Presentation Discussion on a Case of DIFFICULTY OF BREATHING

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Patient Data

- LA 44 year-old single female
- Pandacan, Manila
- 4th admission at OMMC

- Chief Complaint- Difficulty of breathing

History of Present Illness

- 2 ½ yrs PTA, 1.5 cm right periareolar mass, nontender, nonhard, nipple discharge, no consult
- 2 yrs PTA, gradually enlarged to 4cm
- 19 mo PTA, swelling & tenderness breast
- 1 yr PTA, ulceration & severe pain
- 9 mo PTA, first consult & admission with impression of Breast CA, R, T4N2M0 IIIB

HPI

CXR: perihilar lymphadenopathies; pleural effusion at right cannot be ruled out; cavitary PTB L upper lobe

HBTP USG: normal liver etc

Ulcerating mass with nonfoul-smellling discharge. Lymphadenopathies including contralateral supraclavicular. Anemic without SIRS. Cough & constipation.

2u pRBC, started neoadjuvant CMF

Discharged after 10d with cloxa, ambrox, tramal

HPI

- 7 mo PTA, second admission after partial response to 3rd cycle of CMF. Neutropenic. Sent home after 3 days to come back after a month.
- 6 mo PTA, palliative CT all cycles
- 1 mo PTA, third admission for changes in sensorium, insomnia, progressive anorexia. No focal neurological deficits.

HPI

- Referred to IM and Psych. Placed on haloperidol with some improvement. Progression of effusion on CXR without respiratory symptoms. No complaints of pain. Cranial CT per OPD. Sent home with advise to return once with dyspnea.
- 1wk PTA, ER thoracentesis for dyspnea.
- 2 d PTA, fourth admission for pleurodesis.

Past Medical History

- Cyst removal 2000 Mla Doctors
- Sinus operation 1978 PGH
- No hypertension, diabetes, asthma, known allergies

Family History

- (-) breast or other cancer
- (+) DM, deceased father
- (+) HPN, deceased mother

