

Metalettura dell'EGA in urgenza

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EGA

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graph TD; EGA[EGA] --> ARTERIOSA[ARTERIOSA]; EGA --> VENOSA_CENTRALE[VENOSA CENTRALE];
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ARTERIOSA

- O₂
- EAB
- Elettroliti
- Lattato

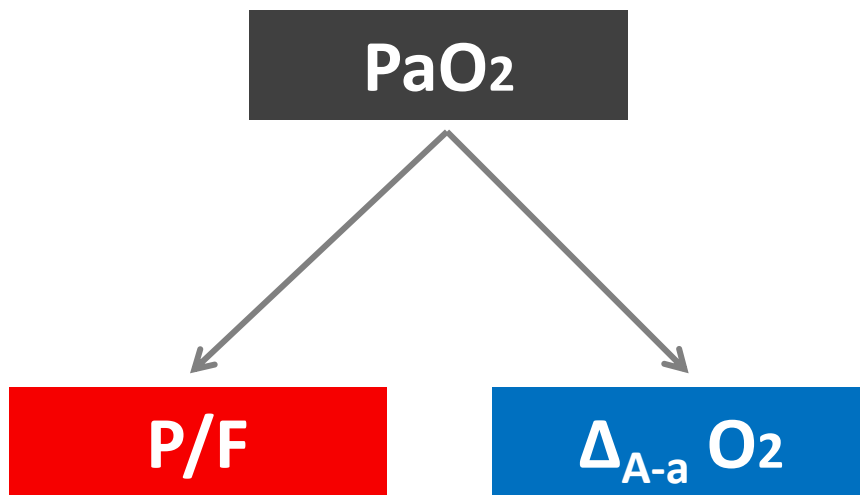
VENOSA CENTRALE

- ScvO₂
- PCO₂

PaO₂

P/F

$\Delta_{A-a} O_2$



EAB

DISORDINE PRIMARIO

COMPENSO "ATTESO"

IL COMPENSO "ATTESO"

$$\uparrow \text{pH} \approx \frac{\begin{array}{c} \text{---} \\ \downarrow \\ \text{HCO}_3^- \end{array}}{\begin{array}{c} \downarrow \\ \text{PCO}_2 \end{array}}$$

$$\downarrow \text{pH} \approx \frac{\begin{array}{c} \uparrow \\ \text{---} \\ \text{HCO}_3^- \end{array}}{\begin{array}{c} \uparrow \\ \text{PCO}_2 \end{array}}$$

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$$\downarrow \text{pH} \approx \frac{\begin{array}{c} \downarrow \\ \text{HCO}_3^- \end{array}}{\begin{array}{c} \downarrow \\ \text{---} \\ \text{PCO}_2 \end{array}}$$

ACIDO-BASE	37.0
pH	7.392
pCO ₂	76.7↑
pO ₂	38.8↓
HCO ₃ ⁻ act	45.6
HCO ₃ ⁻ std	39.2
BE(B)	15.9
BE(ecf)	20.7
ctCO ₂	48.0

CO-OSSIMETRIA	
Hct	47
tHb	16.0
sO ₂	73.0
FO ₂ Hb	72.4↓
FCOHb	0.8
FMetHb	0.0↓
FHHb	26.8↑

OSSIGENAZIONE	37
BO ₂	22.1
p50	25.2
ctO ₂ (a)	16.2

ELETTROLITI	
Na ⁺	144.4
K ⁺	3.68
Ca ⁺⁺	1.15
Ca ⁺⁺ (7.4)	1.15
Cl ⁻	87↓
AnGap	15.5

METABOLITI	
Glu	90#
Lac	1.29

RR 30 FiO₂ 21%

Disordine misto

Acidosi respiratoria +
alcalosi metabolica

pH vs PCO₂

acuta

“mista”

cronica

pH

7.22

7.25

7.32

PCO₂

70

70

70

HCO₃

28

30

35

pH	7.22	7.25	7.32
PCO ₂	70	70	70
HCO ₃	28	30	35

pH vs PCO₂

“mista”

“mista”

