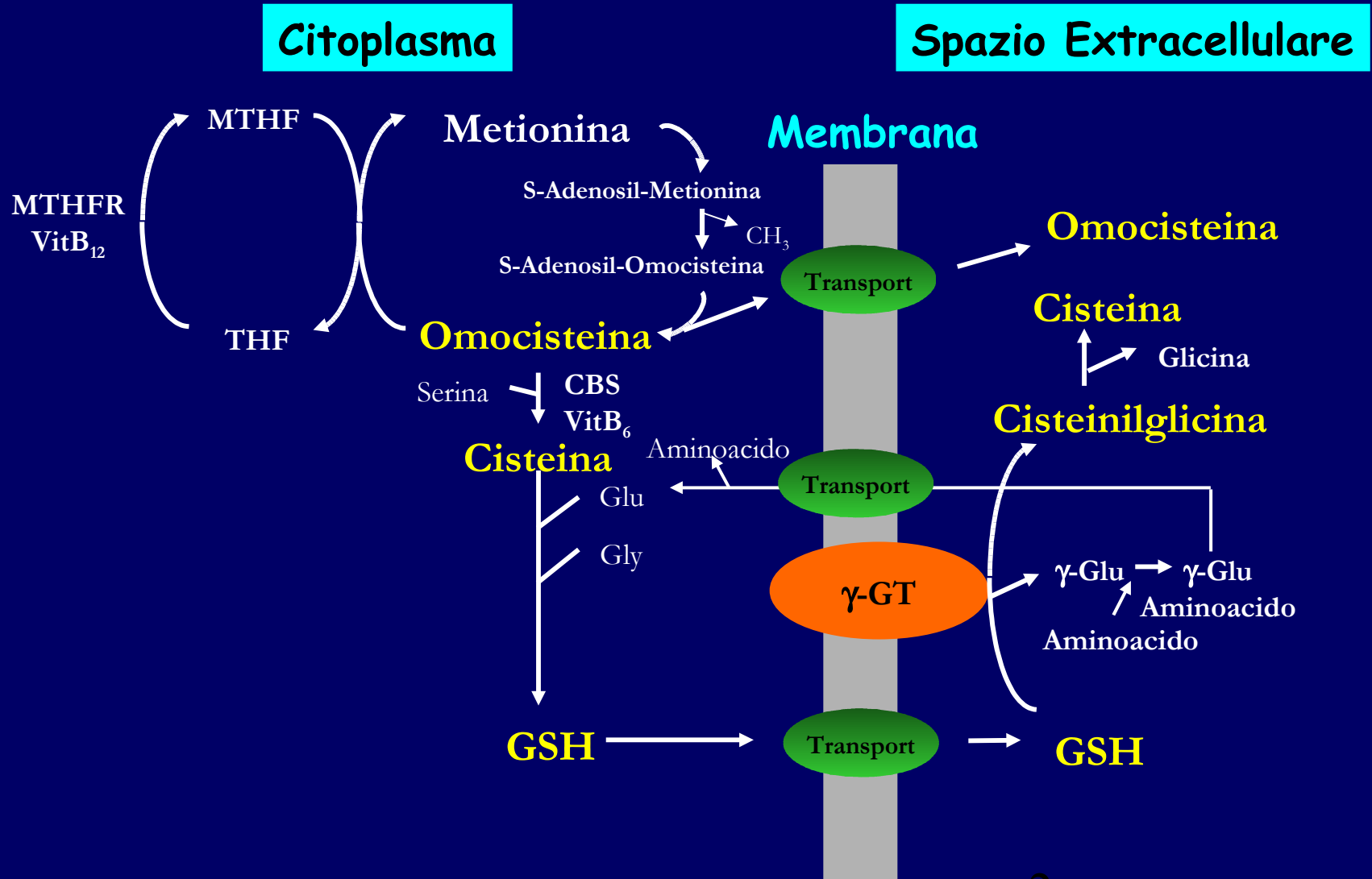


***Marcatori biochimici di equilibrio
cellulare e di stress ossidativo
negli ultra maratoneti***

Roberto Accinni

**Istituto Fisiologia Clinica CNR - Milano,
Università degli Studi di Ferrara**

Stato redox dei tioli



VALORI DI RIFERIMENTO (μM)

Cys PO			CysGly PO			Hcy PT			GSH PO		
170.1	216.2	262.2	25.0	33.3	41.7	5.7	9.5	11.3	7.0	8.8	10.7

Cys PR			CysGly PR			Hcy PR			GSH PR		
7.6	9.3	11.1	1.8	2.4	3.1	0.11	0.17	0.23	1.7	2.3	2.9

Cys EO			CysGly EO			Hcy EO			GSH EO		
5.35	23.9	42.4	0.14	3.6	7.0	1.3	2.8	4.3	240	826	1413

Cys ER			CysGly ER			Hcy ER			GSH ER		
0.52	4.5	9.04	0.23	0.84	1.45	0.1	0.77	1.5	601	1266	1931

Quadro clinico

Sindromi coronariche acute (ACS)