Personal Social History

- Single
- School teacher
- Nonsmoker
- Does not drink alcoholic beverages

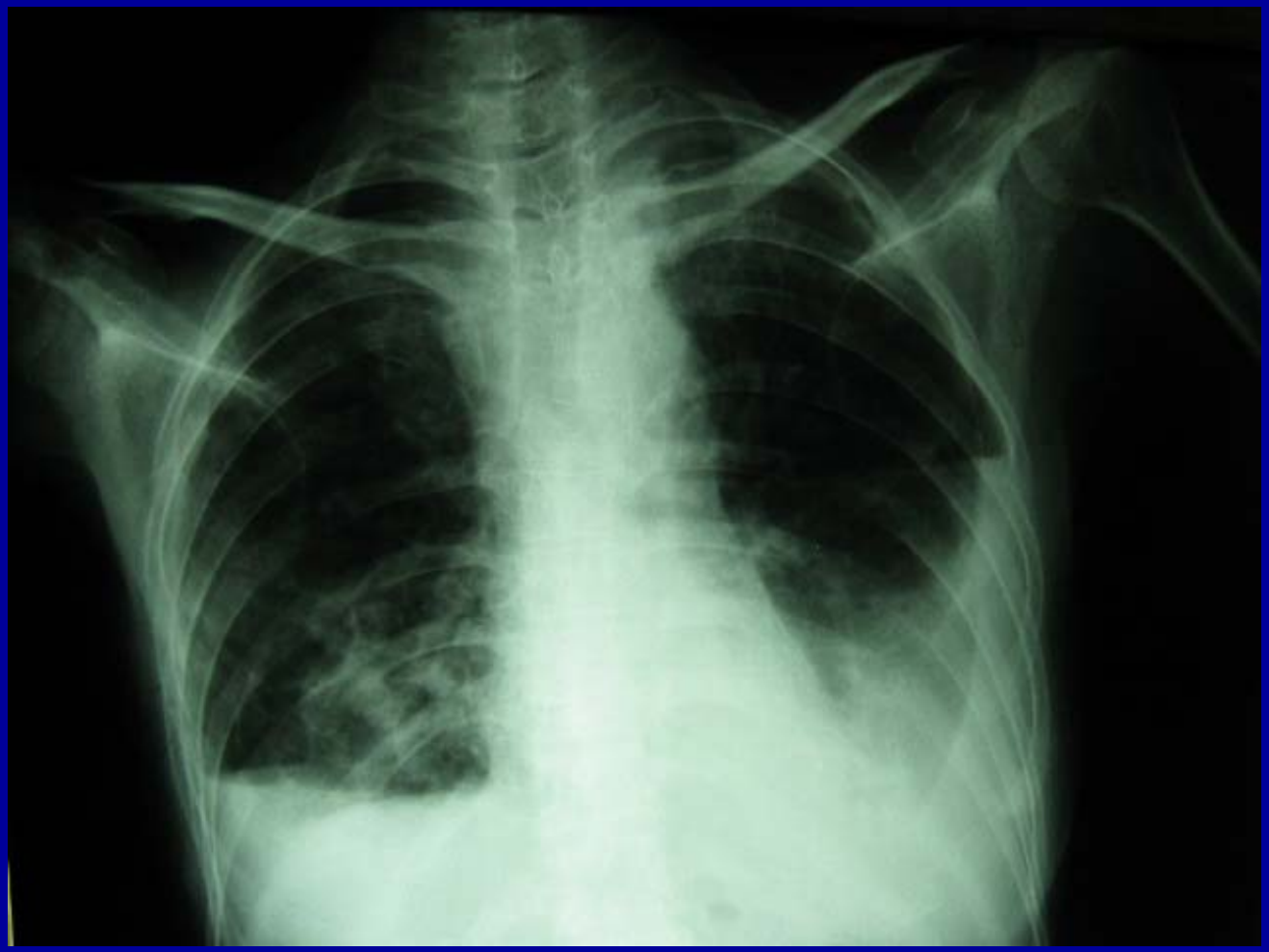
Physical Examination

- Conscious, poorly responsive, in slight respiratory distress, undernourished
- BP 150/80 HR 99 RR23 Afebrile
- Anicteric sclerae, pink conjunctivae, no nasopharyngeal congestion, no CLAD
- Symmetric chest expansion, no retractions, decreased breath sounds left basal, bibasal crackles

PE

- Hard, nontender 4cm mass on upper outer quadrant of right breast, fixed to overlying ulcerated dry skin and underlying chest; matted axillary lymphadenopathies
- Adynamic precordium, NRRR, no murmurs
- Scaphoid abd, NABS, soft, nontender
- Full and equal pulses, no cyanosis

CXR on 4th admission



Salient Features

- 44/F diagnosed 9 months ago with Breast CA staged IV T4N2M1 with contralateral supraclavicular LN
- PTB cavitary, LUL, activity undetermined
- Liver USG normal
- s/p 6 cycles CMF with partial response
- 1 month sensorial changes, persistent anorexia, no focal deficits, no pain
- Pleural effusion R relatively stable, L progressive and recurrent (1wk after initial thoracentesis)
- Cachexia, afebrile, pink conjunctivae, ↓BS R, bibasal crackles, dry uninfected ulcerated breast mass

Clinical Diagnosis

	Breast CA, R T4N2M1 PTB IV Dyspnea due to		Treatment Palliative
1º	Malignant pleural effusion	80%	Interventional
2º	Pleural effusion 2º to PTB	20%	Interventional

Paraclinical Diagnostics

- Is a paraclinical procedure needed?

  No.