pH

7.08

7.38

PCO₂

70

70

HCO₃

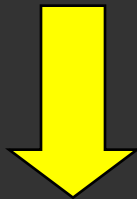
20

40

pH	7.08	7.38
PCO ₂	70	70
HCO ₃	20	40

EAB & FLUIDI

↓ IVF



↑ pH

↓↓ pH urinario

↓↓ Na_u & Cl_u

↓↓↓ IVF



ipoperfusione

+ ↓ pH

pH

Acido

Normale

Alcalino

K



=



Ca⁺⁺



=



Mg⁺⁺



=

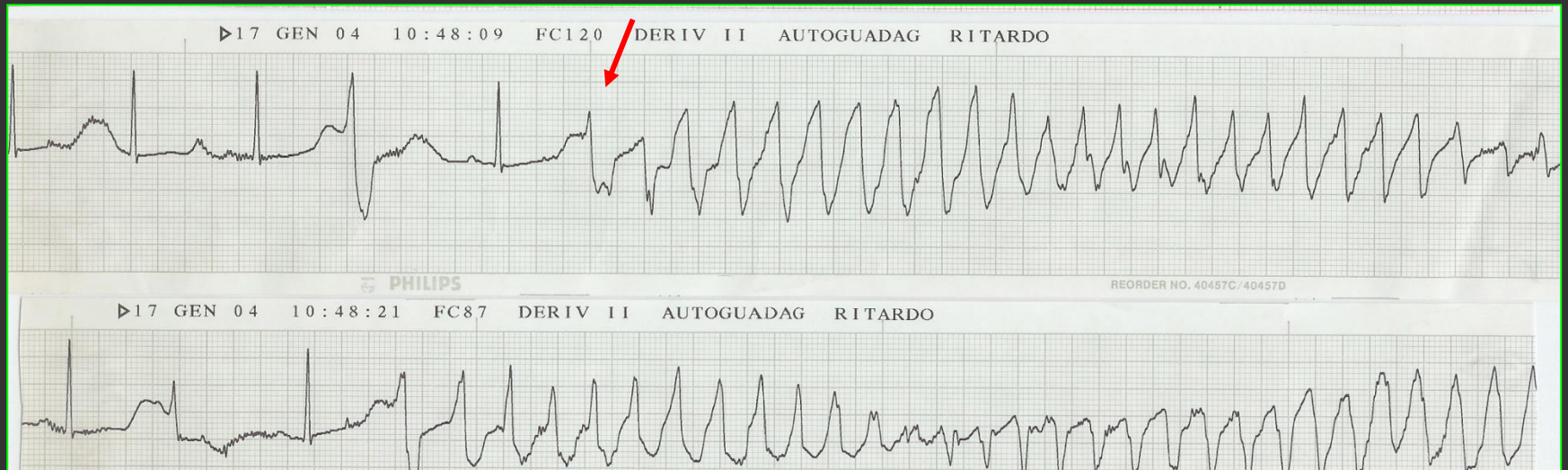


pH 7.60

PCO₂ 30

HCO₃ 29

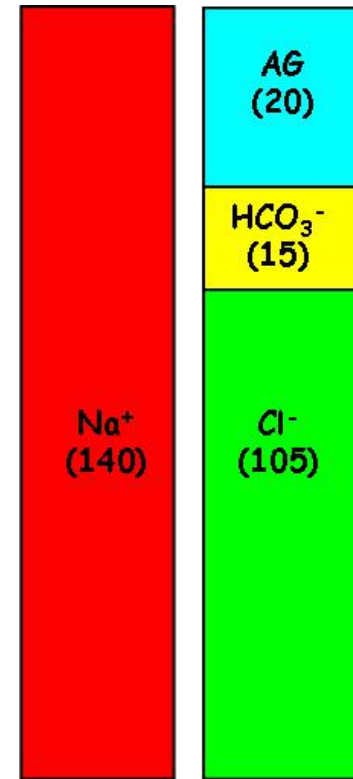
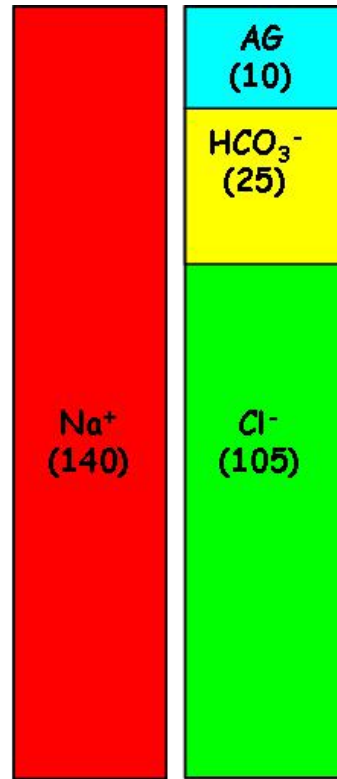
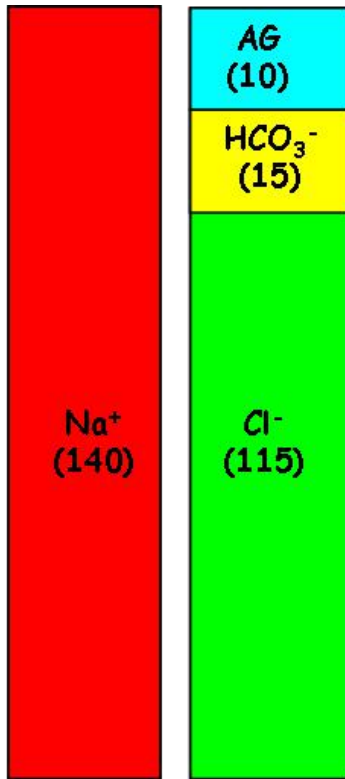
K 2.1



$$AG = Na - (Cl + HCO_3) = 10 \pm 2$$

PERDITA
HCO₃:

