRENAGGIO PLEURICO

EMOTTISI O SANGUINAMENTO MAGGIORE CHE RICHIEDE EMBOLIZZAZIONE

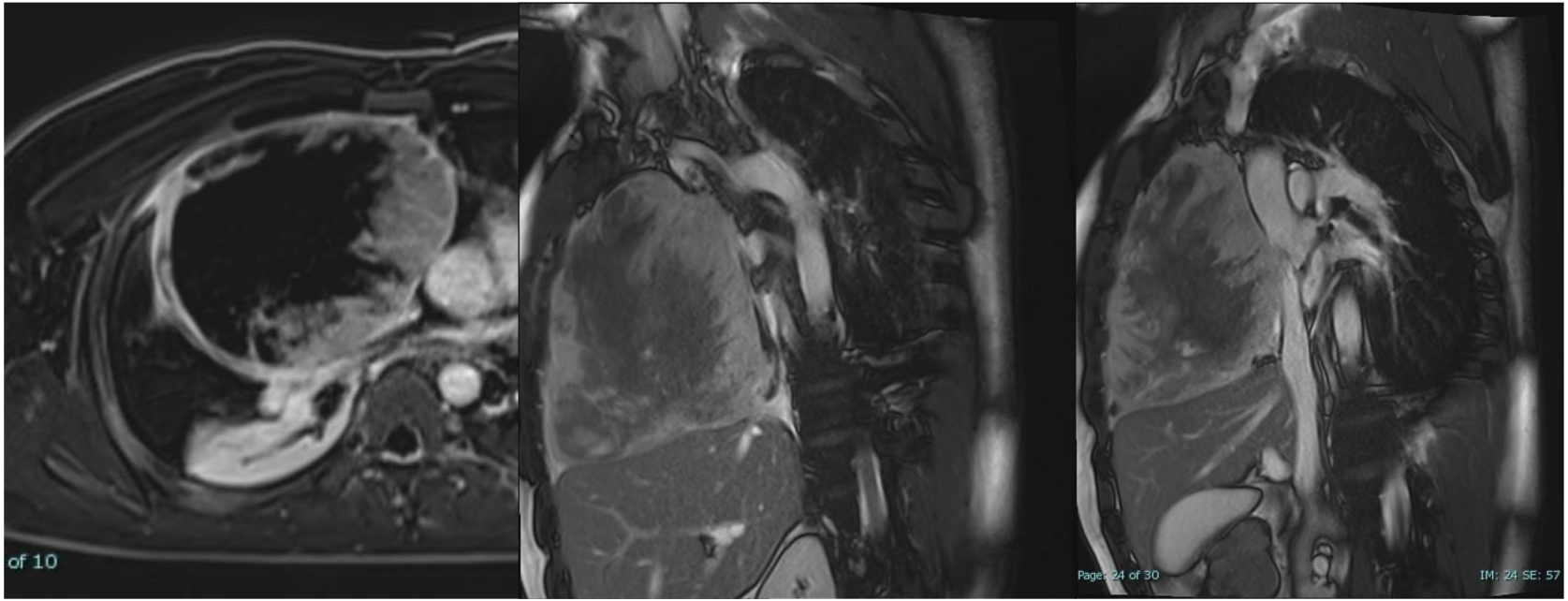
SUCCESS RATE (89-97%)