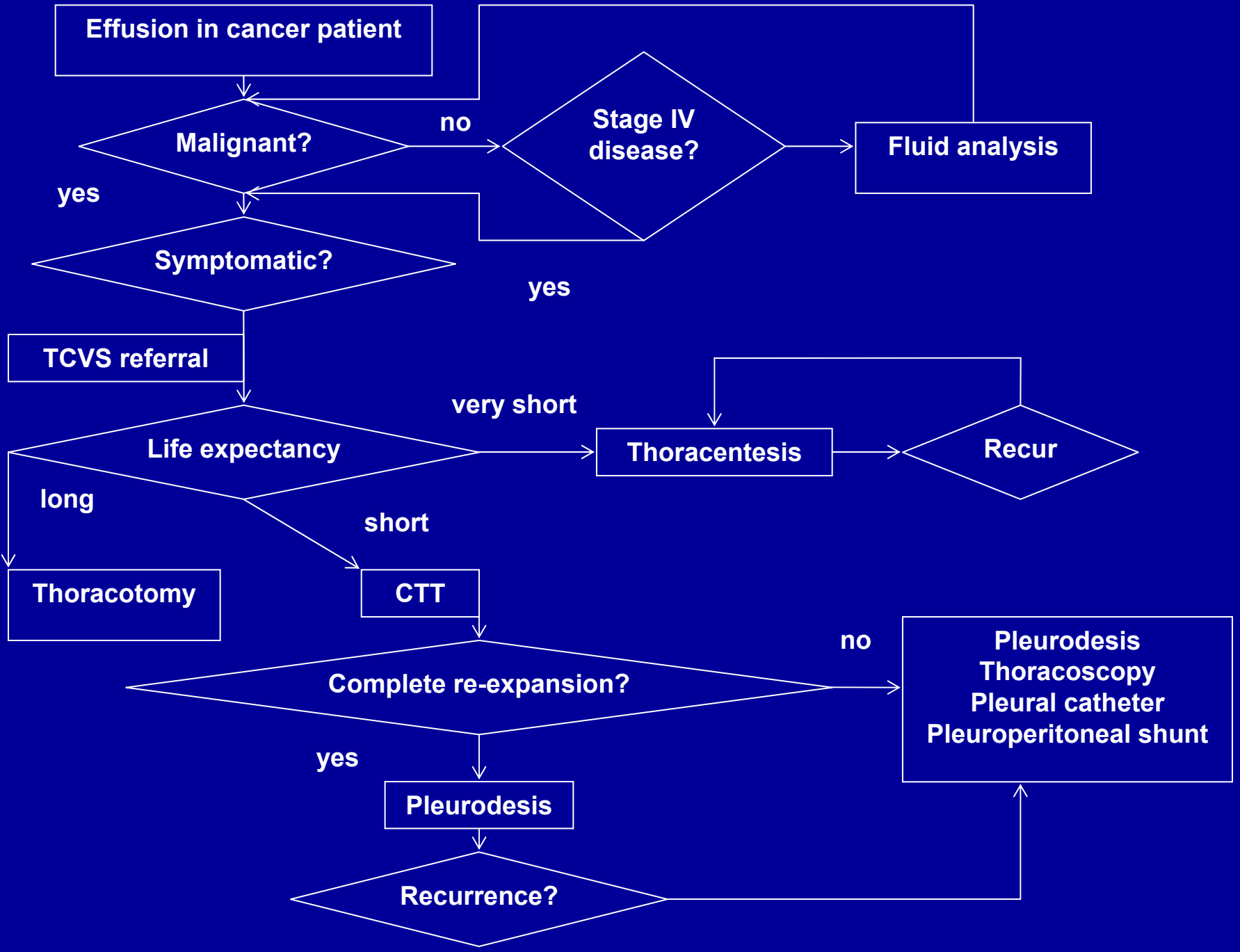
  Same management plan for diagnoses.

Treatment Objectives

1. To palliate dyspnea
2. To prevent recurrence
3. (To minimize discomfort, duration of hospitalization, and overall costs)

Treatment Selection

	Benefit		Risk		Cost	Avail
	A	Long-term	Acute	Long-term		
RT	-	±/--	Pneumonitis	Fibrosis	$$	Not
CT	-	±	↑		$$$	++
Observation	-	-	-	Most progress	-	+++
Thoracentesis	+	-	12% pneumo thorax		$	++++
CTT	++	-	↑		$	++++
CTT + pleurodesis ± image guidance (esp small bore Fr 10-14)	++	RR 1.20 1.34 talc (-)20%	↑↑ 1-33% 1-2% ARDS microemboli	granulomatous tissue rxn ↑	$$	+++
Home pleural catheter	++	(-)13% ½ fuse	↑	↑↑↑	$$	++
Pleuroperitoneal shunt	++	>75%	↑	↑↑	$$$	+
VATS poudrage	+++	RR 1.68 1.19 talc	↑↑ disease underlying	↑	$$$$	Not
VATS pleurectomy	+++	90%	↑↑↑	↑	$$$$	Not
Thoracotomy + stripping	+++	~100%	↑↑↑↑ 10-13% m	↑ BPF	$$$	+


