



dal 1846

LA GESTIONE CLINICA DEL PAZIENTE CON IPONATREMIA

Sabato 17 ottobre 2015
Aula Magna Nuovo Arcispedale S. Anna
Cona, Ferrara

Iponatremia in Oncologia. La SIADH nei pazienti oncologici:

Caso Clinico

Germana Gilli

UO ONCOLOGIA

Direttore: A. Frassoldati



**Iponatremia
in Oncologia
cause e
fisiopatologia**

**The Oncologist
2012;17:756 –765**

Tabella 1. Cause di Sindrome da Inappropriata secrezione di ADH

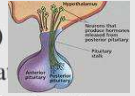

Neoplasie maligne	Malattie polmonari	Malattie del SNC	Farmaci	Miscellanea
Tumori polmonari (microcitoma, mesotelioma) Orofaringe Tratto gastrointestinale (stomaco, duodeno, pancreas) Tratto genito-urinario Timoma Linfomi Sarcomi (Ewing)	Infezioni (batteriche, virali, tubercolosi, ascessi) Fibrosi cistica Asma bronchiale	Infezioni (meningiti, encefaliti, AIDS, ascessi) Accidenti cerebro-vascolari (emorragia cerebrale, subaracnoidea, subdurale) Idrocefalo Tumori cerebrali Trauma cranico Sclerosi Multipla Sindrome di Guillain-Barrè Sindrome di Shy-Drager Demenza a corpi di Lewy	Antiepilettici Antidepressivi (in particolare SSRI) Antipsicotici Anestetici Chemioterapici (Ifosfamida, Ciclofosfamida, Vincristina) Analoghi dell'ADH MDMA ("Ecstasy")	Idiopatica Transitoria (nausea, dolore, stress) Ereditaria Associata all'esercizio fisico

ADH, ormone antidiuretico o vasopressina; MDMA, 3,4-metilenediossimetanfetamina; SNC, sistema nervoso centrale; SSRI, in reuptake della serotonina

Iponatremia indipendente dai livelli circolanti di ADH

- Ipotiroidismo, ipocorticosurrenalismo
- Patologie renali con perdita di sali (da analgesici, chemioterapici)
- Patologie gastroenteriche (diarree croniche su base infettiva, secondarie a malassorbimento, intestino corto, occlusione intestinale, pancreatite acuta, fistole)
- Trattamenti farmacologici: diuretici tiazidici, dell'ansa
- Polidipsia psicogena

Table 3. Drugs known to cause hyponatremia by affecting arginine vasopressin (AVP) production or action

Mechanism: Increased hypothalamic AVP production	
Anticancer agents	
Vinca alkaloids (vincristine, vinblastine)	
Platinum compounds (cisplatin, carboplatin)	
Alkylating agents (cyclophosphamide, ifosfamide, melphalan)	
Others (methotrexate, interferon-α and interferon-γ)	
Palliative medications	
Opioid analgesics	
Antidepressants (tricyclics, selective serotonin reuptake inhibitors, monoamine oxidase inhibitors)	
Antipsychotics (phenothiazines, haloperidol)	
Antiepileptics (carbamazepine, oxcarbazepine, sodium valproate)	
Mechanism: Potentiation of AVP actions	
Anticancer agents	
Alkylating agents (cyclophosphamide)	
Palliative medications	
Nonsteroidal anti-inflammatory drugs	
Antiepileptics (carbamazepine, lamotrigine)	
Antidiabetic agents (chlorpropamide, tolbutamide)	

^aCisplatin may also cause hyponatremia by damaging renal tubules and interfering with sodium reabsorption. Adapted from Liamis G, Milionis H, Elisaf M. A review of drug-induced hyponatremia. Am J Kidney Dis 2008; 52:144–153, with permission.

Incidenza e prevalenza dipendono dal tipo di neoplasia, dallo stadio, dal cut-off

- Lassen U, Østerlind K, Hansen M et al. Long-term survival in **small-cell lung cancer**: Posttreatment characteristics in patients surviving 5 to 18+ years-an analysis of 1,714 consecutive patients. J Clin Oncol 1995;13:1215-1220. **<136 mEq/l 24,6%**
 - Osterlind K. Cancer Res 1986
 - Allan SG. Eur J Cancer 1990
 - Hansen O. Lung Cancer 2010
- SCLC**
< 136 mEq/L
25-44%
- Harper PG. Cancer Treat Rep 1982.
 - Gross AJ. Cancer Res 1993
- SCLC**
<130 mEq/L
15%

**Hyponatremia in
Oncologia**
le dimensioni del
problema

SIAD
1-4% di tutte le neoplasie
•Glover DJ (1987) Metabolic emergencies CA Cancer J Clin 37:302-320
•Silverman P (1989) Metabolic emergencies in clinical oncology. Sem. Oncol. 16:504-515

Hyponatraemia in cancer: association with type of cancer and mortality

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ABU ZEINAH G.F., AL-KINDI S.G., HASSAN A.A. & ALLAM A. (2015) *European Journal of Cancer Care* **24**, 224-231

A total of 2048 patients were included in this study. Prostate (57.1%), pancreatic (50%), liver (49%) and lung (40.2%) cancers showed the highest frequency of moderate-severe hyponatraemia, while breast cancer showed the lowest frequency at 23.5%. In the multivariate analyses, patients with moderate-severe hyponatraemia (Na < 130 mmol/L) were 4.28 times more likely to die than those with normal-mild hyponatraemia (Na ≥ 130) ($P < 0.05$).