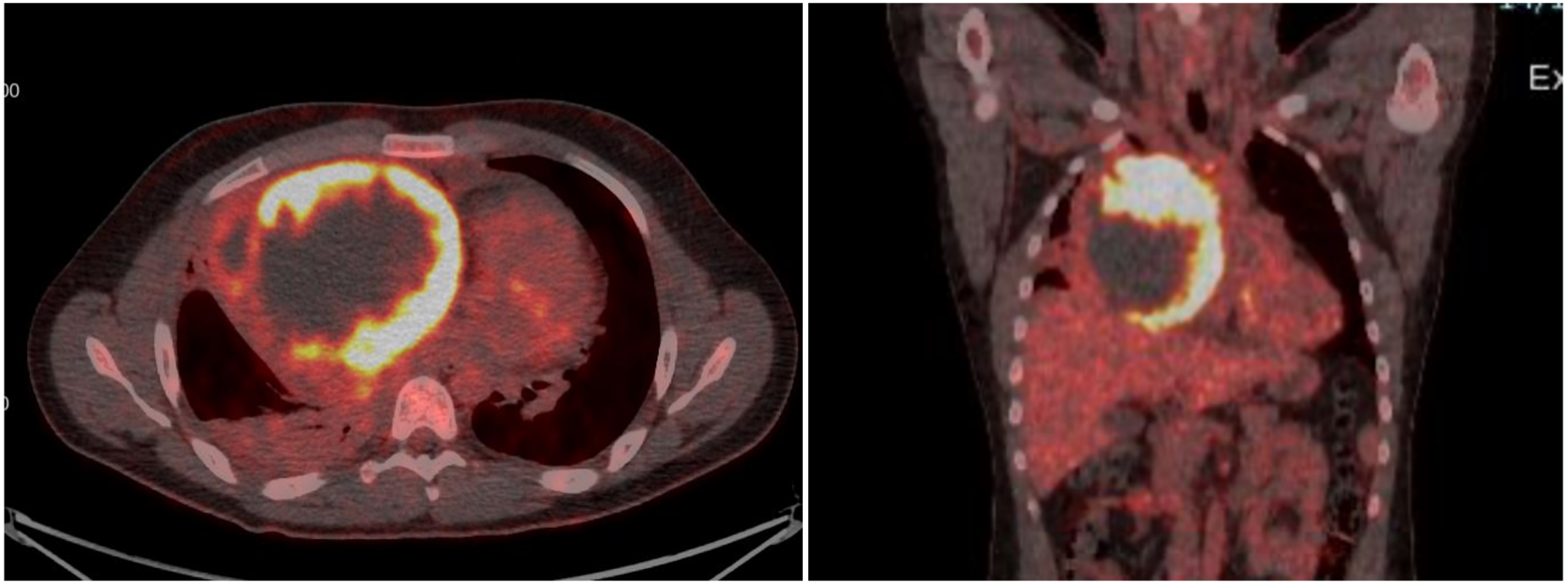
PRELIEVO INCONCLUSIVO CHE PONE INDICAZIONE A BIOPSIA CHIRURGICA

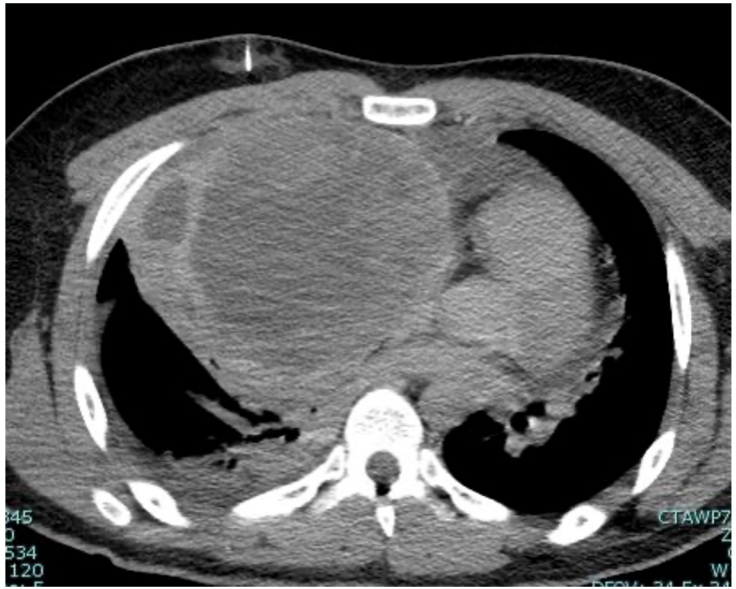


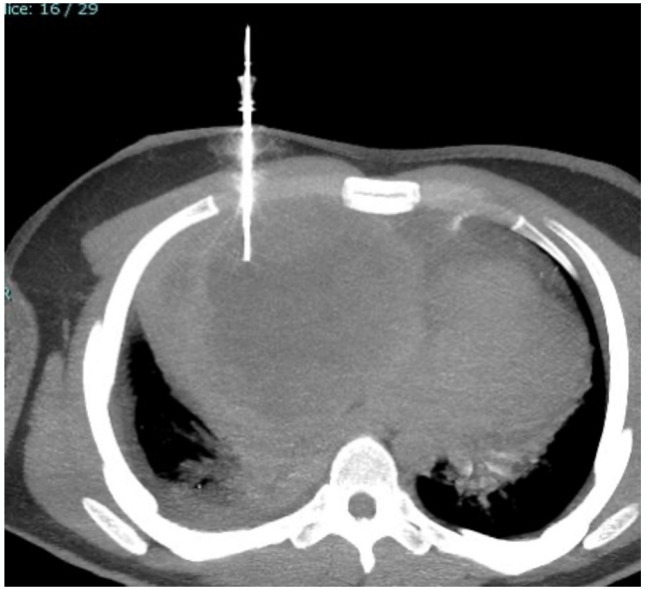


PAZIENTE MASCHIO 22 ANNI
DOLORE TORACICO DA UN MESE E TOSSE SECCA. HA ESEGUITO IN ALTRA SEDE RX TORACE CON RISCONTRO DI ADDENSAMENTO POLMONARE, RIVALUTATO DOPO TERAPIA ANTIBIOTICA E CORTISONICA.
AL CONTROLLO RX PERSISTENZA E INCREMENTO DELL'ADDENSAMENTO ED ESECUZIONE DI TC CON MDC

