MORTALITÀ E SOPRAVVIVENZA IN ED,STUDIO DELL'ESCURSIONE DIAFRAMMATICA

Morelli Lucia ,

Caiazzo Imma,Casaburi Cosma ,Ferrara Pietro,Foccillo Giampiero,Martone Alfonso, Santamaria Marcella, Verde Sossio,Ragucci Paola,Guiotto Giovanna,Enrico G Ruggiero

Med d'Urg ,PS,OBI OSP San Paolo Napoli

J Bras Pneumol. 2009;35(12):1174-1181

Diaphragmatic dysfunction and mortality in patients with COPD*

Disfunção diafragmática e mortalidade em pacientes portadores de DPOC

Wellington Pereira dos Santos Yamaguti, Elaine Paulin, João Marcos Salge, Maria Cristina Chammas, Alberto Cukier, Celso Ricardo Fernandes de Carvalho

Low mobility (LM; mobility ≤ 33.99 mm); and high mobility (HM; mobility ≥ 34.00 mm).

During the 48-month follow-up period, there were four deaths within the population studied, and all of those deaths occurred in the LM group (15.79%; p = 0.02).

…ore 23.30 in Ps Rroom,Giuseppe, a 82 BMI>30,sonnolento, BPCO (moderata-severa MRC).O2terapia al bisogno da 2 anni,iperteso.

pH	7.28
pCO_2	91
pO_2	84
HCO_3	39.9
Lact	1.9

RR 32
O2 4L\min

NIV PSVST
IPAP 18 EPAP 6
02 3L\min e ricovero in MU

RCP+ecobedside

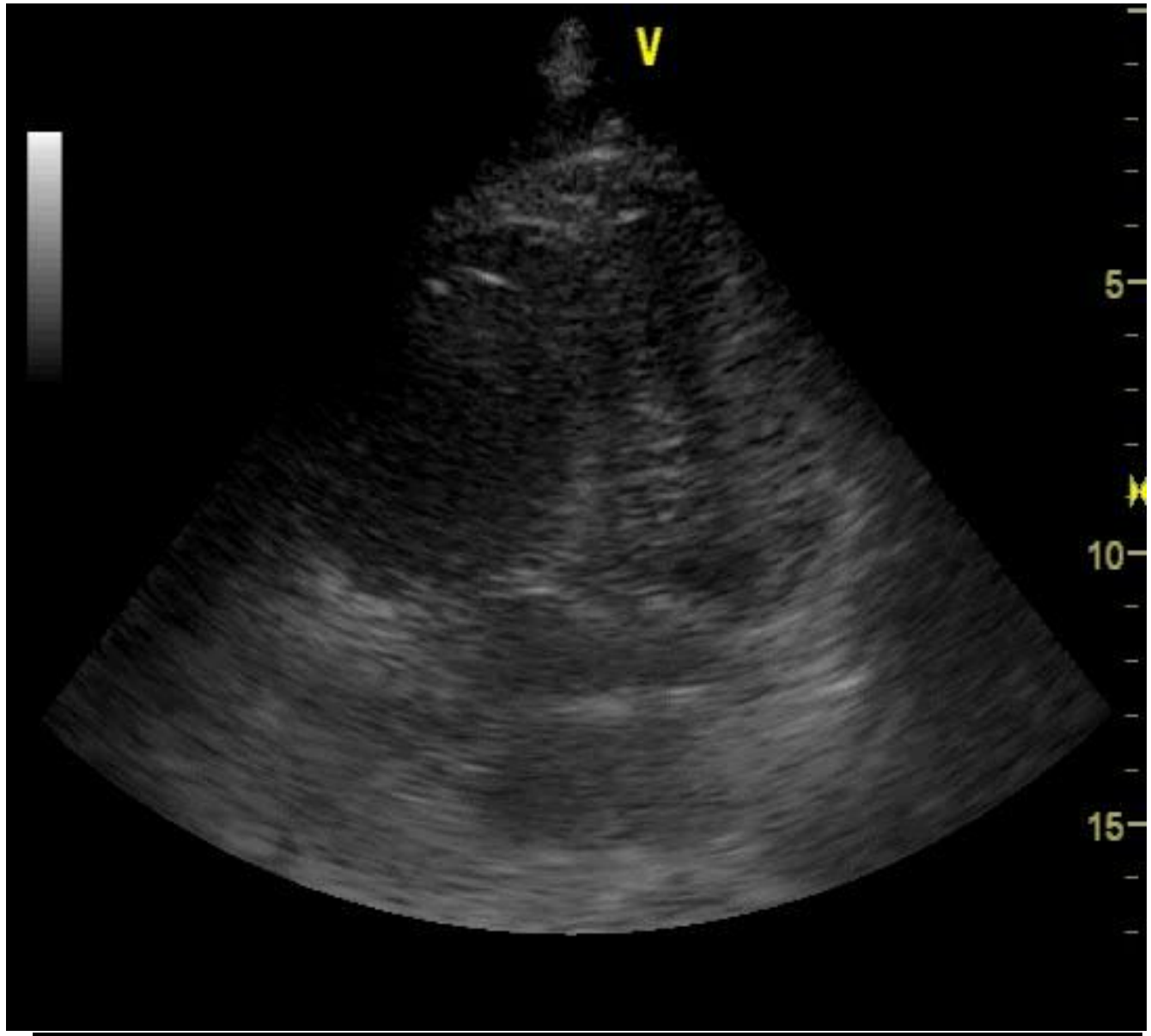
…la mattina dopo…arresto respiratorio

Refertato il: 01/12/2015 Ora:

ESAME	RISULTATO	UNITA'	RIFERIMENTO
ESAME EMOCROMOCITOMETRICO			
WBC	8,9	$10^3/mm^3$	4.2 - 10.5
RBC	4,07	$10^6/mm^3$	4.0 - 5.8
HGB	13,3	g/dl	11.5 -17.5
HCT	40,9	%	36.0 - 55.0
MCV	100,0 *	μm^3	78,0 - 98,0
MCH	32,7	pg	27,0 - 34,0
MCHC	32,6	g/dl	32,0 - 36,0
RDW	14,6	%	11,0 - 18,0
PLT	177	$10^3/mm^3$	150 - 400
FORMULA LEUCOCITARIA		%	$10^3/mm^3$
LYN		21,1	19,0 - 48,0 1,88
MON		3,7	1,0 - 10,0 0,33
NEU		73,6	40,0 - 75,0 6,55
EOS		1,4	0,0 - 6,0 0,12
BAS		0,2	0,0 - 1,5 0,02
UREA	36	mg/dl	10-50
GLUCOSIO	110	mg/dl	70 - 110
CREATININA	0,59	mg/dl	0.50 - 1.17
SODIO	* 118	mEq/l	135-155
POTASSIO	3,5	mEq/l	3.5-5.5
GOT/ASAT	19	U/L	5 - 40
GPT/ALAT	21	U/L	5 - 41
GAMMA-GT	26	U/L	10 - 71
LDH	300	U/L	240 - 480
BILIRUBINA TOTALE	0,62	mg/dl	0.10-1.00
BILIRUBINA DIRETTA	0,30 *	mg/dl	0.01-0.20
ACIDO URICO	* 3,20	mg/dl	
PROTEINA C REATTIVA	1,59 *		