**Iponatremia in
Oncologia
perché parlarne?**

Table 1. Prognostic value of hyponatremia for survival of patients with small-cell lung cancer

Study	Country	Study design	n of patients	Definition of hyponatremia	Median OS in univariate analysis ^a	p-value	Outcome in multivariate analysis	p-value
Harper et al. (1982) [8]	UK	Prospective	98	<130 mEq/L	31 versus 38.3 wks	<.05	Not reported	–
Souhami et al. (1985) [11]	UK	Retrospective	371	<135 mEq/L	174 versus 247 days	.0001	Not reported	.01
Østerlind et al. (1986) [5]	Denmark	Prospective	846	<136 mEq/L	34 versus 40 wks	<.001	Not reported	<.01
Cerny et al. (1987) [12]	UK	Four consecutive prospective studies	407	<132 mEq/L	Not reported	.0013	Not reported	.0009
Allan et al. (1990) [6]	UK	Retrospective	411	≤135 mEq/L	7 versus 8–9 mos	.06	Not reported	NS
Rawson and Peto (1990) [13]	UK	Retrospective	1,960	<136 mEq/L	Not performed	–	Not reported	<.001
Gross et al. (1993) [9]	USA	Retrospective	133	<130 mEq/L	Not reported	.08	RR, 1.01	.97
		ED-SCLC subset	87		Not reported	.012	RR, 1.31	.012
Lassen et al. (1995) [4]	Sweden/Denmark	Nine consecutive prospective studies	1,714	<136 mEq/L	2.4% versus 3.9% (5 yrs)	.18	Not included in model	–
Kawahara et al. (1997) [14]	Japan	Prospective	286	<136 mEq/L	9.1 versus 11.4 mos	.0072	Not reported	NS
		LD-SCLC subset	143		Not reported		Not reported	NS
		ED-SCLC subset	135		Not reported		RR, 1.8	.0404
Maestu et al. (1997) [15]	Spain	Retrospective	341	<135 mEq/L	Not reported	NS	Not included in model	–
Ray et al. (1998) [16]	France	Prospective	99	<132 mEq/L	Not reported	NS	Not reported	NS
Mohan et al. (2006) [17]	India	Retrospective	76	<138 mEq/L	256 versus 429 days (HR, 2.1; 95% CI, 1.0–4.2)	<.05	Not reported	NS
Hansen et al. (2010) [7]	Denmark	Retrospective	453	≤135 mEq/L	7.1 versus 11.2 mos	.0001	RR 1.6 (95% CI, 1.3–2.0)	<.001

^aOutcomes for patients with hyponatremia compared with those having serum sodium levels above the study cutoff point. Abbreviations: CI, confidence interval; ED-SCLC, extended disease small cell lung cancer; HR, hazard ratio; LD-SCLC, limited disease small cell lung cancer; NS, not statistically significant; OS, overall survival; RR, relative risk.



Iponatremia in Oncologia perché parlarne?

Table 2. Prognostic value of hyponatremia for survival of patients with cancer, other than small cell lung cancer

Study	Country	Cancer type	n of patients	Definition of hyponatremia	Median OS in univariate analysis	p-value	Outcome in multivariate analysis	p-value
Dhaliwal et al. (1993) [24]	UK	NHL	118	<137 mEq/L	Not reported	<.0001	Not reported	<.0001
Ray (1998) [16]	France	NSCLC	202	<132 mEq/L	Not reported	NS	Not reported	NS
Kimura et al. (2001) [18]	Japan	NSCLC	109	Not reported	4.40 versus 6.95 mos	.0019	Not reported	NS
		Good PS subset	76		4.4 versus 9.5 mos	.0281	RR, 2.4; 95% CI, 1.1–5.4	.0302
Kim et al. (2007) [22]	Korea	Gastric cancer	39	≤133 mEq/L	25 versus 87 days	.002	RR, 4.57; 95% CI, 1.99–10.52	<.001
Jacot et al. (2008) [19]	France	NSCLC	301	Not reported	4.1 versus 18.7 mos	<.0001	HR, 1.99; 95% CI, 1.04–3.77	<.05
Vasudev et al. (2008) [20]	UK	RCC	212	<139 mEq/L	Not reported	<.10	HR, 1.18; 95% CI, 1.05–1.30	.004
Jeppesen et al. (2010) [21]	Denmark	RCC	123	<136 mEq/L	5.5 versus 18.6 mos (HR, 2.43; 95% CI, 1.51–3.92)	<.001	HR, 1.86; 95% CI, 1.12–3.11	.014
Aggerholm-Pedersen et al. (2011) [23]	Denmark	GIST	80	<135 mEq/L	15 versus 61 mos	<.01	HR, 3.3	<.04
Hospital-admitted cohorts								
Hampshire et al. (2009) [25]	UK	Hematological malignancies	7,869	<130 mEq/L	Not performed	–	OR, 2.47; ^a 95% CI, 1.70–3.60	<.001
Waikar et al. (2009) [26]	USA	Metastatic cancers	6,612 10,8%	<135 mEq/L	Not performed	–	OR, 2.05; ^a 95% CI, 1.67–2.53	.005
Doshi et al. (2012) [27]	USA	All cancers	3,357 47%	130–134 mEq/L	Not reported	–	HR, 2.04; ^b 95% CI, 1.42–2.91	.01
				120–129 mEq/L	Not reported	–	HR, 4.74; ^b 95% CI, 3.21–7.01	<.01
				<120 mEq/L	Not reported	–	HR, 3.46; ^b 95% CI, 1.05–11.44	.04

^aIn-hospital mortality.
^b90-day mortality rate.
 Abbreviations: CI, confidence interval; GIST, gastrointestinal stromal tumor; HR, hazard ratio; NHL, non-Hodgkin lymphoma; NS, not statistically significant; NSCLC, non-small cell lung cancer; OR, odds ratio; OS, overall survival; PS, performance status; RCC, renal cell carcinoma; RR, relative risk.