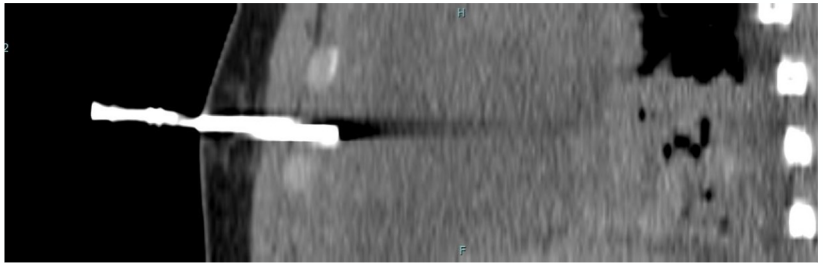

of 10
Page: 24 of 30
IM: 24 SE: 57

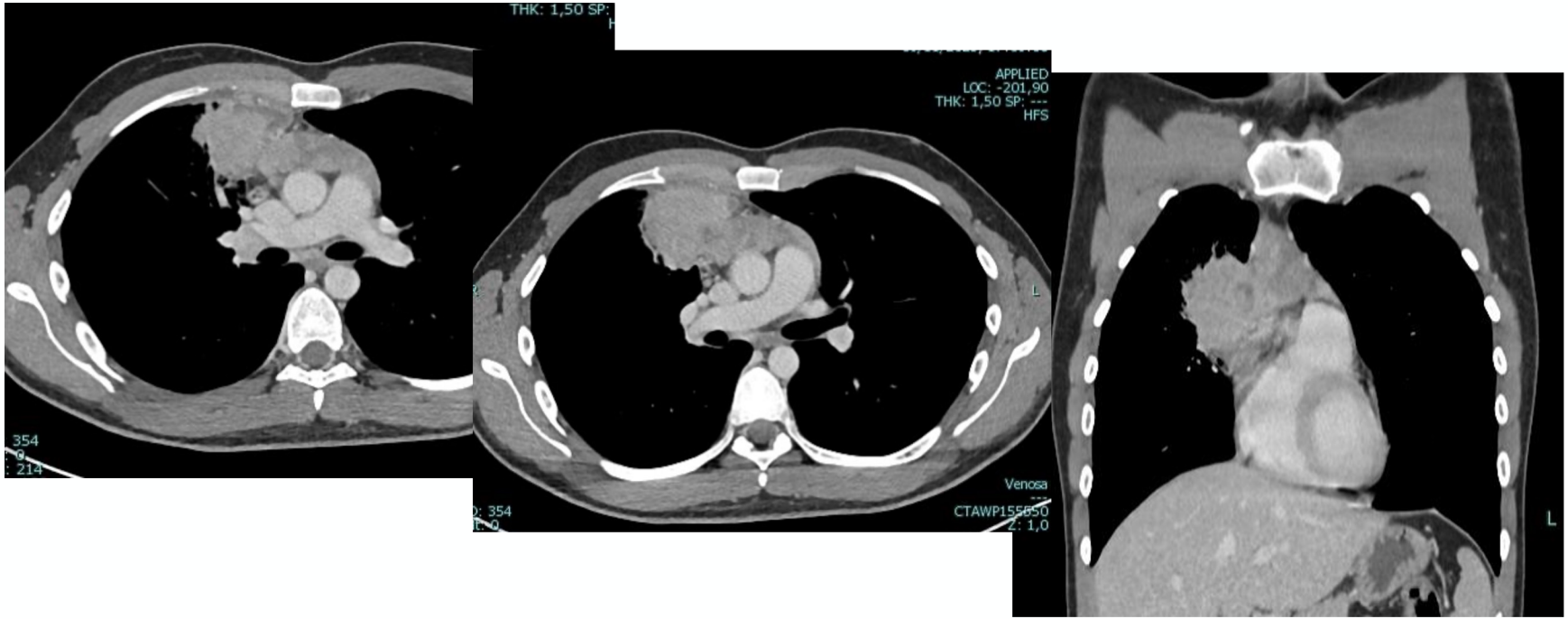






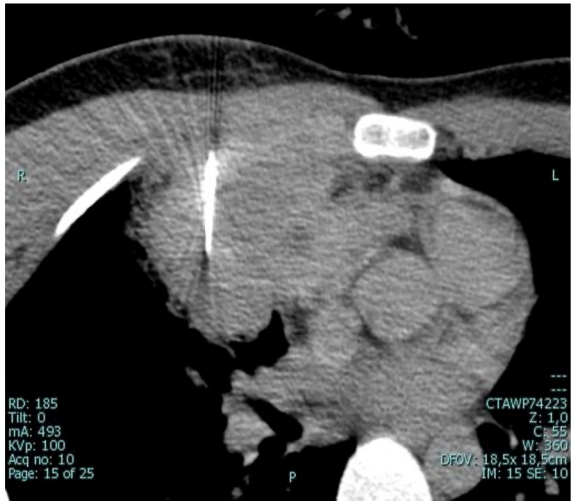
DIAGNOSI:
DISGERMINOMA
(TUMORE DEL SACCO VITELLINO)