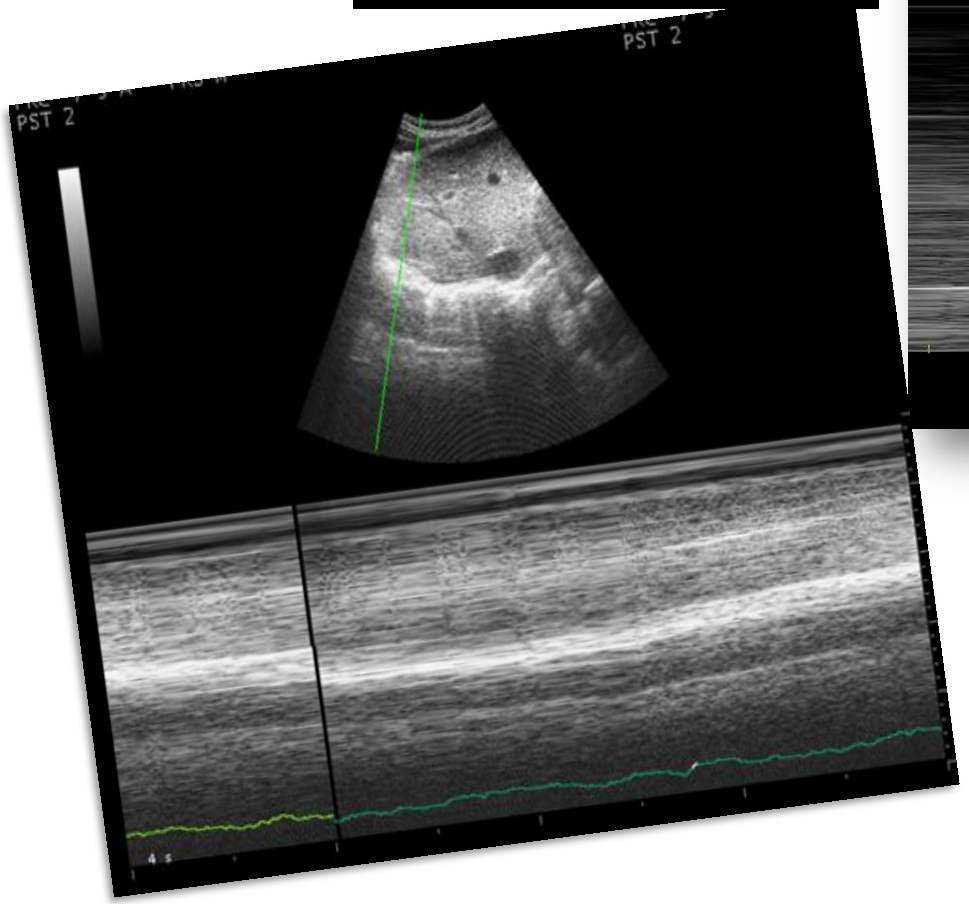
ProBNP 210pg\ml

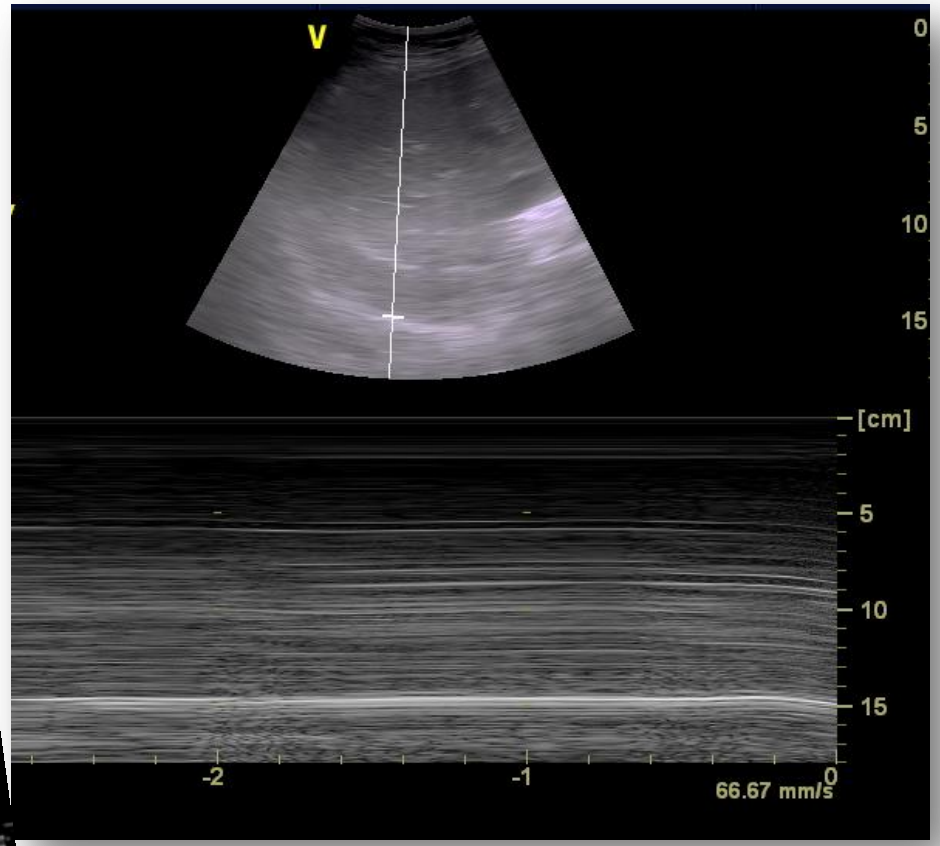
Trombolisi con
Tenecteplase 10000UI



IOT ROSC ricovero in Rianimazione

Levosimendan
(0.1mcg\kg\min)





…dopo 24 ore tentativo infruttuoso di estubazione

Eco diaframmatica

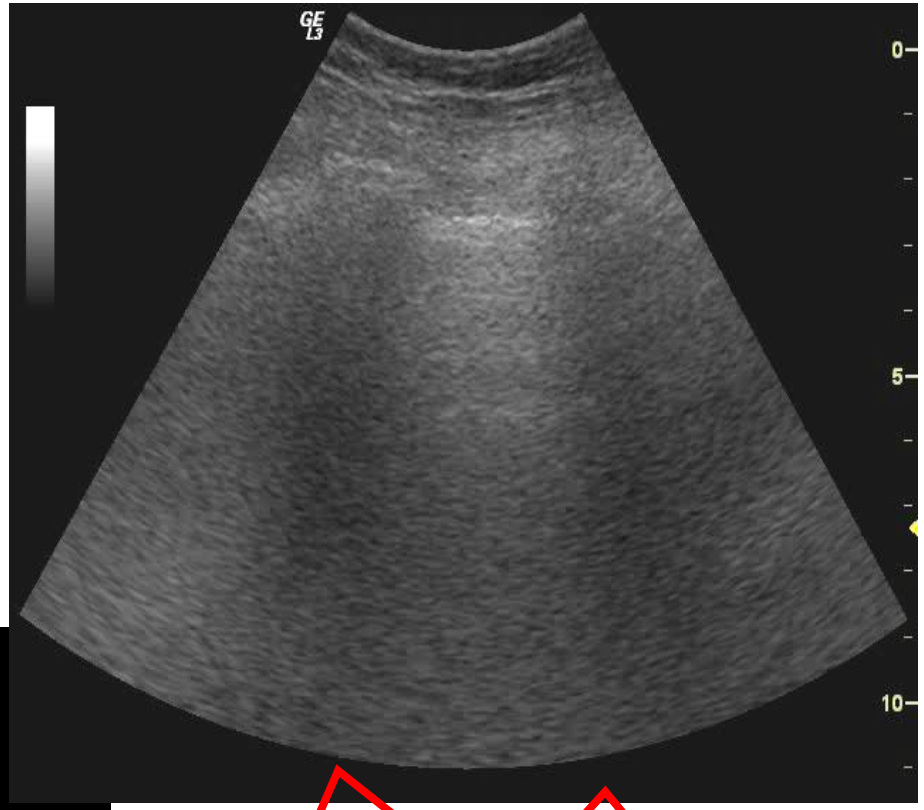
pH	7.35
pCO_2	55
pO_2	83
HCO_3	35
Lact	0.4

…apiretico,diuresi valida
Rs a fc 80bpm
curva enzimatica non significativa,iposodiemia corretta ,ECOcardio OK