The Impact of Low Serum Sodium on Treatment Outcome of Targeted Therapy in Metastatic Renal Cell Carcinoma: Results from the International Metastatic Renal Cell Cancer Database Consortium

Fabio A.B. Schutz^a, Wanling Xie^a, Frede Donskov^b, Monica Sircar^c, David F. McDermott^d,

2370 patients who had received first-line targeted therapy

243 patients (14.6%) had hyponatremia

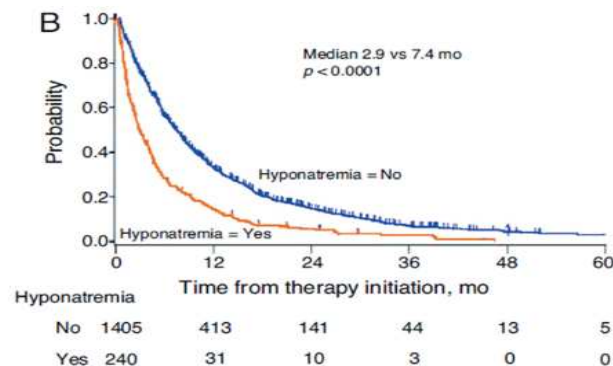
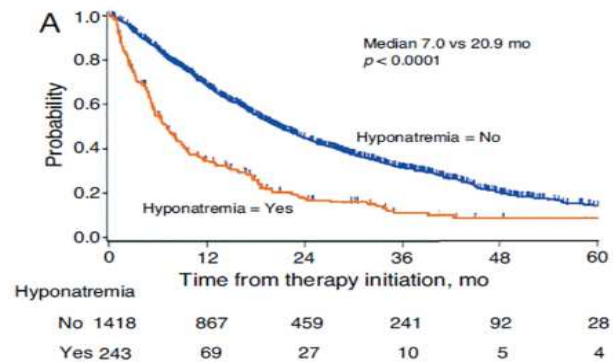


Fig. 1. Kaplan-Meier plots of (A) overall survival and (B) time to treatment failure by hyponatremia at the initiation of targeted therapy.

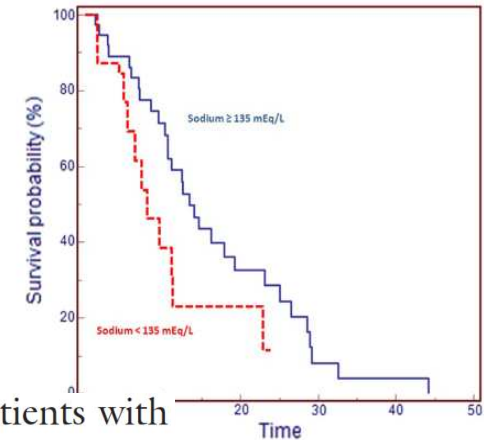
Hyponatraemia is a predictor of clinical outcome for malignant pleural mesothelioma

R. Berardi · M. Caramanti · I. Fiordoliva · F. Morgese · A. Savini · S. Rinaldi · M. Torniai · M. Tiberi · C. Ferrini · M. Castagnani · F. Rovinelli · A. Onofri · S. Cascinu

Methods We analysed 62 consecutive patients with histologically or cytologically proven advanced malignant pleural mesothelioma undergoing chemotherapy at our institution between January 2003 and September 2013.

Support Care Cancer (2015) 23:621–626
DOI 10.1007/s00520-014-2398-6

Hyponatremia in Oncologia perché parlarne?



Prognostic impact of hyponatraemia in patients with colorectal cancer

J. S. Choi*, E. H. Bae*, S. K. Ma*, S. S. Kweon†‡ and S. W. Kim*

Colorectal Disease © 2014 The Association of Coloproctology of Great Britain and Ireland. **17**, 409–416

Method We retrospectively assessed 2944 patients who had been admitted to Chonnam National University Hwasun Hospital, Korea with a diagnosis of colorectal

Results Hyponatraemia, defined as a serum sodium level of < 135 mEq/l, was evident in 27.6% of patients ening biochemical parameters. In a multivariate Cox-proportional regression analysis, the mortality risk was correlated with the severity of hyponatraemia [hazard ratio (HR) 1.65, 95% CI 1.38–1.96; HR 2.24, 95% CI 1.69–2.98; HR 2.20, 95% CI 1.25–3.90, for patients with mild, moderate, and severe hyponatraemia, respectively, compared with patients with normonatremia].



Hyponatremia as an independent prognostic factor in patients with terminal cancer

Johi Yoon · Seo Hee Ahn · Yong Joo Lee · Chul-Min Kim

Results Of the 576 patients, hyponatremia was present in 367 individuals (63.7 %). In the univariate analysis, se-

Conclusions Hyponatremia is an independent prognostic factor in terminal cancer patients and careful clinical concern is

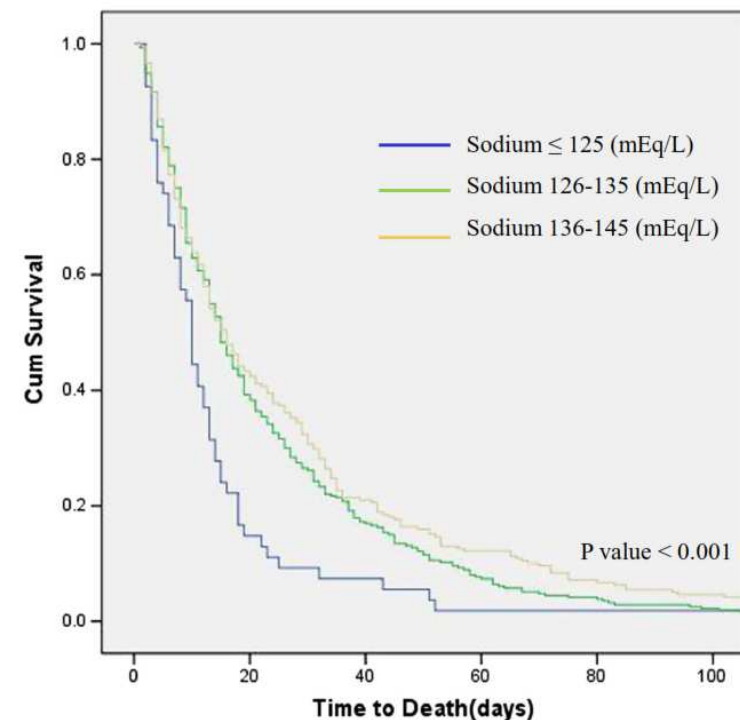


Fig. 1 Differences in survival time categorized by groups of sodium level. The *p* values were derived according to the log-rank test

Hyponatremia is a predictor of hospital length and cost of stay and outcome in cancer patients

R. Berardi · M. Caramanti · M. Castagnani · S. Guglielmi · F. Marcucci · A. Savini ·
 F. Morgese · S. Rinaldi · C. Ferrini · M. Tiberi · M. Torniai · F. Rovinelli ·
 I. Fiordoliva · A. Onofri · S. Cascinu