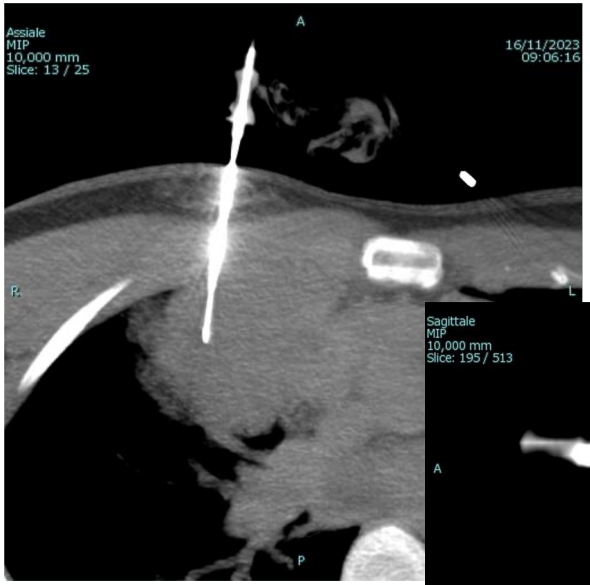


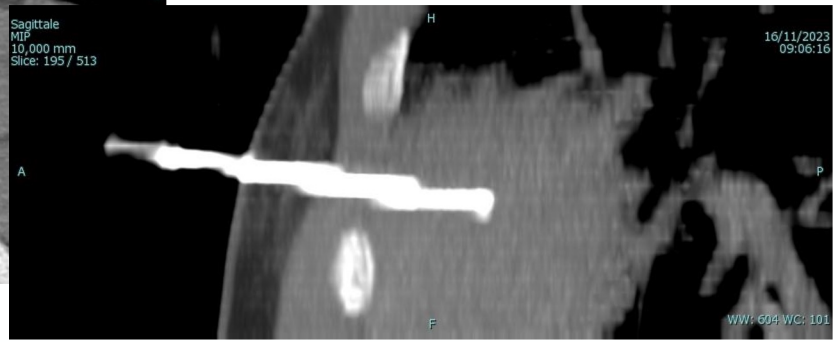


PZ MASCHIO DI 26 ANNI

DA 6 MESI DOLORE TORACICO ANTERIORE PERSISTENTE A DX, PROGRESSIVAMENTE INGRAVESCENTE, FEBBRE SEROTINA, TOSSE STIZZOSA