….dopo 48 ore…

5° giorno
IOT

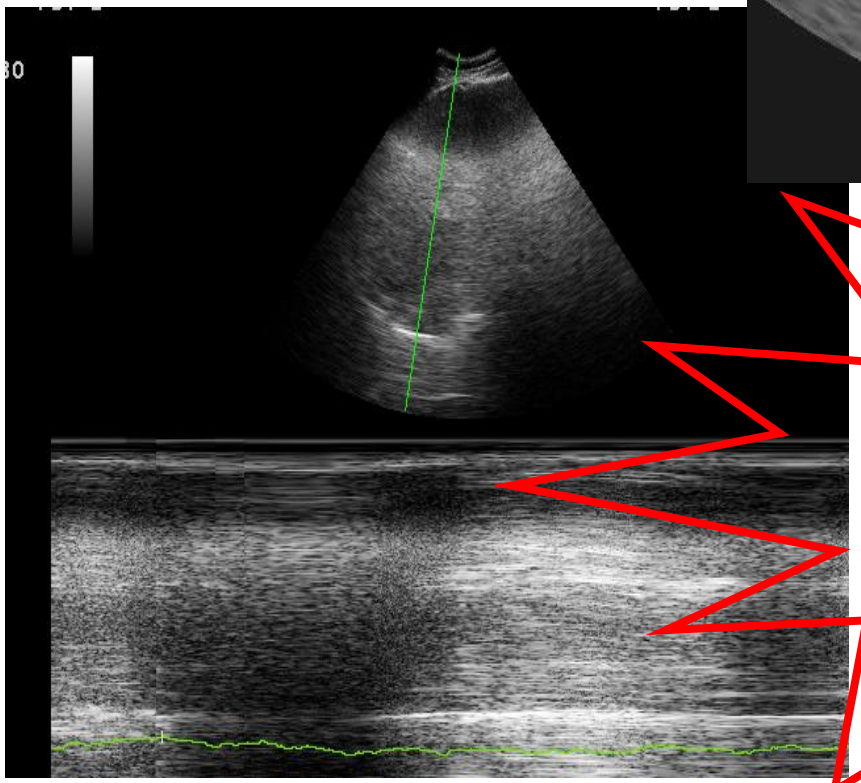
Dexmedetomidina (Dexdor) ev,
ad una velocità di 1,2 microgrammi/kg/h
e poi graduale riduzione.



Dopo 12 ore …nuovo tentativo di estubazione ….

…in respiro spontaneo.sveglio, cosciente ,riferisce impossibilità ad effettuare atti respiratori…desaturazione repentina …reintubato

…nuova RX torace nuovo controllo US bedside



…da circa 10 giorni impossibilità ad effettuare esami strumentali di II livello (TAC) in tutti gli ospedali della ASL per guasti tecnici

...il paziente a noi noto per accesso in PS circa 2 anni or sono per insufficienza respiratoria con ipossiemia... ed iponatremia ED 1.01cm.....

...si convocano le figlie a letto del paziente si decide altro tentativo di estubazione ...blanda sedazione con 2+2mg di morfina.....graduale desaturazione e bradicardia.....