Received: 18 September 2014 / Accepted: 23 February 2015
 © Springer-Verlag Berlin Heidelberg 2015

	Durata media degenza (gg)	Costo medio degenza (€)
Paz. neoplastico «medio»	7	2672
Paz. con ipoNa moderata (131-135 mEq/L)	9	3435
Paz. con ipoNa severa (<130 mEq/L)	21	8015

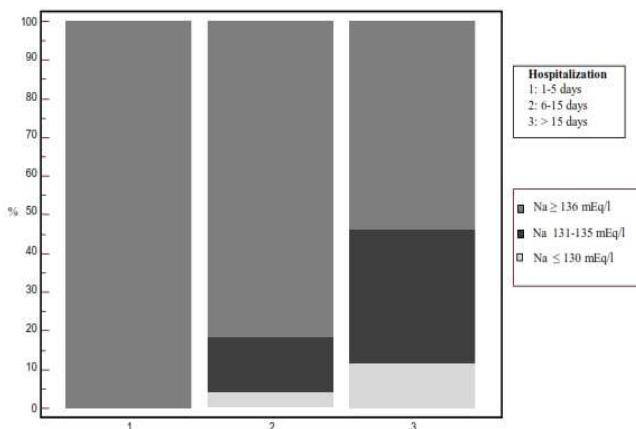


Fig. 2 Length of hospitalization according to the value of sodium at admission

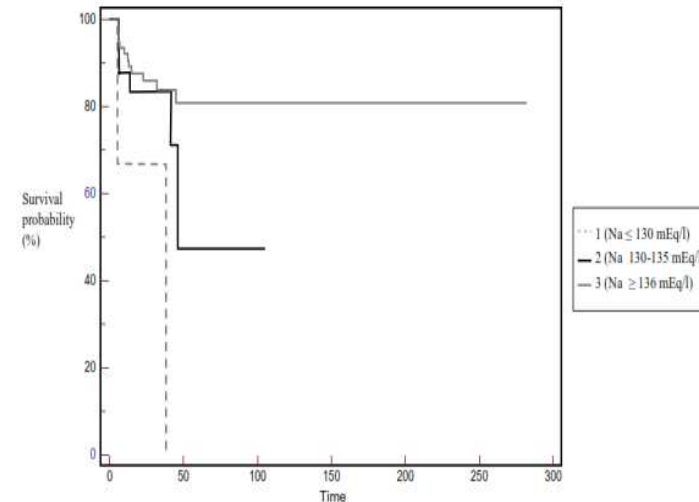


Fig. 1 Overall survival in patients divided according to the serum sodium level at the admission (calculated in days from the first day of admission)

Iponatremia in Oncologia perché parlarne?

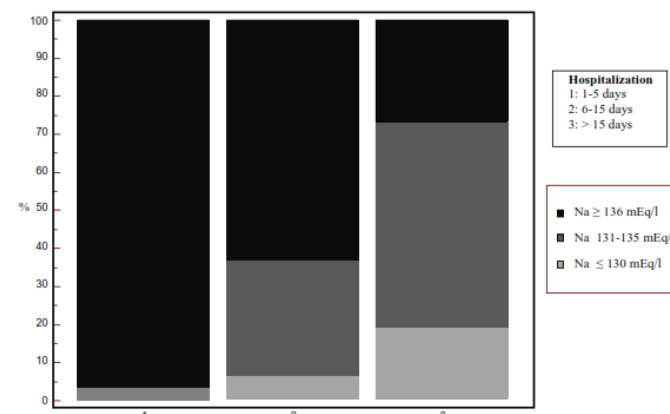


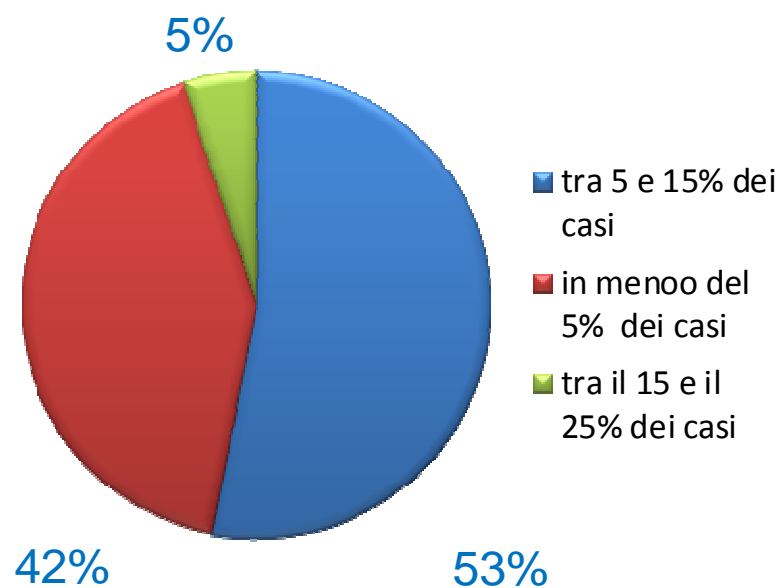
Fig. 3 Length of hospitalization in days based on minimum serum sodium level during the hospitalization



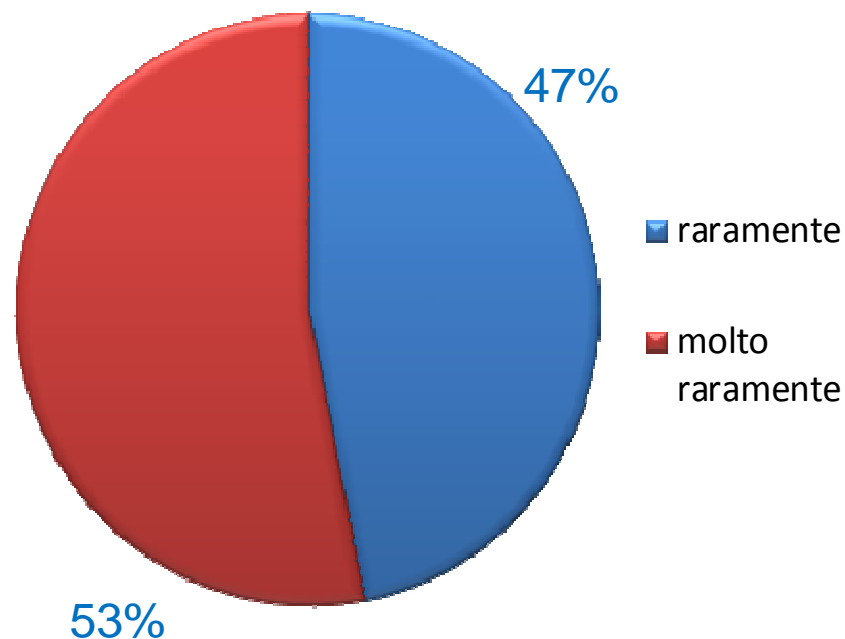
La percezione del problema

Associazione Italiana Oncologia Toracica Survey 2012

nella tua pratica clinica riscontri
ipoNa (<136mEq/L)?