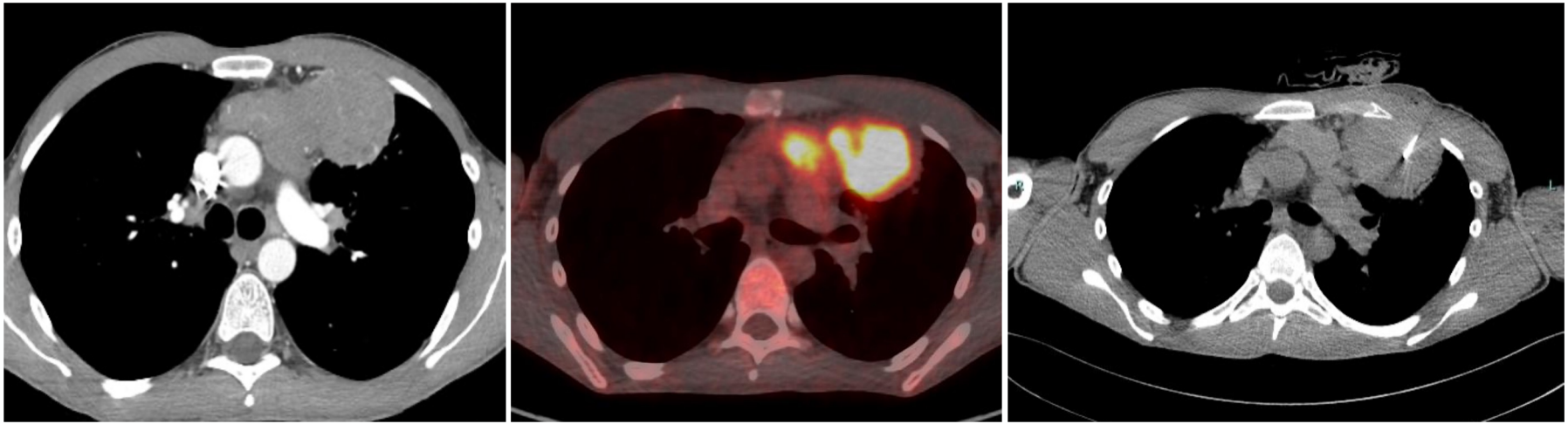




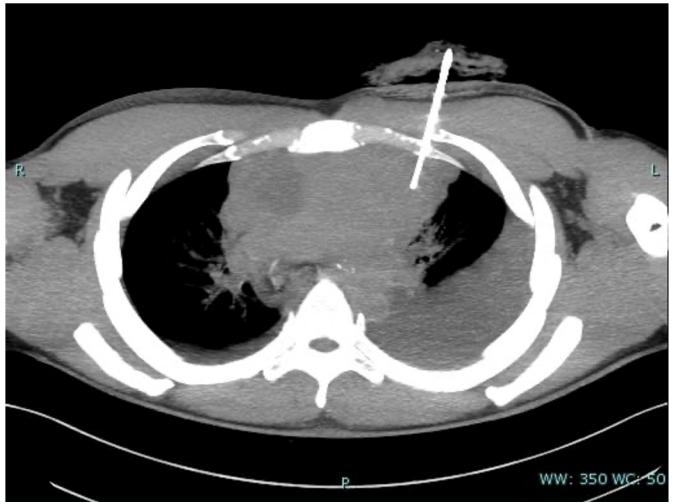
PRELIEVO DI 4 FRUSTOLI

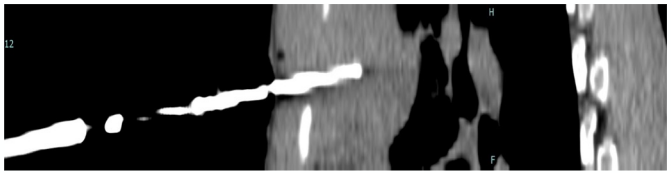
ANATOMIA PATOLOGICA: DIAGNOSI SUGGESTIVA PER MALATTIA LINFOPROLIFERATIVA TIPO LINFOMA DI HODGKIN