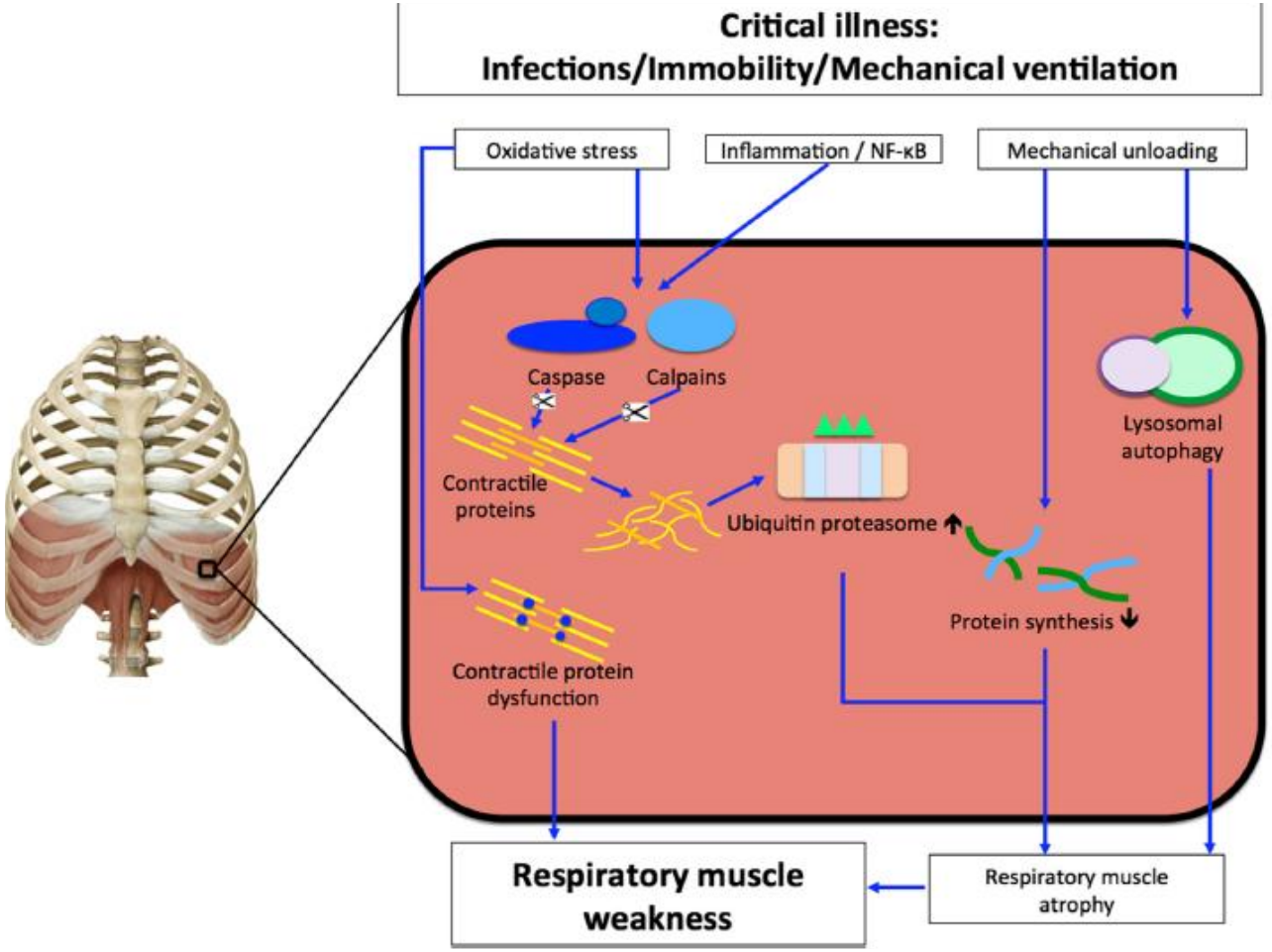
...fino all'ultimo battito

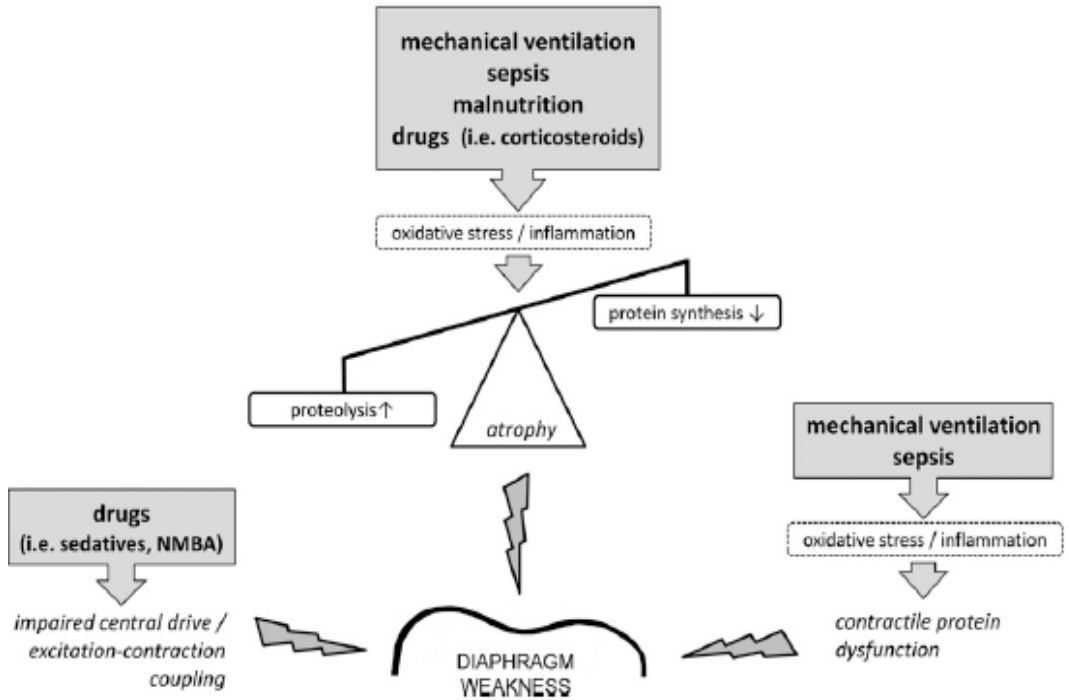
Critical Care Perspective

Monitoring of the Respiratory Muscles in the Critically Ill

Jonne Doorduin[1], Hieronymus W. H. van Hees[2], Johannes G. van der Hoeven[1], and Leo M. A. Heunks[1]

[1]Department of Critical Care Medicine and [2]Department of Pulmonary Medicine, Radboud University Nijmegen Medical Centre, the Netherlands





Dal Gennaio 2012 al Gennaio 2013, 13 Pazienti (9 ♂ età media 73±8) (Gruppo A) affetti da BPCO riacutizzata ed afferenti al nostro DEA, vennero sottoposti a To ed alla dimissione ad Ecografia bedside e diaframmatica; 8 pazienti (6 ♂ età m 79±6)(Gruppo B) allettati da non più di 30 gg, con anamnesi negativa per patologia respiratoria vennero presi come controllo.
Tutti i pazienti avevano un BMI<30.

Vennero esclusi pz già in Ventilazione non Invasiva a domicilio e pazienti precedentemente sottoposti a chirurgia toraco-addominale.

Caratteristiche dei pazienti alla dimissione	Gruppo A	GruppoB	p
Età\sesso	73±8; 9 ♂	79±6; 6♂	ns
APACHEII	11±2	13±2	ns
Thick fr	0.28±0.02	0.31±0.02	ns
E	1.1±0.5	1.2±0.9	p<0.05
Degenza media	3.5±1.2 gg	5.4±2.2	p<0.05
Mortalità a 48mesi	97%	53%	p<0.001
pCO2	78±12	49±19	P<0.001
FR	25±11	27±9	ns

Adattamento diaframmatico

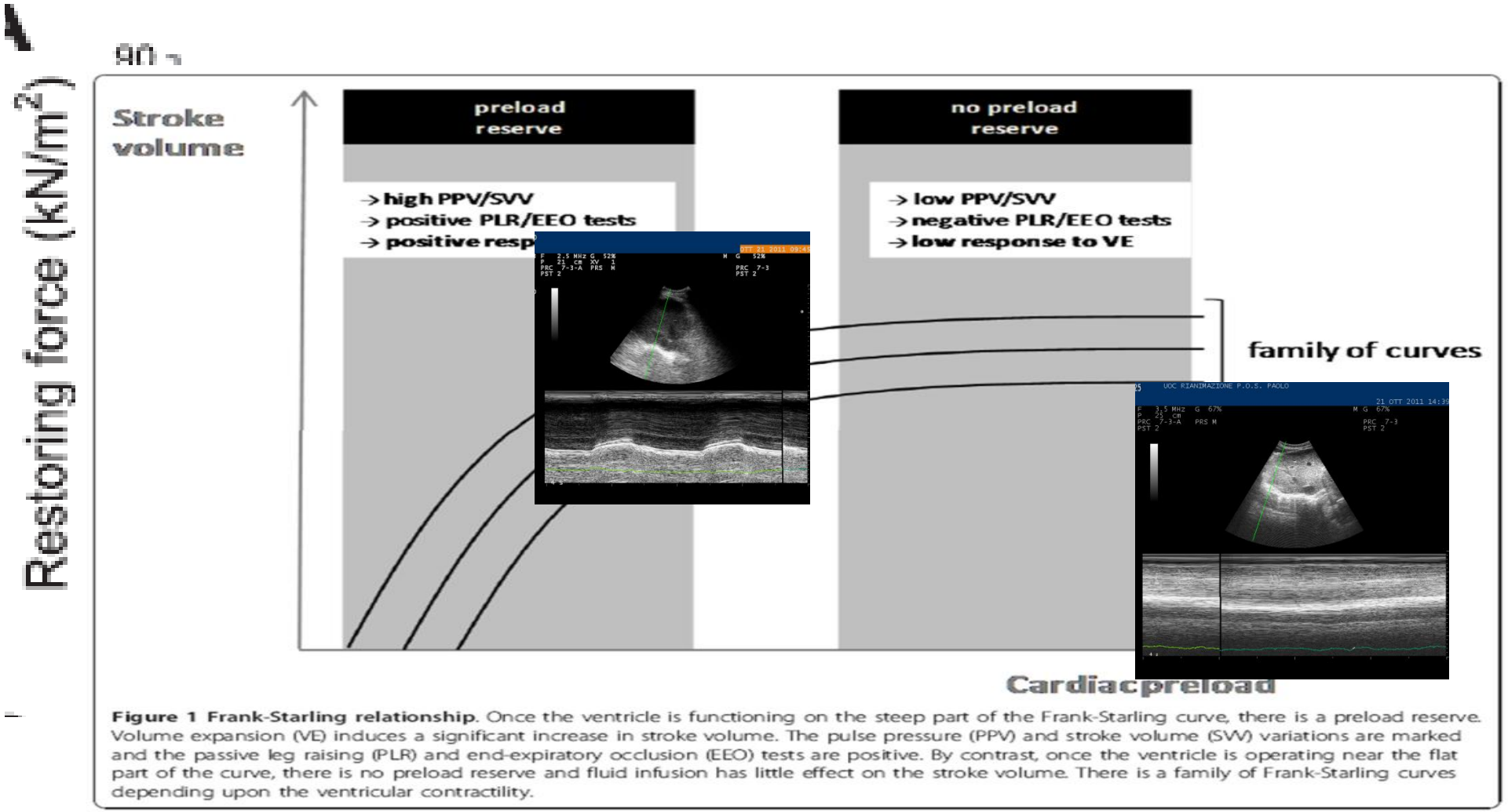


Figure 1 Frank-Starling relationship. Once the ventricle is functioning on the steep part of the Frank-Starling curve, there is a preload reserve. Volume expansion (VE) induces a significant increase in stroke volume. The pulse pressure (PPV) and stroke volume (SVV) variations are marked and the passive leg raising (PLR) and end-expiratory occlusion (EEO) tests are positive. By contrast, once the ventricle is operating near the flat part of the curve, there is no preload reserve and fluid infusion has little effect on the stroke volume. There is a family of Frank-Starling curves depending upon the ventricular contractility.