Nella tua pratica clinica riscontri
ipoNa sintomatica?



La percezione del problema

L'esperienza locale
 AOIFE 1 genn.2009-31 dic. 2014
 SDO da ricoveri DO e DH

	n.	%
Ricoveri in paz. con neoplasia maligna	35141	
Ricoveri con iponatremia in diagnosi principale o secondaria	61	0,17
Ricoveri in Oncologia DO con diagnosi di iponatremia	10	0,02
•N. pazienti	6	
•SCLC	3	
•NSCLC	1	
•Ca esofago	1	
•Ca occulto	1	
Ricoveri in Oncologia DO 1 genn-30 giugno 2015	237	
Ricoveri in Oncologia DO 1 genn-30 giugno 2015 con ipoNa al momento del ricovero	81	34,17

La realtà



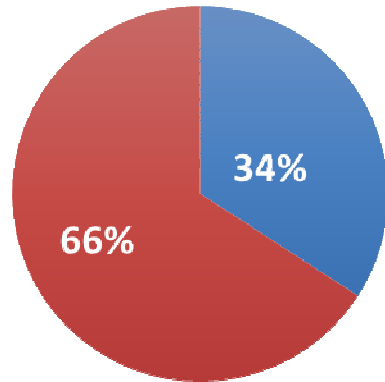
L'esperienza locale

Ricoveri in Oncologia

1 genn-30 giugno 2015

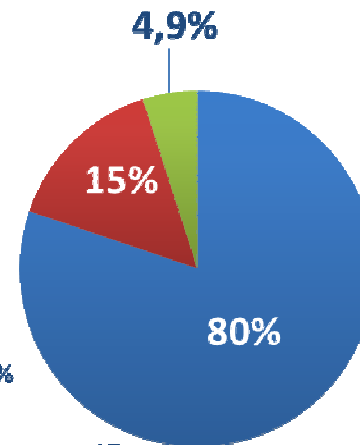
La realtà

237 Ricoveri



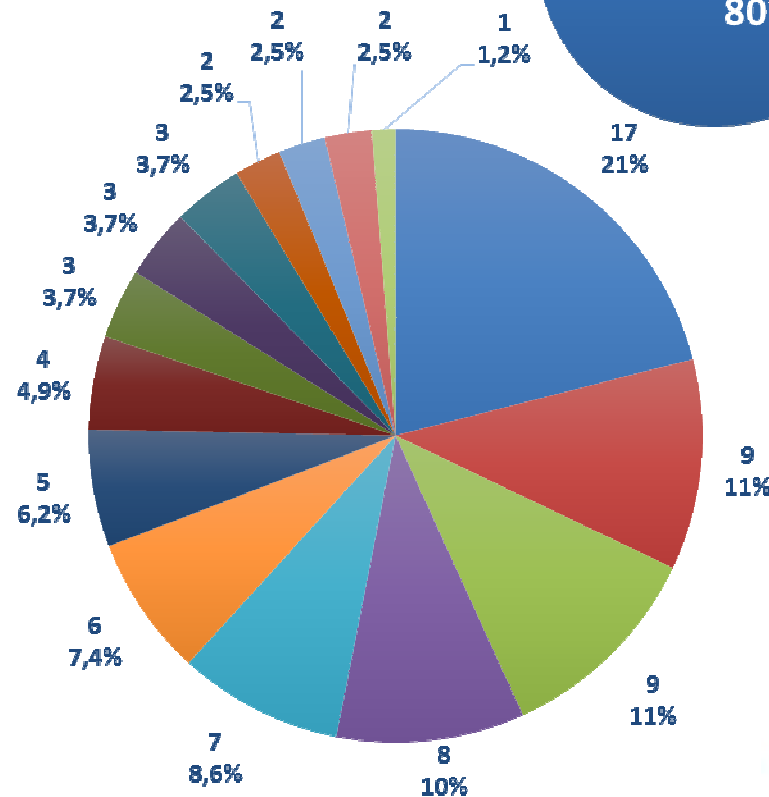
■ n. ricoveri ipoNa
■ n. ricoveri normoNa

81 Ricoveri con ipoNa



■ lieve 130-135
■ moderata 129-125
■ severa <125

81 Ricoveri



■ NSCLC
■ ca. esofago-gastrico
■ ca. utero-ovaio
■ ca. testa-collo
■ ca. vescica
■ ca. colon
■ ca. mammella
■ melanoma
■ SCLC
■ ca. pancreas
■ glioblastoma
■ ca. vie biliari-fegato
■ ca. neuroendocrino
■ sarcomi
■ ca. prostata



Z. L. (01.09.1960)

• **ANAMNESI:**

- Fumatrice (30 py). Agente assicurativo e barista.
- Reazione cutanea ad ASA, amoxicillina, fosfomicina.
- Obesità
- Dal 1992 BPCO severa con componente asmatica.
- Pregresse flebiti arti inferiori (ultima maggio 2013). Sindr. Ansioso-depressiva
- Marzo 2014 per dolore dorsale emitorace dx e tosse secca esegue
 - RX torace (24/3/2014) : neoformazione polmonare destra
 - TC torace-addome-encefalo (8/4/2014): grossolana lesione ilare dx 8.5 cm con aree necrotiche e linfadenomegalie, ingloba il ramo principale dell'art. polmonare e il bronco apicale del lobo infer. dx; versamento pleurico dx
 - valutazione Chirurgica Toracica > 13/04/2014 ricovero in Pneumologia 13-18 /04/2014 per stadiazione
- Terapia domiciliare: Cipralex gtt, Contramal gtt, Gaviscon, Singulair cp, Seretide 50/500, Spiriva, Peridon cp qo .