Effusion in cancer patient
Malignant?
no
Stage IV disease?
Fluid analysis
yes
Symptomatic?
yes
TCVS referral
very short
Life expectancy
Thoracentesis
Recur
long
short
Thoracotomy
CTT
no
Complete re-expansion?
Pleurodesis
Thoracoscopy
Pleural catheter
Pleuroperitoneal shunt
yes
Pleurodesis
Recurrence?

Pretreatment Preparation

- Options presented to relatives emphasizing goal of palliation with minimal discomfort
- Informed consent
- Psychosocial support

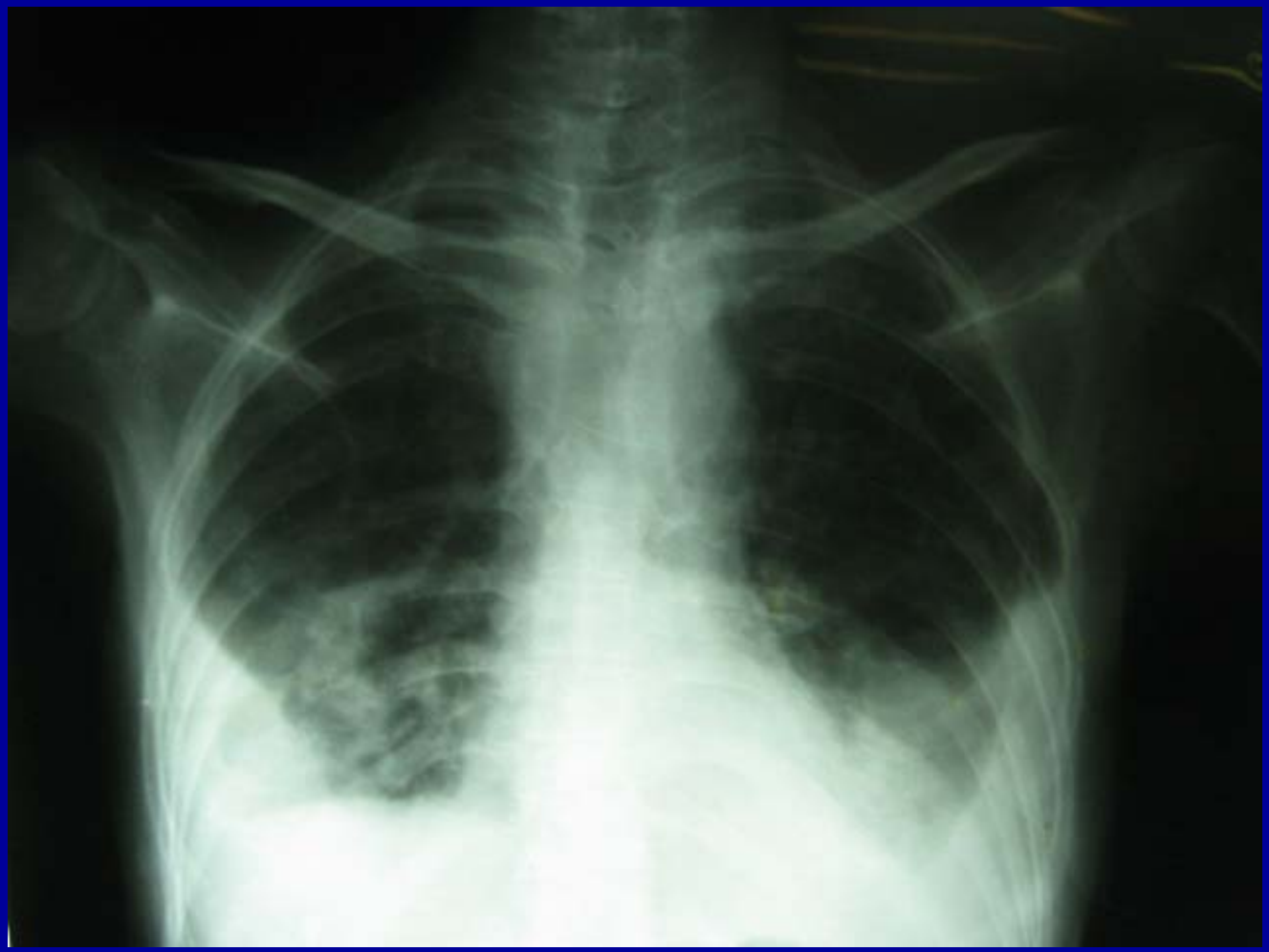
Treatment Technique

- Patient upright sitting with support
- Aspsis and antisepsis
- Thoracentesis with G18 plastic catheter inserted below tip of scapula
- 1L serosanguinous effusion extracted thru 3-way stopcock from L side
- Dressing