Fibra muscolare da biopsia diaframmatica
(measure of passive elastic properties)

…il diaframma si trasforma…?*.

attività 24 ore su 24

«weakness»

Shift verso fibre Tipo I (slow havy chain) e metabolismo aerobio

ox mitocondriale

enzimi glicolitici

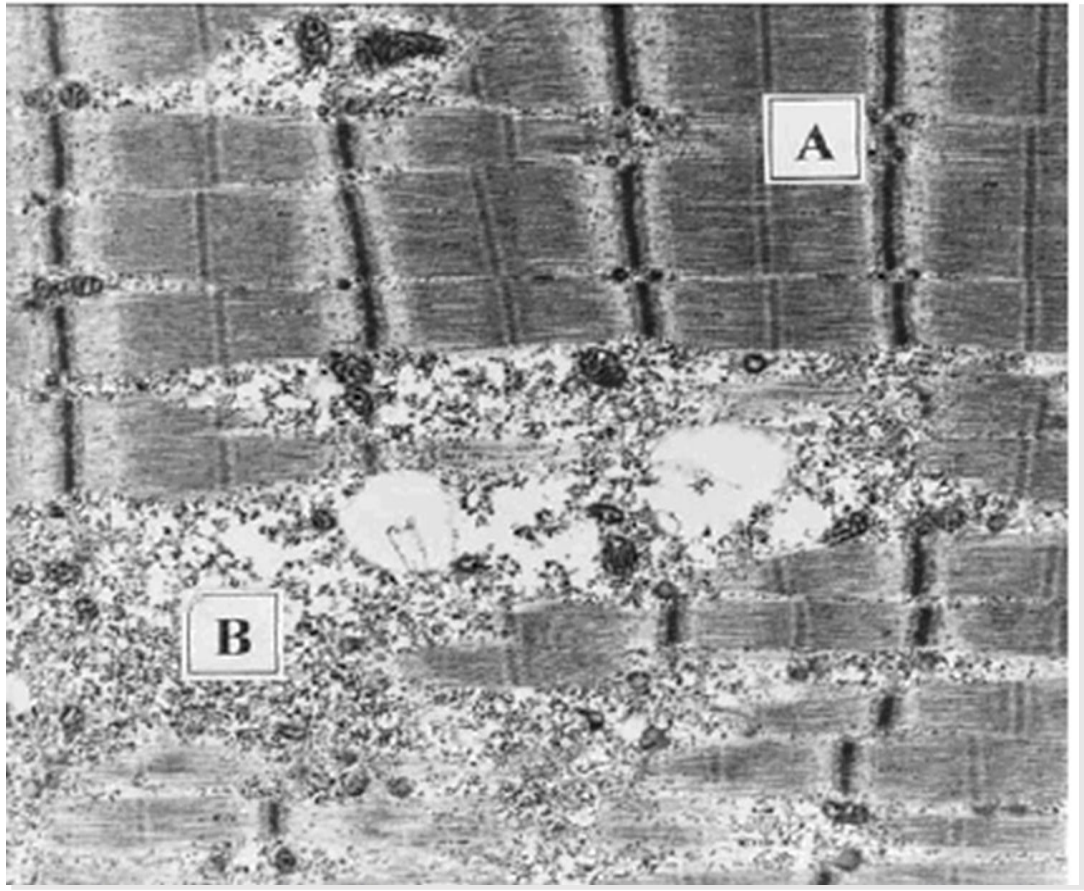
ATPasi Ca++dipendente con ridotta sensibilità al Calcio

***Clanton ;Levine.**
J Appl Physiol 2009

Dysfunction of respiratory muscles in critically ill patients on the intensive care unit

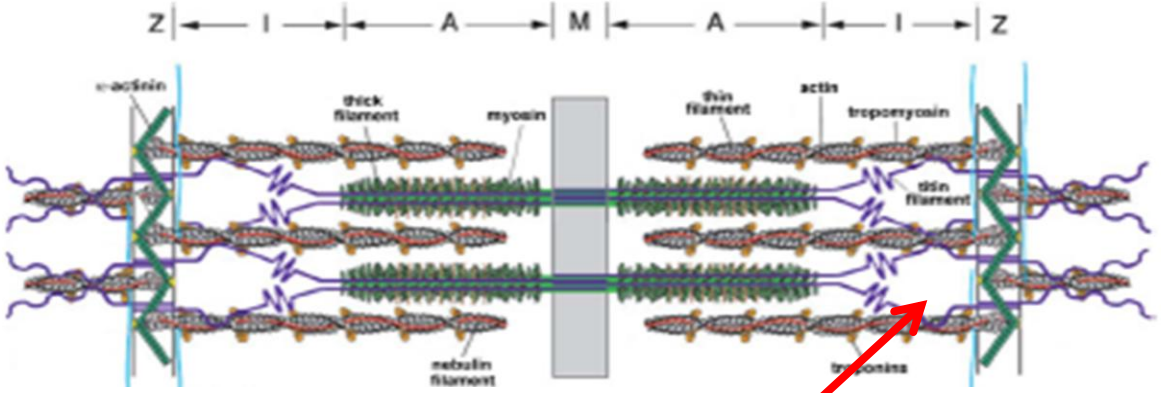
David Berger[1], Stefan Bloechlinger[1,2], Stephan von Haehling[3], Wolfram Doehner[4], Jukka Takala[1], Werner J. Z'Graggen[5] & Joerg C. Schefold[1*]

Interestingly, VIDD and ICU-AW may often be observed in critically ill patients with, e.g. severe sepsis or septic shock, and recent
data demonstrate that the pathophysiology of these conditions may overlap. VIDD may mainly be characterized on a histopathological
level as disuse muscular atrophy, and data demonstrate increased proteolysis and decreased protein synthesis
as important underlying pathomechanisms. However, atrophy alone does not explain the observed loss of muscular force.



Adattamento diaframmatico

Respiratory Research 2008, 9:12 http://respiratory-research.com/content/9/1/12



la titina

La trasformazione della Titina modifica le caratteristiche VISCOELASTICHE del sarcomero stesso*

**Clanton J Appl Phisiol 2009*

Weijs et al. Critical Care 2014, 18:R12
http://ccforum.com/content/18/1/R12

CRITICAL CAR

RESEARCH Open Access

Low skeletal muscle area is a risk factor for mortality in mechanically ventilated critically ill patients

Peter JM Weijs[1,2,3*], Wilhelmus G
Heleen M Oudemans-van Straat

Grimm et al. Critical Care 2013, 17:R227
http://ccforum.com/content/17/5/R227

CRITICAL CARE

RESEARCH Open Access

Muscle ultrasound for early assessment of critical illness neuromyopathy in severe sepsis

Alexander Grimm[1,2], Ulrike Teschner[1,2], Christine Porzelius[2,3], Katrin Ludewig[2], Jörg Zielske[2,4], Otto W Witte[1,2],

Files et al. Critical Care (2015) 19:266
DOI 10.1186/s13054-015-0979-5

CRITICAL CARE

REVIEW Open Access

CrossMark

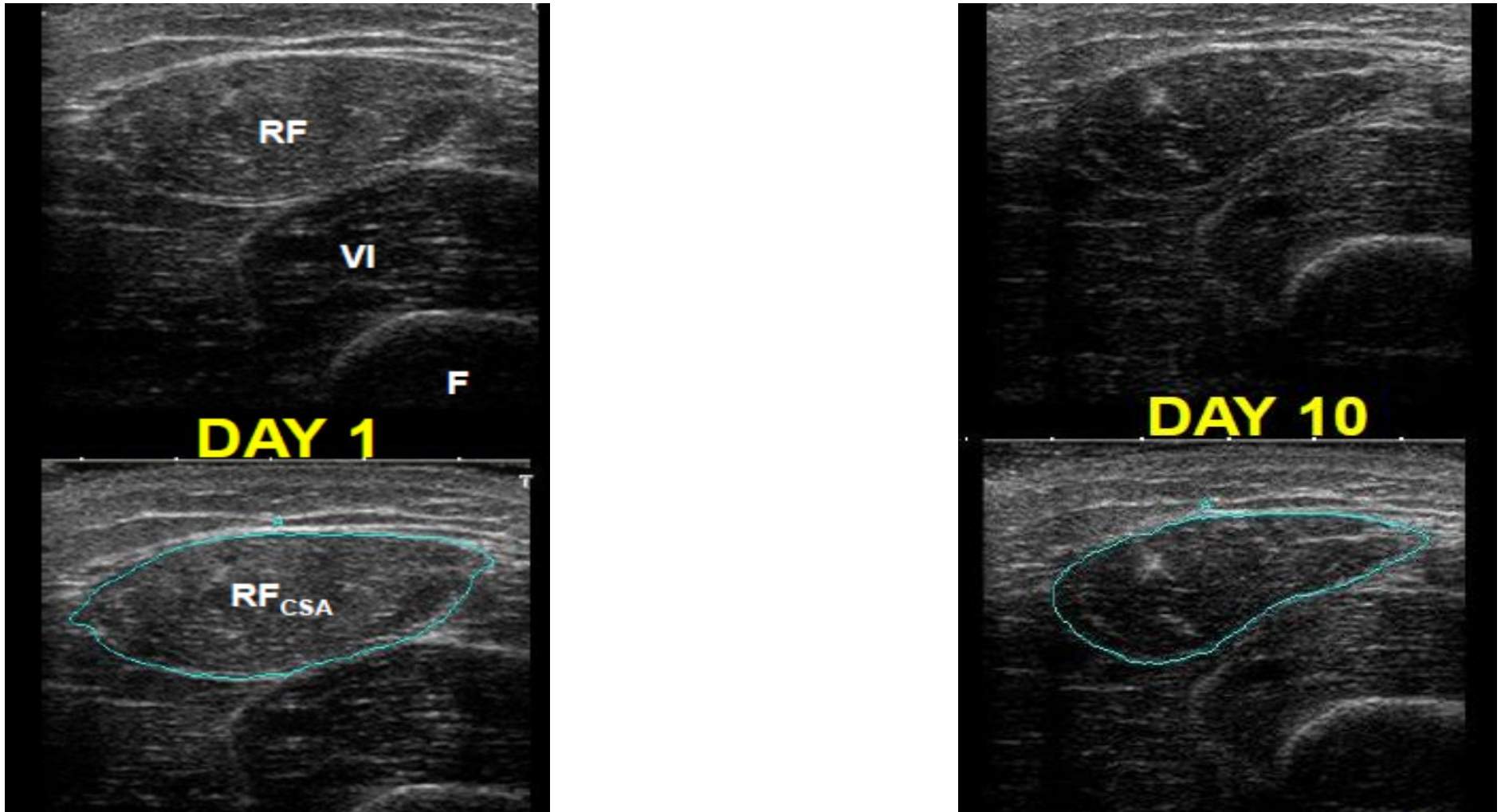
A conceptual framework: the early and late phases of skeletal muscle dysfunction in the acute respiratory distress syndrome