• **ACCERTAMENTI :**

– **Esami ematochimici:**

- natriemia 125 mEq/l (vn 136 -146), cloro 87 mEq/l, NSE: 66.28 ng/ml (vn <16.3), LDH 611 U/L (v.n. 240-480), ADH 8,6 pg/ml (v.n. 1,5-7,8), osmolarità sierica 268 mOsm/Kg (v.n. 280-301), osmolarità urinaria 360 mOsm/Kg (v.n. 300-900), Na urinario 90 mEq/L
- ACTH, cortisolo, TSH, FT3 n.n.
- colesterolo tot: 208 mg/dl (vn < 200), ALT: 33 U/l (vn 7-30), proteine 6.4 g/dl (vn 6.6 - 8.7), PCR: 0.7 mg/dl (vn <0.5), CEA n.n.

– **ECG:** r sinusale, FC 70 bpm.

– **RX torace** (14/04/14): rispetto al controllo del 24/3/14 si conferma la formazione espansiva rotondeggiante in sede perilare posteriore destra segnalando attualmente velatura medio basale omolaterale con impegno del seno costofrenico ed ipodiafania del parenchima. Accentuazione della trama alle perilari.

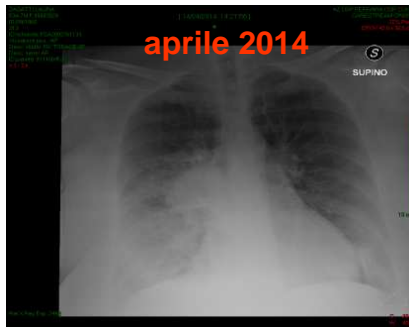
– **Scintigrafia ossea TB** (15/04/14): non ha dimostrato la presenza di aree di alterata captazione del tracciante fondatamente riferibili a lesioni replicative a carico dei distretti osteo-articolari corporei esaminati.

– **Prove di funzionalità respiratoria:** severo deficit ostruttivo con concomitante riduzione dei volumi statici (VEMS: 0.72 L pari al 27.7%, VEMS postBbd: 0.74 L + 3.8%, VC: 1.43 pari al 45.7%, VEMS/VC: 50.05 pari al 63.3% del teorico).

– **Fibrobroncoscopia:** bombata ed infiltrata la mucosa del bronco principale destro, nel suo terzo inferiore, della carena del bronco lobare superiore destro e dell'origine del bronco lobare inferiore destro e medio, con risparmio dei lumi.

– **Esami cito-istologici** su prelievi endoscopici: **Carcinoma a piccole cellule infiltrante.**

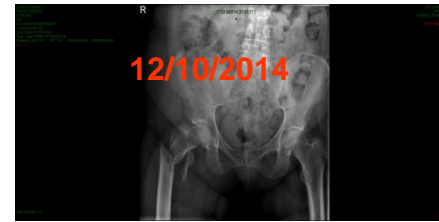




aprile 2014

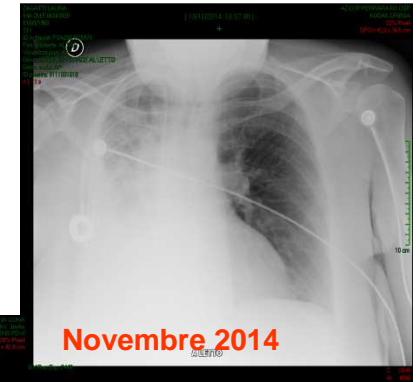


agosto 2014

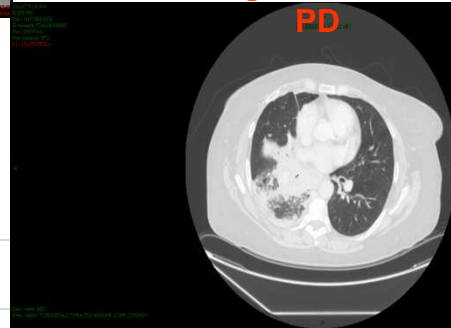


12/10/2014

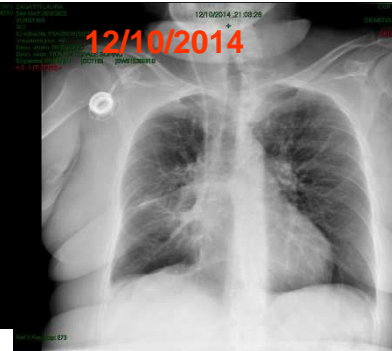
16/10/14 osteosintesi con chiodo endomidollare gamma 3 lungo