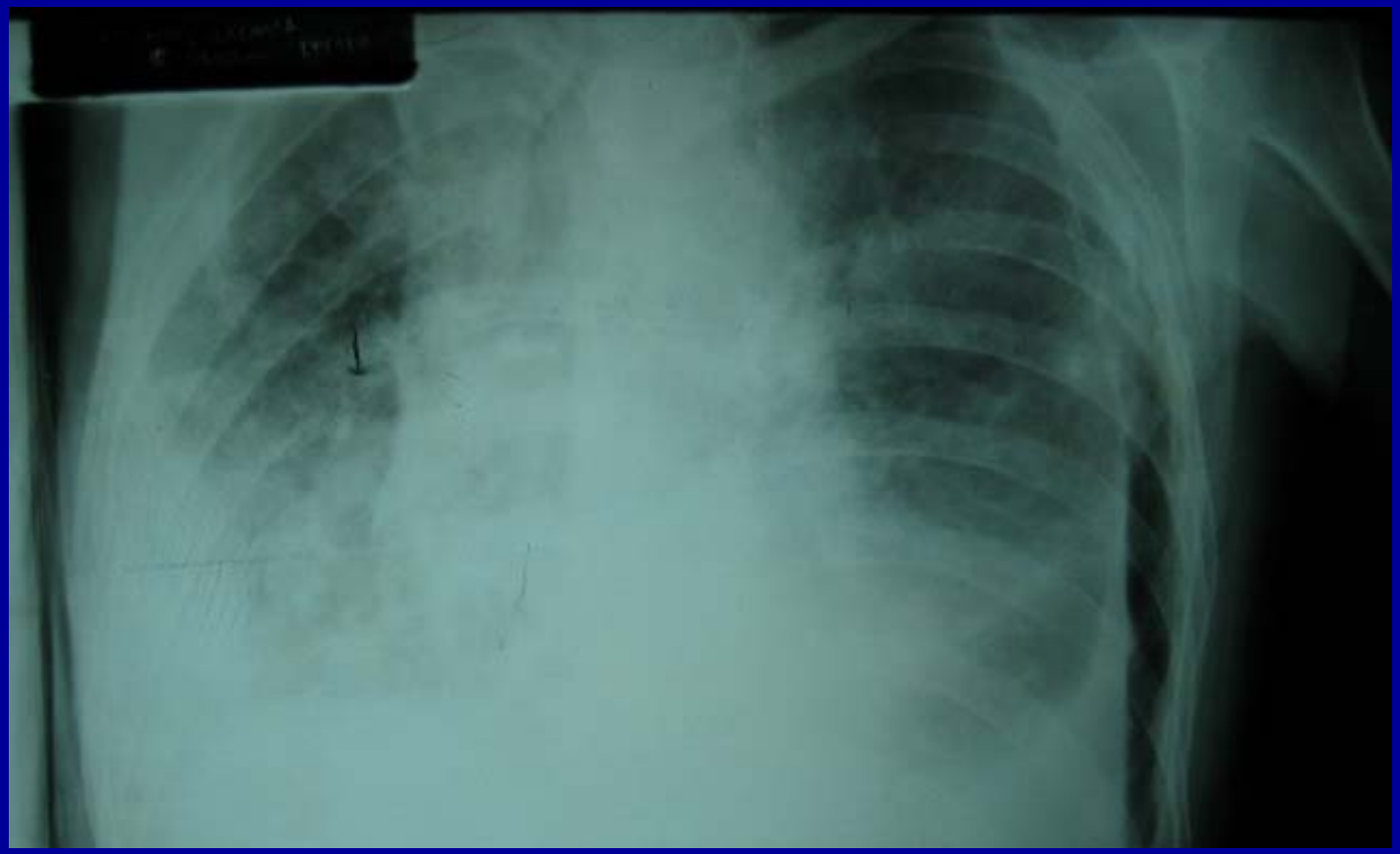
Post-treatment Care

- Post-thoracentesis CXR obtained showing marked diminution of effusion with minimal pneumothorax, still with layering on lateral decubitus film
- Patient placed on 4L O2 per nasal cannula to help resorption of pneumothorax
- For repeat CXR after 2d

Post-procedural CXR



Lateral decubitus view



Outcome

- Over the next few days, tachypneic episodes still noted. CXR unavailable.
- 5 days post-thoracentesis, patient noted to have episodes of peripheral cyanosis. Endotracheal intubation with mechanical ventilatory support. Inotropes started for hypotensive episodes. Patient became unresponsive. Relatives elected nonaggressive management.
- 7 days post-thora, patient died

CXR prior to demise

Outcome evaluation

- ✗ 1 Live patient
- ✗ 2 No complication
- ✗ 3 No disability
- ✓4 Satisfied relatives
- ✓5 No medicolegal suit

DISCUSSION

Pleural Effusion

- Altered permeability of the pleural membranes (eg, inflammatory process, neoplastic disease)
- Reduction in intravascular oncotic pressure (eg, hypoalbuminemia)
- Increased capillary permeability or vascular disruption (eg, neoplastic disease, inflammatory process, infection,)
- Reduction of pressure in pleural space; lung unable to expand (eg, extensive atelectasis)
- Decreased lymphatic drainage or complete blockage (eg, malignancy)
- Persistent increase in pleural fluid oncotic pressure from an existing pleural effusion, causing accumulation of further fluid

Pathophysiology

- Malignant effusions secondary to breast cancer arise either through chest wall lymphatics or via hepatic metastases resulting in either contralateral or bilateral effusions.

Dyspnea

- Most common symptom at presentation.
- Indicates a large effusion (usually not <500 mL).
- Occur in 50% of patients with malignant pleural effusions.
- Due to a combination of reduced compliance of the chest wall, depression of the ipsilateral diaphragm, mediastinal shift, and reduction in lung volume stimulating neurogenic reflexes.
- Other factors (eg, underlying lung disease, cardiac dysfunction, anemia) also may contribute to the development of dyspnea.