Fase subacuta dopo il primo infarto miocardico

Dislipidemia

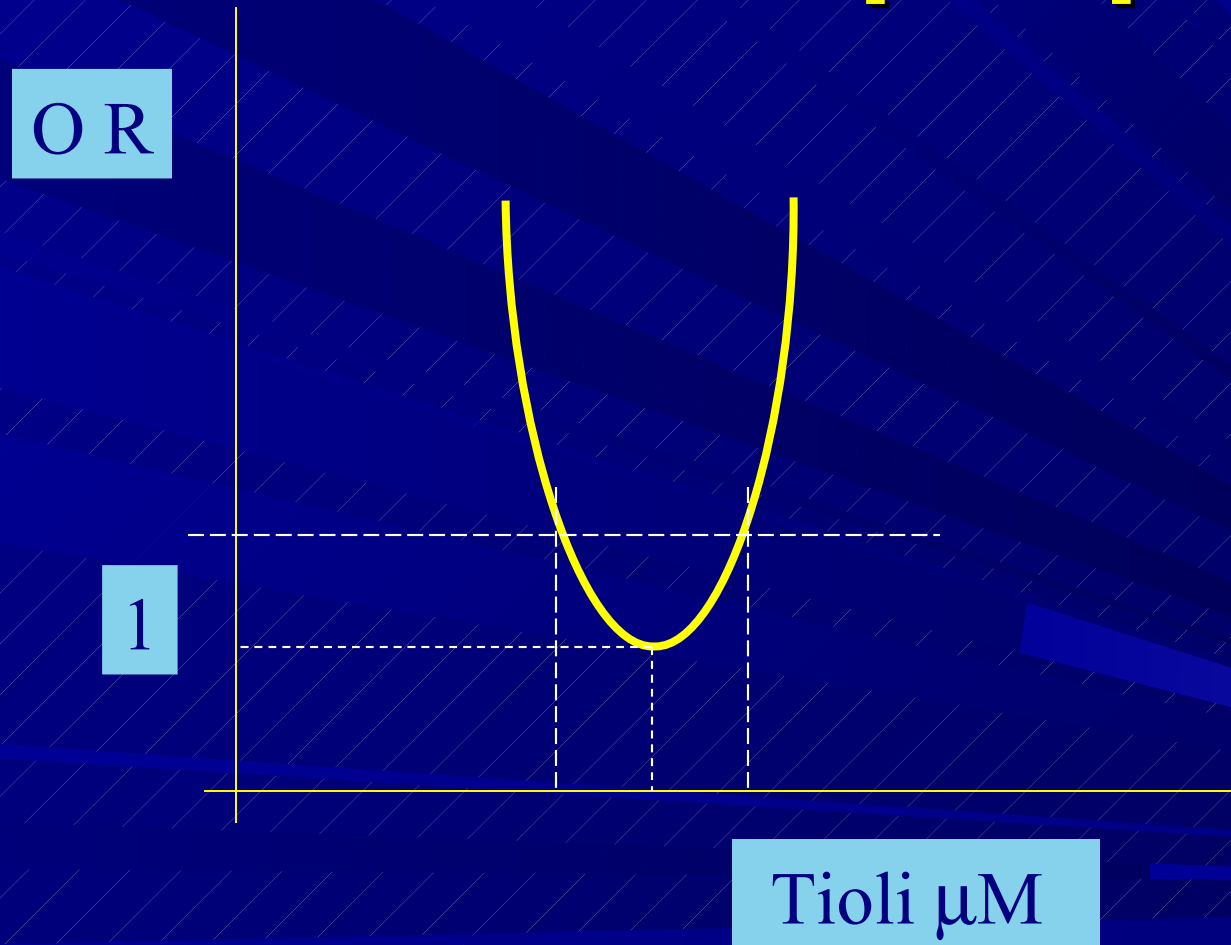
Iperomocisteinemia PML

Abitudine al fumo:forti fumatori (>20-30 sigarette/die)

Bronchiectasia

U - Shape

Odds ratio/[thiols]



Ultra maratoneti: 24 ore mondiale '09 (Bg)

		n.	MEDIA	DEV STD	p
	Cys t0	11	170.8	23.8	10^{-6}
	Cys t1	11	390.6	77.2	
PLASMA	CysGly t0	11	28.1	2.8	4×10^{-6}
OX	CysGly t1	11	45.8	6.5	
	Hcy t0	11	8.77	1.54	0.02
	Hcy t1	11	11.64	3.26	
	GSH t0	11	7.8	0.5	4×10^{-5}
	GSH t1	11	10.2	1.2	

Ultra maratone: 24 ore mondiale '09 (Bg)

		n.	MEDIA	DEV STD	p
	Cys t0	11	7.8	1.49	0.002
	Cys t1	11	12.5	2.98	
PLASMA	CysGly t0	11	2.2	0.4	ns
REDOX	CysGly t1	11	1.8	0.4	
	Hcy t0	11	0.15	0.01	ns
	Hcy t1	11	0.16	0.03	
	GSH t0	11	2.11	0.62	ns
	GSH t1	11	2.74	0.64	