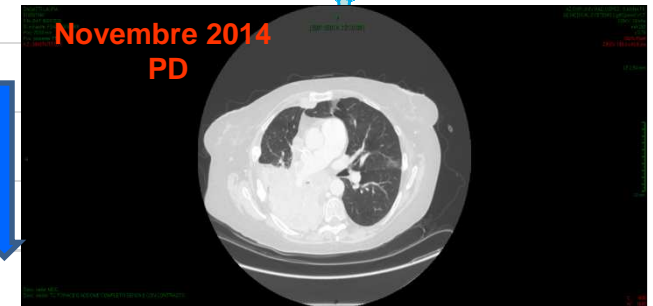
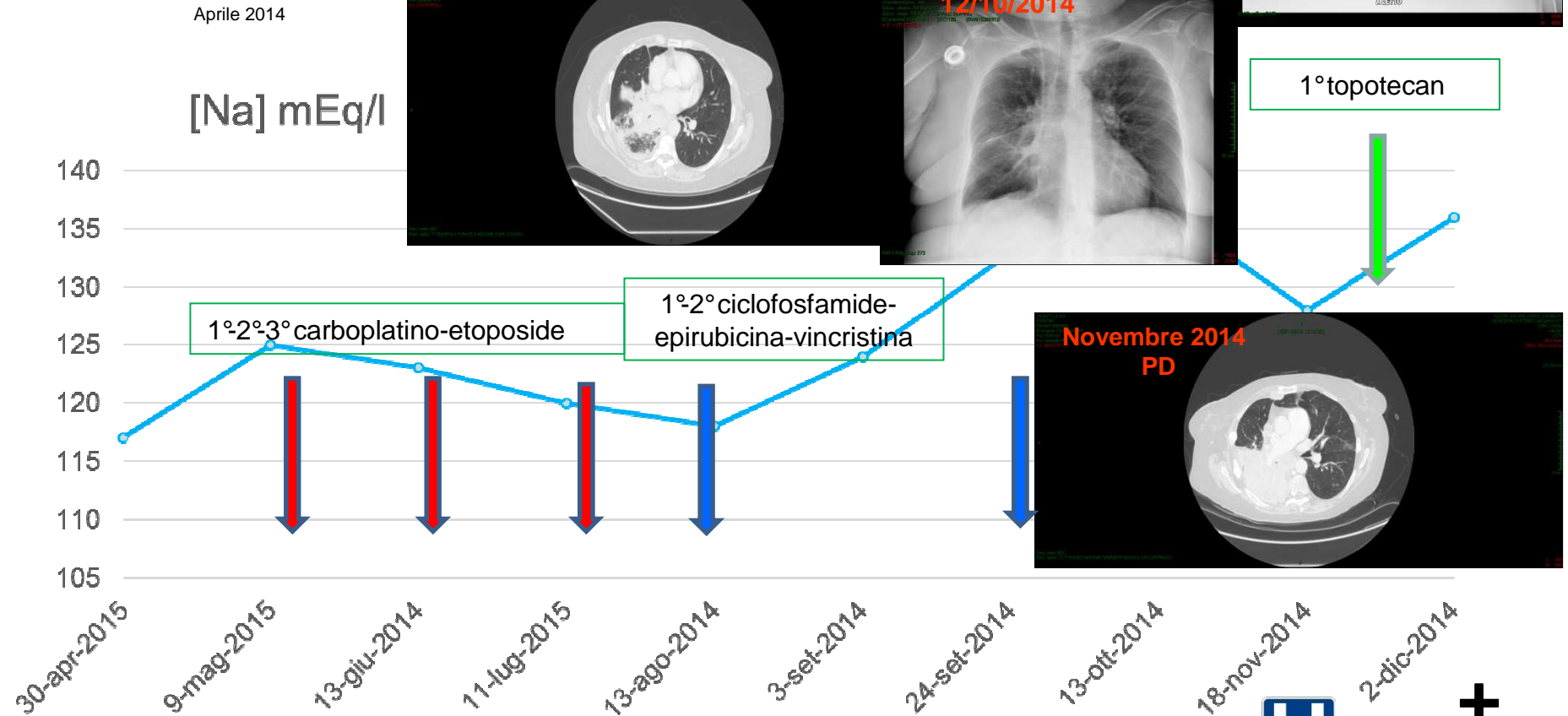
Novembre 2014



PD



12/10/2014



Novembre 2014
PD



7/12/2014



Iponatremia in Oncologia

Che cosa fare?

riflessioni

- E' una complicanza seria che condiziona sopravvivenza e QoL
- Spesso sottostimata
- Difficile stabilire se l'ipoNa aumenta la mortalità o è un marker di severità di malattia o delle comorbidity

- La sintomatologia condiziona il PS e può impedire o ritardare la realizzazione dei trattamenti programmati alle dosi previste

Balachandran *et al. BMC Cancer* (2015) 15:163
DOI 10.1186/s12885-015-1156-6



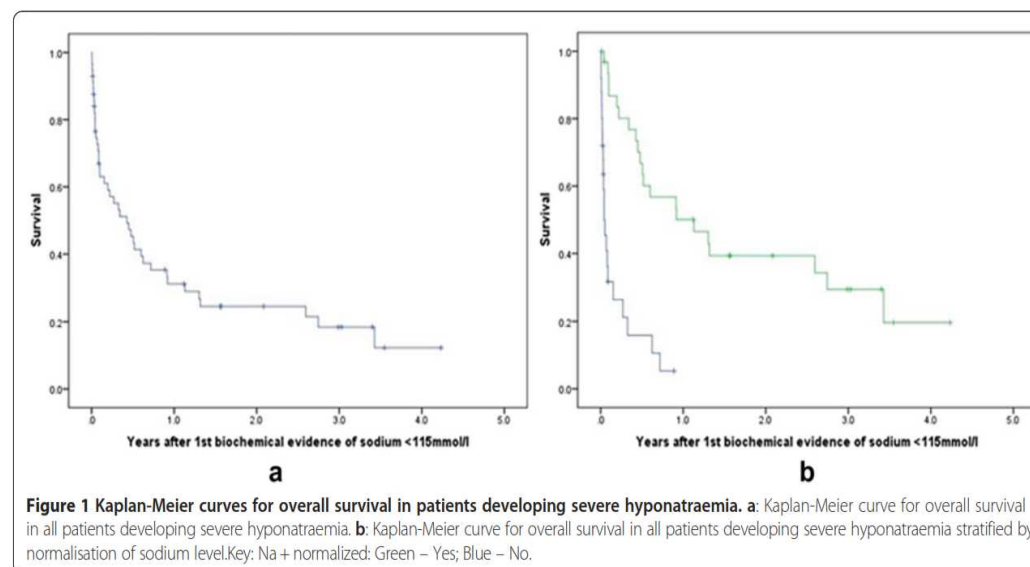
RESEARCH ARTICLE

Open Access

Resolution of severe hyponatraemia is associated with improved survival in patients with cancer

Kirsty Balachandran¹, Alicia Okines¹, Ranga Gunapala¹, Daniel Morganstein² and Sanjay Popat^{1*}

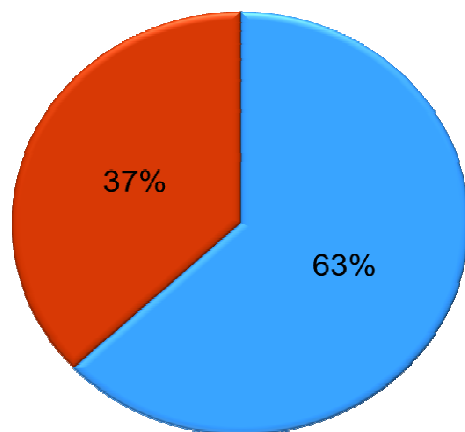
Results: 57 patients were identified.