- Renale
- GI



CONSUMO
HCO₃:

- DKA
- Ac. Lattica
- Uremia
- Toxic

MG, 59 aa. Sepsi (IVU)

FiO₂ 21% FR30

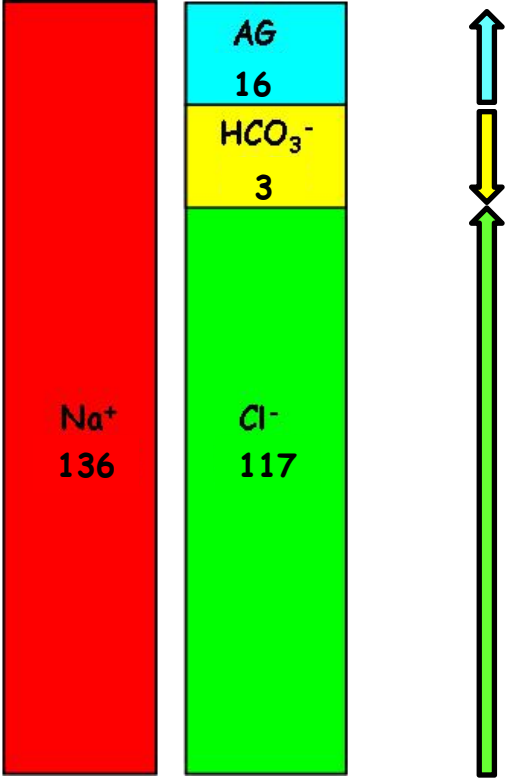
pH	7.14
PCO ₂	8.3
HCO ₃	2.8
PO ₂	134
Na	136
Cl	117
GA	16.2

Compenso "atteso" CO₂

$$1.2 \times 22 = 26.4$$

$$40 - 26.4 = 13.6$$

Acidosi Metabolica  AG ↑
AG N
+
Alcalosi Respiratoria



UAG

$$[\text{Cl}]_u = [\text{Na}]_u + [\text{K}]_u + \cancel{[\text{NH}_4^+]_u}$$

$$[\text{Cl}]_u > [\text{Na}]_u + [\text{K}]_u$$

$[\text{Na}]_u$ 122 mEq/L

$[\text{K}]_u$ 32 mEq/L

$[\text{Cl}]_u$ 122 mEq/L

Strategie diagnostiche in urgenza

ALCALOSI RESP {
PO₂
SNC
mediatori
"drugs"

ACIDOSI RESP {
acuta
"mista"
cronica

ALCALOSI MET {
↓ IVF ($Cl_u < 10$)
↑/N IVF ($Cl_u > 20$)

ACIDOSI MET {
AG↑
NAG → UAG

BASE EXCESS = BAD EXCESS !

L'EFFETTO "COSMEICO" dell'ALCALOSI METABOLICA sull' ACIDOSI METABOLICA

- pH 7.27
- PCO_2 25
- HCO_3 14
- BE -11

- Na 136
- Cl 100

- AG 22

- pH 7.38
- PCO_2 38
- HCO_3 24
- BE 0

- Na 134
- Cl 88

- AG 22

PUNTI CHIAVE

- P/F: severità e monitoring nelle ipossiemie
- pH / disordine primario / compenso “atteso”
- Acidosi respiratorie: acute / croniche / miste....
- Alcalosi metaboliche: VCE / elettroliti / ECG
- Acidosi metaboliche: Gaps

THANK YOU

GRACIAS
ARIGATO
SHUKURIA
GOZAIMASHITA
EFCHARISTO

DANKSCHEEN
SPASSIBO
SHACHALHUYA
MURUH
CHALTU
YAQHANYELAY
TASHAKKUR ATU
WADEEJA
MAITEKA
HUI
YUSPAGARATAN
SUKSAMA
EKHMET
ATTO
ANHA
SPASIBO
DENKAUJA
NENACHALHYA
UNALCHEESH
TINGKI
BIYAN
SHUKRIA
MAAKE
GRAZIE
MEHRBANI
PALDIES
UNALCHEESH
HATUR
GUI
EKOJU
SIKOMO
MAKETAI
MINMONCHAR
BOLZIN
MERCI
JUSPAXAR
BAIWA
TAVTAPUCH
MEDAWAGSE
MERASTAWHY
SANCO
GAEJTRO
AGUYJE
FAKAAUE
KOMAPSUMNIDA
LAH