Grimm et al. Critical Care 2013, 17:R227
http://ccforum.com/content/17/5/R227

CRITICAL CARE

RESEARCH Open Access

Muscle ultrasound for early assessment of critical illness neuromyopathy in severe sepsis



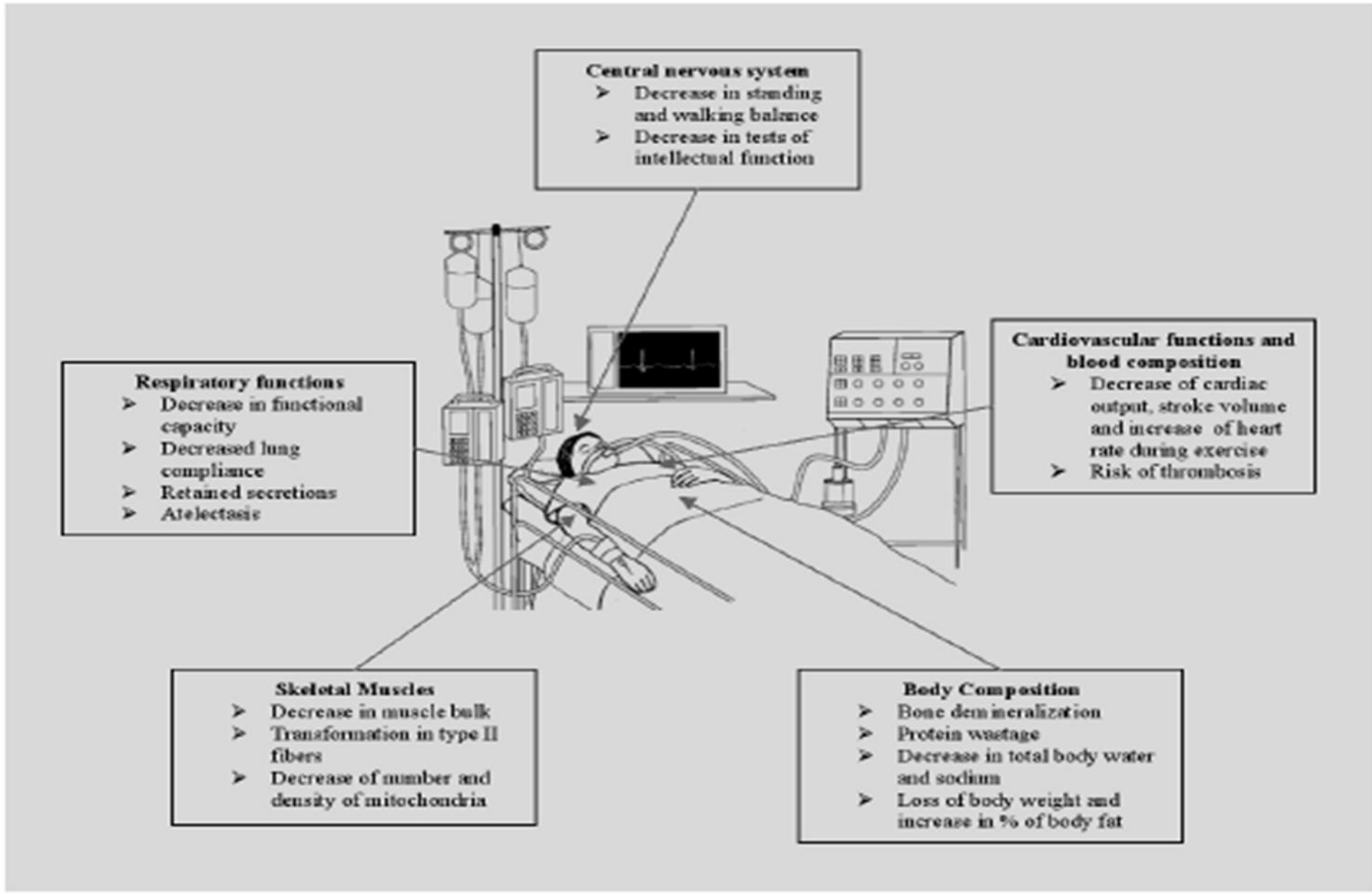
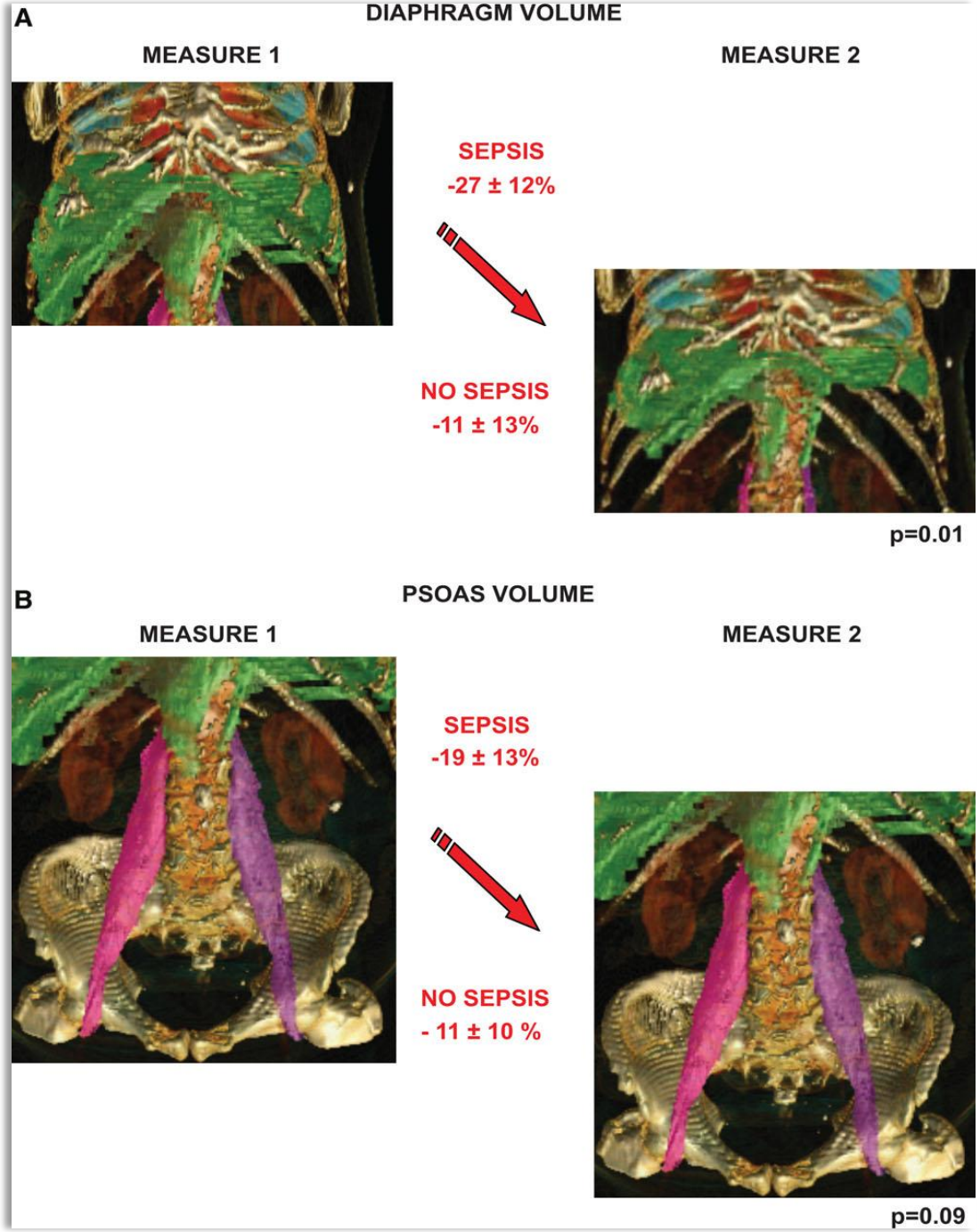