VIENE DATA INDICAZIONE A BIOPSIA CHIRURGICA PER OTTENERE MAGGIORE MATERIALE

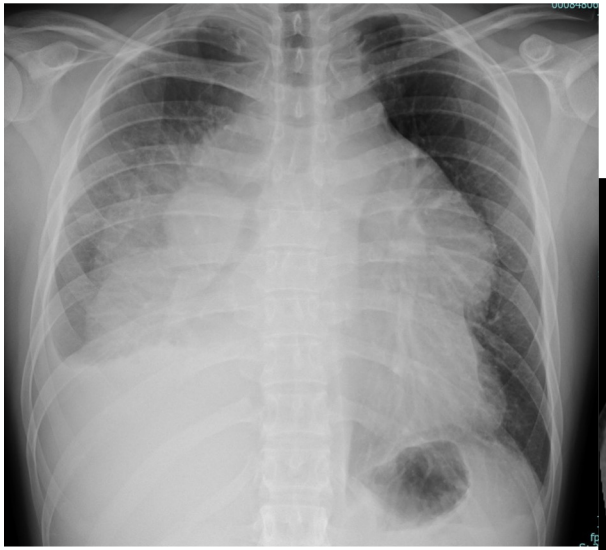


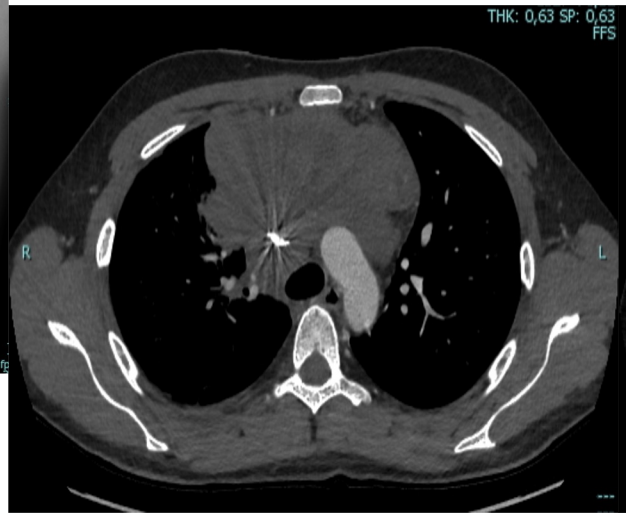
PZ MASCHIO 34 ANNI
DA DUE MESI COMPARSA DI TOSSE ASSOCIATO A DOLORE TORACICO SINISTRO, ASSUME ANTINFIAMMATORI SENZA BENEFICIO
RX TORACE : OPACITÀ' DI 5 CM IN PARAILARE SINISTRA