Ultra maratoneti: 24 ore mondiale '09 (Bg)

		n.	MEDIA	DEV STD	p
	Cys t0	11	27.5	16.3	ns
	Cys t1	11	20.2	7.1	
EMAZIE OX	CysGly t0	11	1.0	0.7	ns
	CysGly t1	11	0.8	0.7	
	Hcy t0	11	3.32	1.6	0.04
	Hcy t1	11	2.12	1.3	
	GSH t0	11	396.5	330	ns
	GSH t1	11	287.8	279	

Ultra maratone: 24 ore mondiale '09 (Bg)

		n.	MEDIA	DEV STD	p
	Cys t0	11	7.92	3.76	0.004
	Cys t1	11	6.22	2.84	
EMAZIE	CysGly t0	11	2.33	1.29	ns
REDOX	CysGly t1	11	1.61	0.63	
	GSH t0	11	1136.6	383.4	0.047
	GSH t1	11	881.6	185.3	

Ultra maratoneti: 100 Km '10 (Seregno)

		n.	MEDIA	DEV STD	p
	Cys t0	6	162.8	28.12	0.003
	Cys t1	6	219.5	39.11	
PLASMA	CysGly t0	6	26.9	4.64	0.027
OX	CysGly t1	6	41.6	10.17	
	Hcy t0	6	7.7	1.74	ns
	Hcy t1	6	8.0	1.75	

Ultra maratone: 100 Km '10 (Seregno)

		n.	MEDIA	DEV STD	p
	Cys t0	6	13.0	1.72	ns
	Cys t1	6	12.5	1.81	
PLASMA	CysGly t0	6	4.7	0.62	0.017
REDOX	CysGly t1	6	3.9	0.57	

Ultra marattoneti: 100 Km '10 (Seregno)

		n.	MEDIA	DEV STD	p
■	Cys t0	6	22.0	10.23	0.02
	Cys t1	6	28.7	12.28	
EMAZIE OX	CysGly t0	6	3.5	1.8	ns
	CysGly t1	6	3.6	1.8	
	Hcy t0	6	0.3	0.16	ns
	Hcy t1	6	0.3	0.16	
	GSH t0	6	653.2	355.2	ns
	GSH t1	6	437.4	266.1	

Ultra maratone: 100 Km '10 (Seregno)

		n.	MEDIA	DEV STD	p
	Cys t0	6	3.0	1.1	0.013
	Cys t1	6	6.2	2.6	
EMAZIE	CysGly t0	6	0.6	0.17	ns
REDOX	CysGly t1	6	0.7	0.18	
	Hcy t0	6	0.03	0.04	ns
	Hcy t1	6	0.04	0.02	
	GSH t0	6	1201.8	361.34	ns
	GSH t1	6	1416.8	293.55	

Ultra maratone: L'Aquila '10

		n.	MEDIA	DEV STD	p
■	Cys t0	14	236.4	58.2	ns
	Cys t1	14	237.0	68.2	
PLASMA OX	CysGly t0	14	26.2	7.9	ns
	CysGly t1	14	27.3	9.2	
	Hcy t0	14	6.3	2.3	ns
	Hcy t1	14	6.3	2.8	
	GSH t0	14	9.96	1.03	0.003
	GSH t1	14	11.94	1.40	

Ultra maratone: L'Aquila '10

		n.	MEDIA	DEV STD	p
	Cys t0	14	21.3	14.9	ns
	Cys t1	14	23.7	13.4	
PLASMA	CysGly t0	14	6.8	3.7	ns
REDOX	CysGly t1	14	7.6	5.0	
	Hcy t0	14	0.15	0.01	ns
	Hcy t1	14	0.16	0.03	
	GSH t0	14	2.11	0.62	ns
	GSH t1	14	2.74	0.64	

Ultra maratone: L'Aquila'10

		n.	MEDIA	DEV STD	p
■	Cys t0	14	30.7	18.5	0.01
	Cys t1	14	19.2	10.7	
EMAZIE OX	CysGly t0	14	2.4	1.2	0.05
	CysGly t1	14	3.2	1.2	
	GSH t0	14	982.1	463.1	ns
	GSH t1	14	1020.2	395.7	

Ultra maratone: L'Aquila'10

		n.	MEDIA	DEV STD	p
	Cys t0	14	8.7	2.4	0.003
	Cys t1	14	5.8	3.7	
EMAZIE	CysGly t0	14	2.4	1.2	0.05
REDOX	CysGly t1	14	3.2	1.3	
	GSH t0	14	1309.6	353.4	ns
	GSH t1	14	1119.2	453.3	

Ultramaratoneti Δ %: 24 ore - mondiale '09(Bg)

ATLETI	Cys PO Δ %	CysGly PO Δ %	GSH PO Δ %
A	219	104	42
B	126	55	402
C	136	89	292
D	79	94	48
E	98	45	16
F	96	38	8
G	161	83	35
H	69	38	18
I	174	63	21
L	174	71	54
M	109	27	21