Fig. 1. - Physiological changes in immobility.

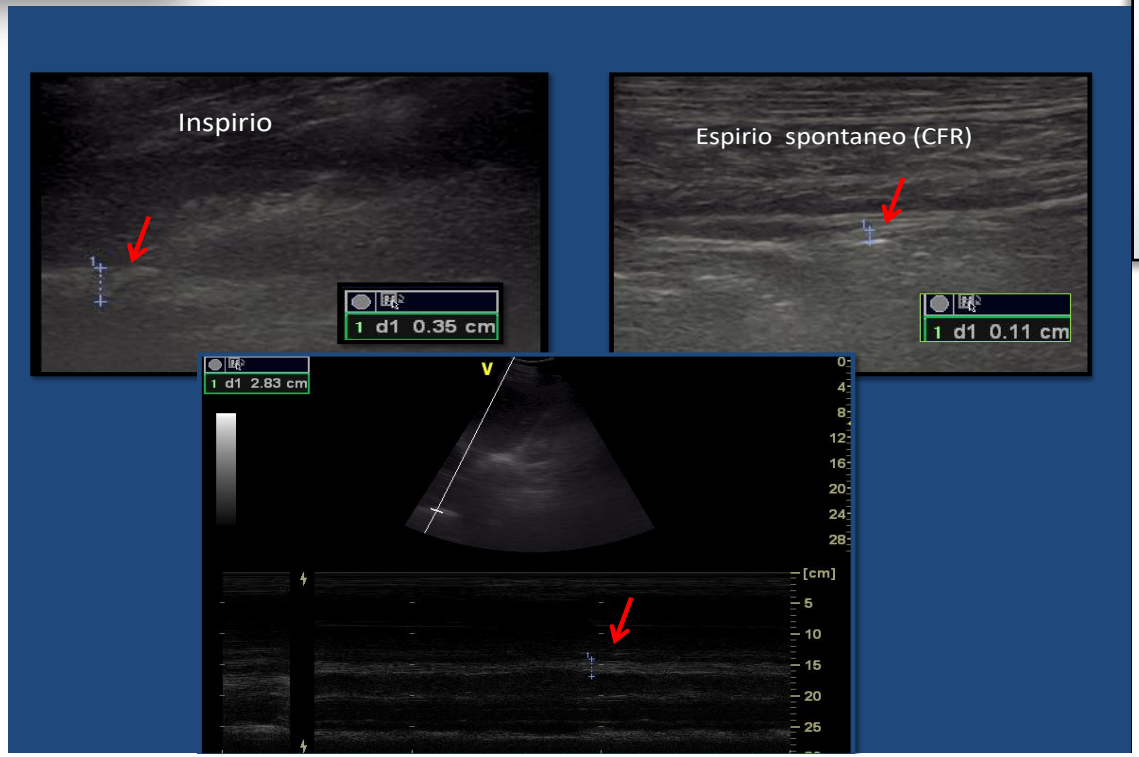


Critical Care Medicine 2016,

Sepsis is associated with preferential diaphragm atrophy (tridimensional TC)

THM:

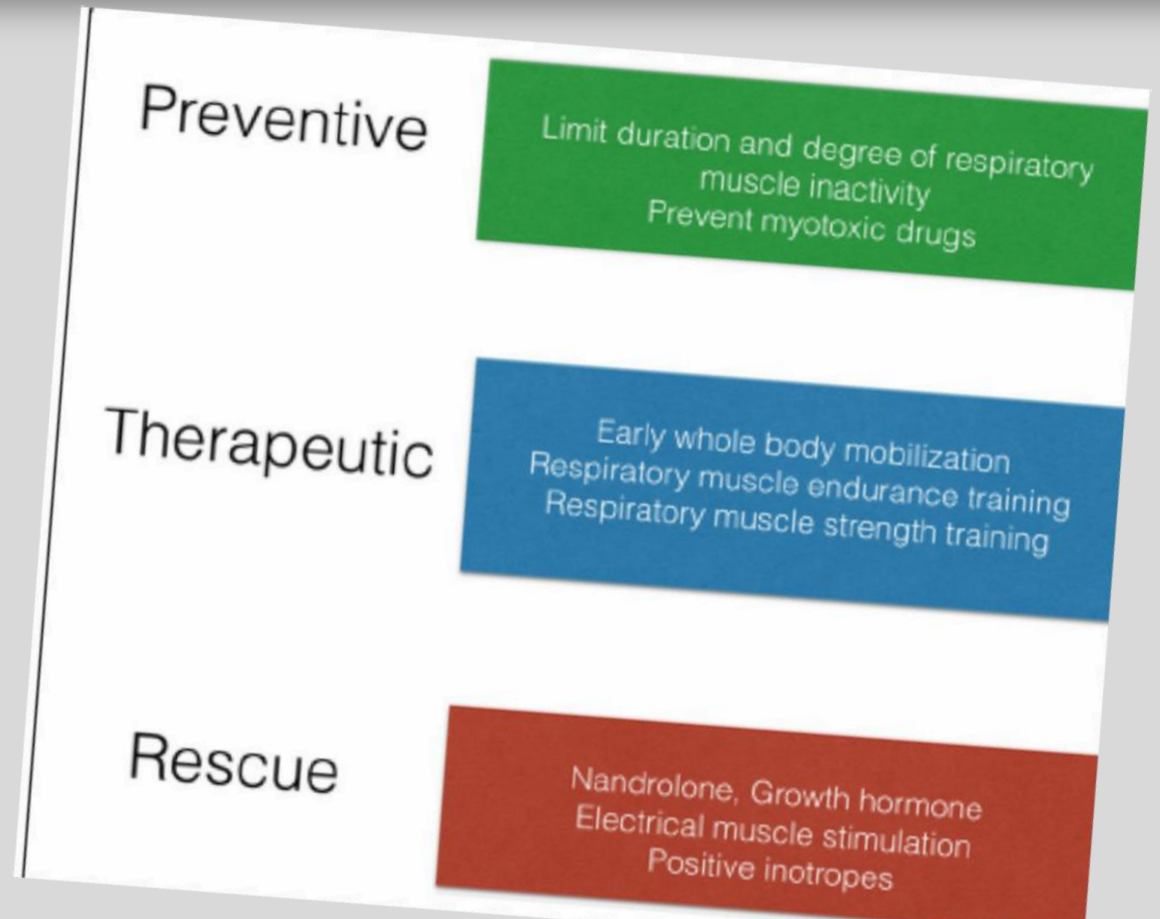
1) La valutazione della escursione diaframmatica e del thickening ,assume un ruolo prognostico fondamentale nell approccio all'amalato critico