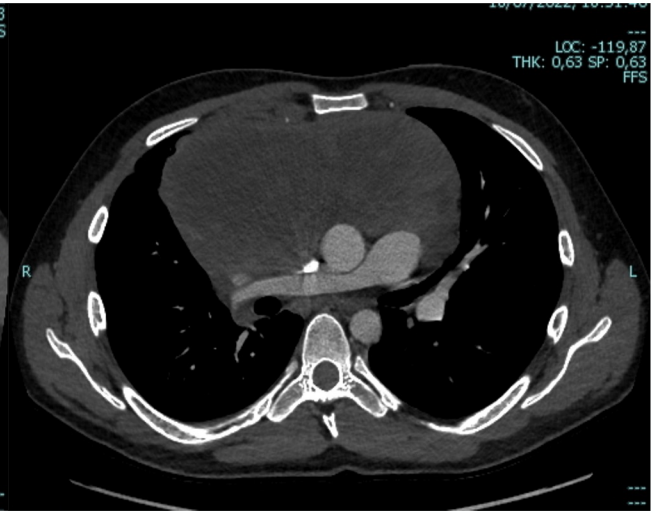




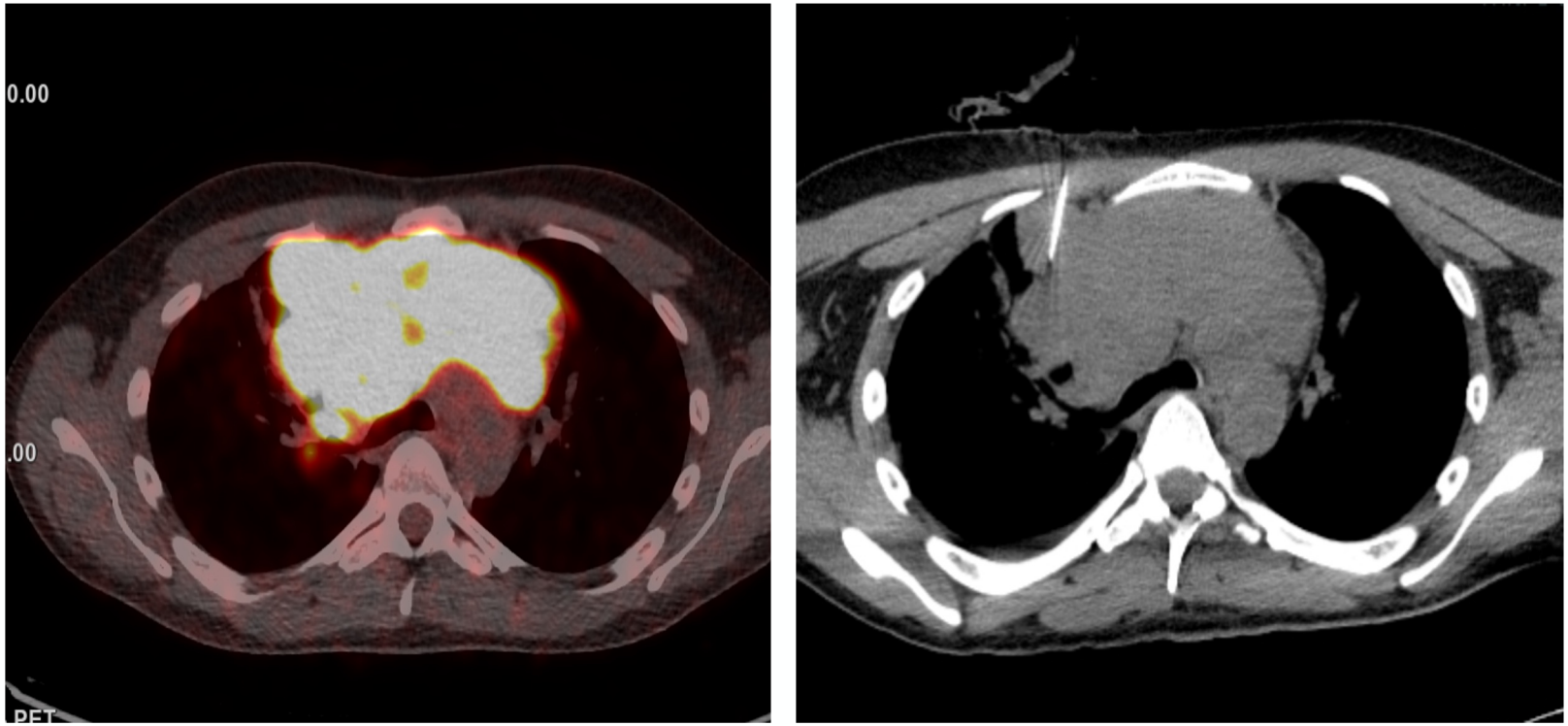
ANATOMIA PATOLOGICA:
REPERTO MORFOLOGICO ED IMMUNOFENOTIPICO SOSPETTO PER LINFOMA DI HODGKIN CLASSICO







PZ DI 22 ANNI
DA UN MESE ASTENIA E DISPNEA DA SFORZO
RX TORACE: VOLUMINOSO ADDENSAMENTO MEDIO-TORACICO DX ED ALLARGAMENTO MEDIASTINICO



DIAGNOSI : LINFOMA B DI ALTO GRADO

TAKE HOME POINTS

LA BIOPSIA PERCUTANEA DELLE MASSE MEDIASTINICHE
(CORE NEEDLE BIOPSY)

È METODICA SICURA, EFFICACE E CON BASSO RISCHIO DI COMPLICANZE

MA NON È SEMPRE INDICATA

NO: NELLE NEOPLASIE DI SOSPETTA NATURA TIMICA OPERABILI
SI: NELLE NEOPLASIE DI SOSPETTA NATURA TIMICA NON OPERABILI
SI: NELLE NEOPLASIE DI NON SOSPETTA NATURA TIMICA

GRAZIE PER L'ATTENZIONE