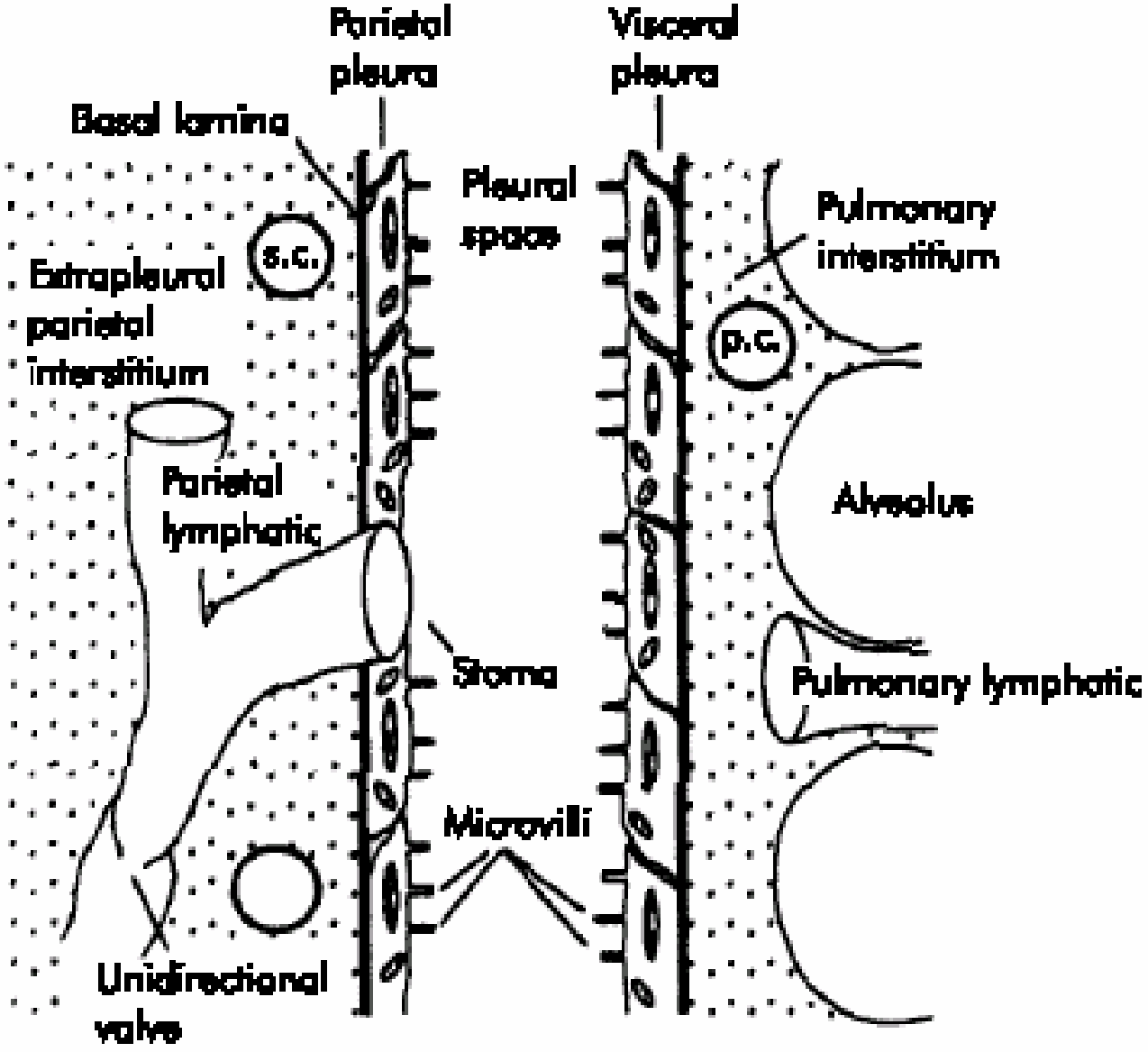
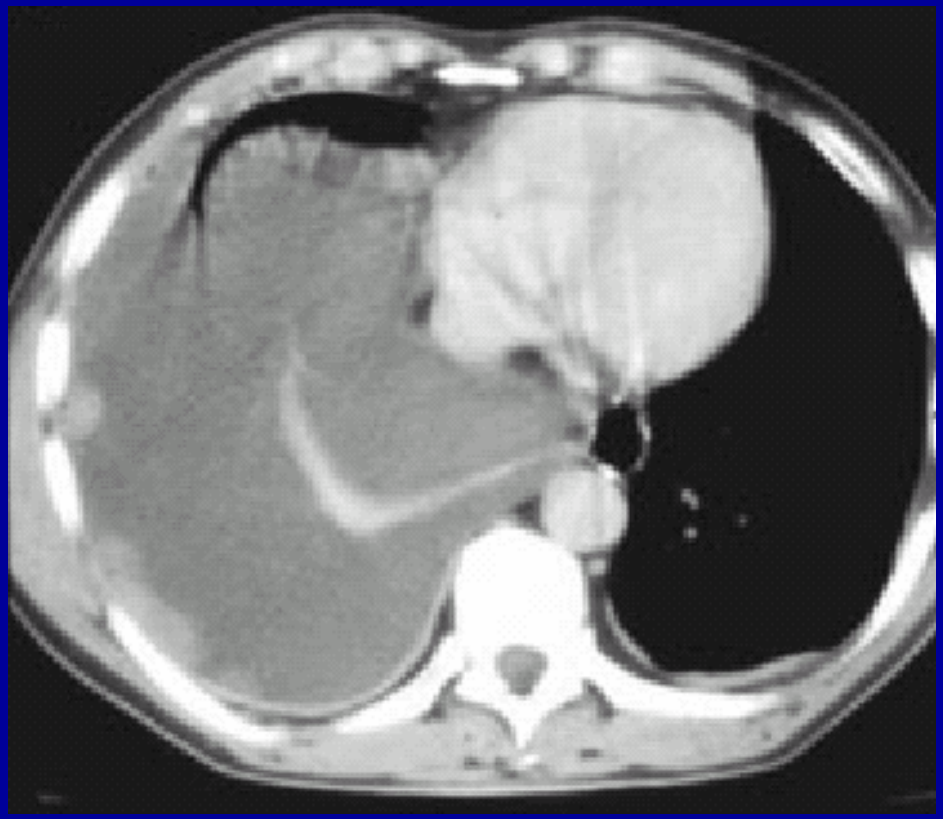
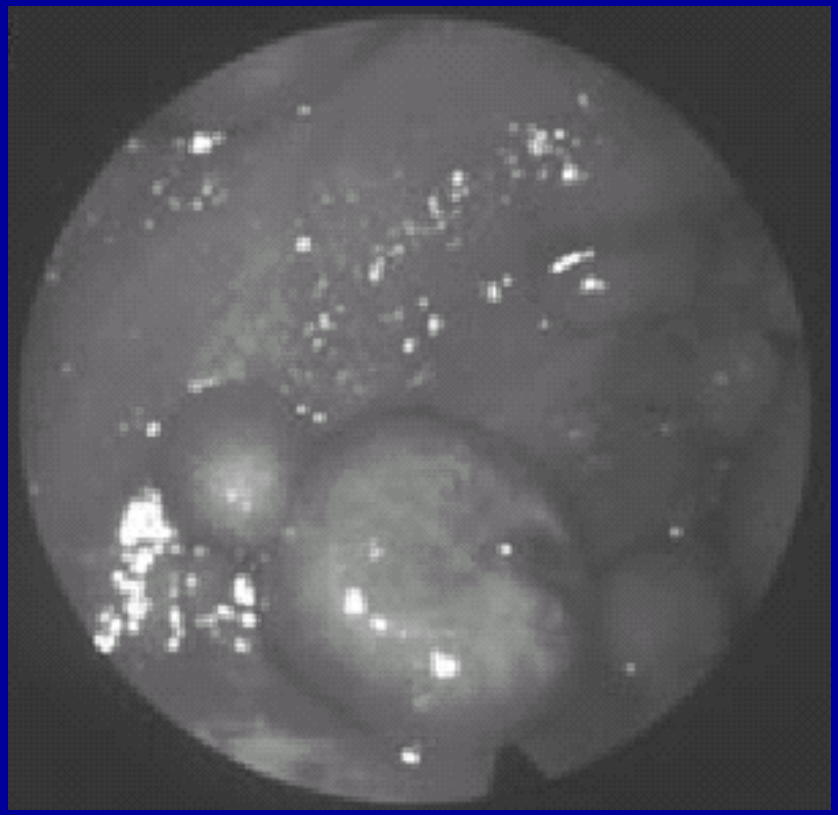


Figure 2 Schematic diagram of pleural anatomy; s.c.–systemic capillary; p.c.–pulmonary capillary. Modified from Miserocchi[10] with permission.

CT scan & Thoracoscope





Breast CA with Effusion

- The most common tumors that cause malignant pleural effusions are carcinomas of the lung, breast cancer, lymphoma, and leukemia.
- Average life expectancy of a patient after a diagnosis of malignant pleural effusion is 3 to 6 months
- Median survival ranges from 3 to 12 months

Breast Cancer with Effusion

- Only 50% of the effusions that develop in cancer patients during the course of their illness are malignant
- generally 1 liter or more must be removed to improve symptoms.
- About 25% of effusions are asymptomatic, do not require therapy, are small and stable.

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