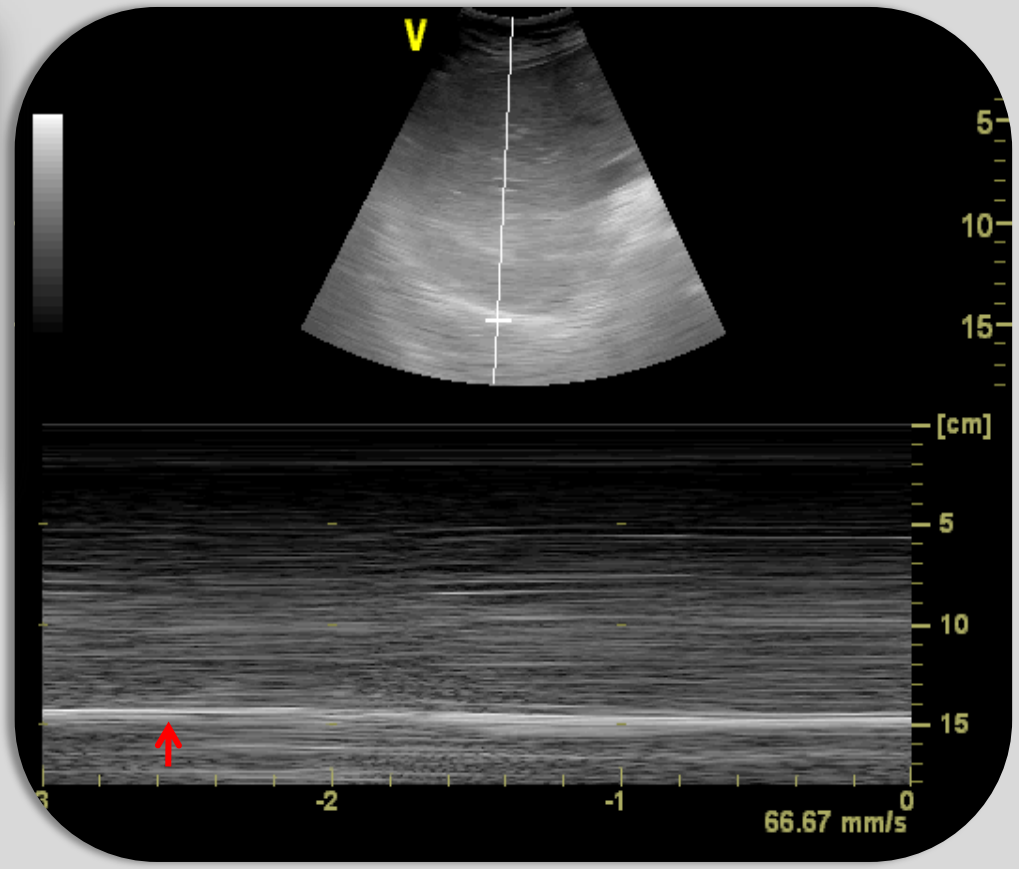


Schellekens *et al. Critical Care* (2016) 20:103
DOI 10.1186/s13054-016-1280-y

REVIEW

Strategies to optimize respiratory muscle function in ICU patients





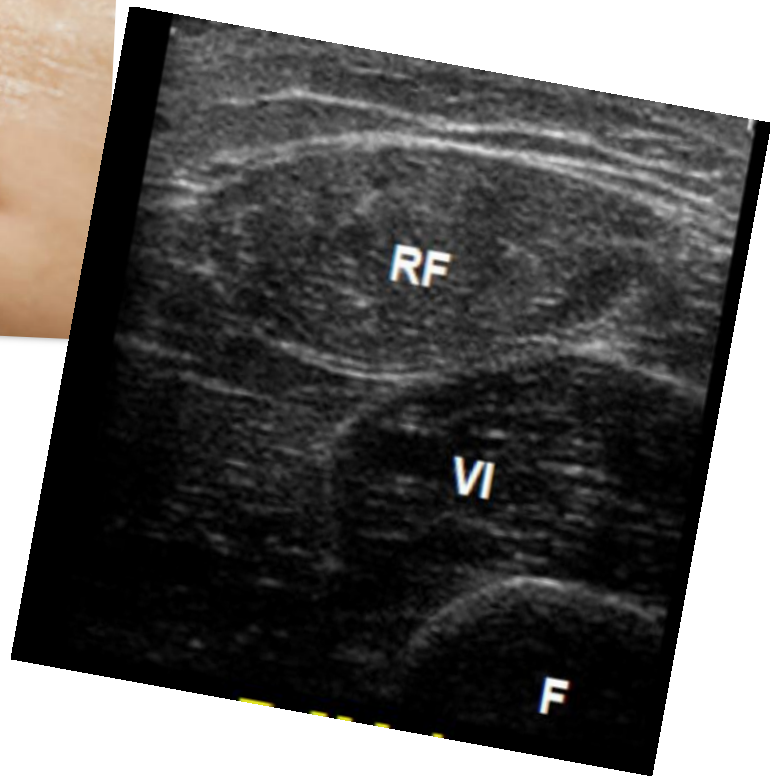
2)La rilevazione con US di wasting diaframmatico deve orientarci verso l'attuazione di stategie atte a ridurne la progressione

…per cui,una volta intrapresa pensare subito ad una precoce mobilizzazione

3)L'atrofia diaframmatica inizia già nelle prime ore di NIV…

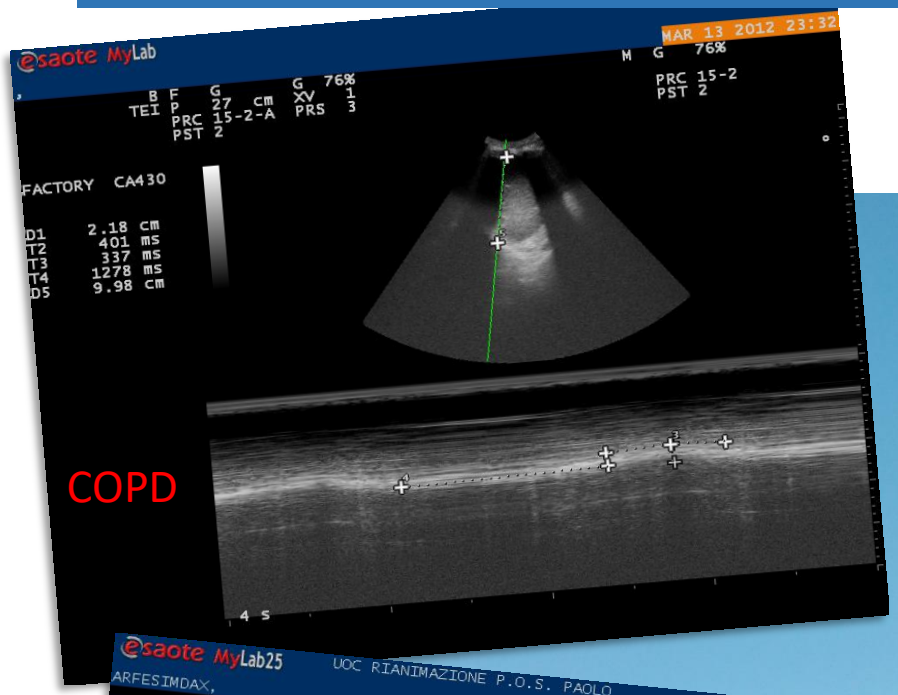
ECOPD

…proposta…



Pre NIV ,durante NIV ed al weaning e followup

Diaphragmatic patterns



GRAZIE