Iponatremia in Oncologia

Associazione Italiana Oncologia Toracica
Survey 2012

In caso di ipoNa da s. paraneoplastica



- correggeresti l'ipoNa contemporaneamente?
- correggeresti prima l'ipoNa e poi somministreresti la chemioterapia?

- Correggere le eventuali patologie endocrine che richiedono un trattamento sostitutivo
- Correggere le eventuali condizioni che sostengono la perdita di Na (diarrea, farmaci, ecc)

Che cosa fare?



Anni '90



Iponatremia in Oncologia

Cancer March 1, 2014

Che cosa fare?



Tolvaptan in Hospitalized Cancer Patients With Hyponatremia

A Double-Blind, Randomized, Placebo-Controlled Clinical Trial on Efficacy and Safety

Abdulla K. Salahudeen, MD, MBA¹; Najeeba Ali, MS¹; Marina George, MD²; Amit Lahoti, MD¹; and Shana Palla, MS³

with cancer who were admitted to The University of Texas MD Anderson Cancer Center with nonhypovolemic hyponatremia (125-130 mmol/L) were randomized to receive either tolvaptan or placebo in a double-blind, placebo-controlled, adaptive, randomized trial. Both groups received the standard of care for hyponatremia, except that patients were allowed to drink to thirst. **RESULTS:** A pre-

48 were randomized

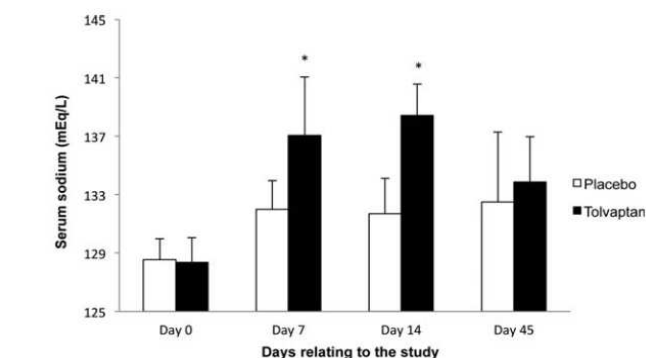


Figure 2. Serum sodium values (mean ± standard deviation) are illustrated for patients in the placebo group and the tolvaptan group on days 0, 7, 14, and 45 of the study. All available values are included. Day 45 represents the time point 30 days after the study tablets were stopped. An asterisk indicates $P < .001$ versus placebo.

The secondary endpoints between the tolvaptan and placebo groups (mean ± standard deviation) for length of stay (21 ± 15 days vs 26 ± 15 days, respectively) and changes in the MMSE score (-0.35 ± 1.66 vs 0.31 ± 2.42 , respectively) were not significantly different (Table 2).

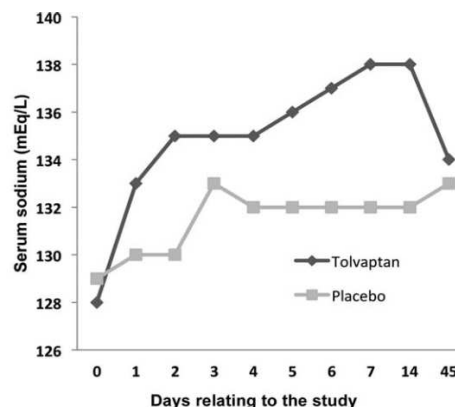


Figure 3. Sequential serum sodium values are illustrated for patients in the tolvaptan group and the placebo group who completed the study. All available values are included. Day 45 represents the time point 30 days after the study tablets

for overcorrection, our data suggested (but do not demonstrate) that tolvaptan could be initiated safely in outpatients, especially if it was started at a lower dose of 7.5 mg and if patients were allowed to drink to thirst.

The results of our study should be considered preliminary; thus, before the wider use of tolvaptan or other expensive V2-receptor antagonists, studies with larger sample sizes will be required to demonstrate that hyponatremia correction improves outcomes. For example, this



Iponatremia in Oncologia



Critical Reviews in Oncology/Hematology 96 (2015) 1–8

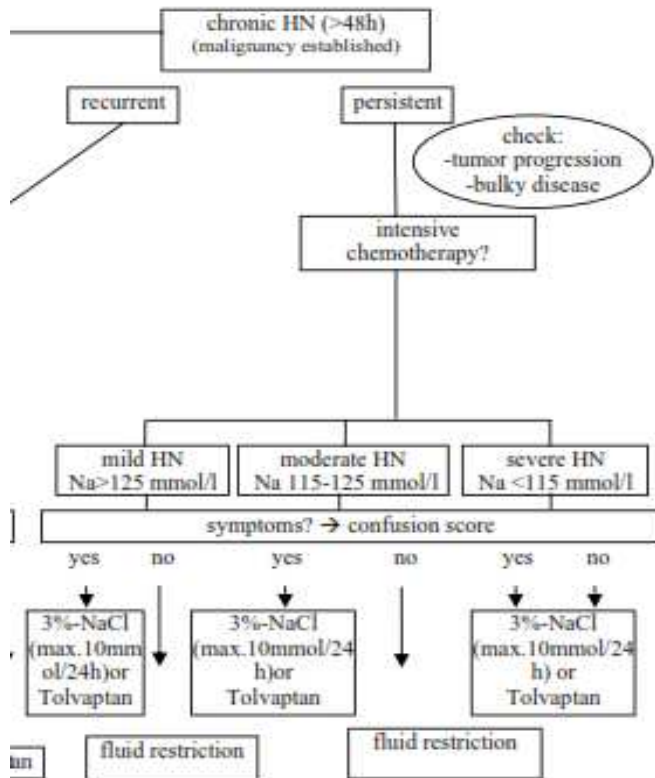
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Che cosa fare?



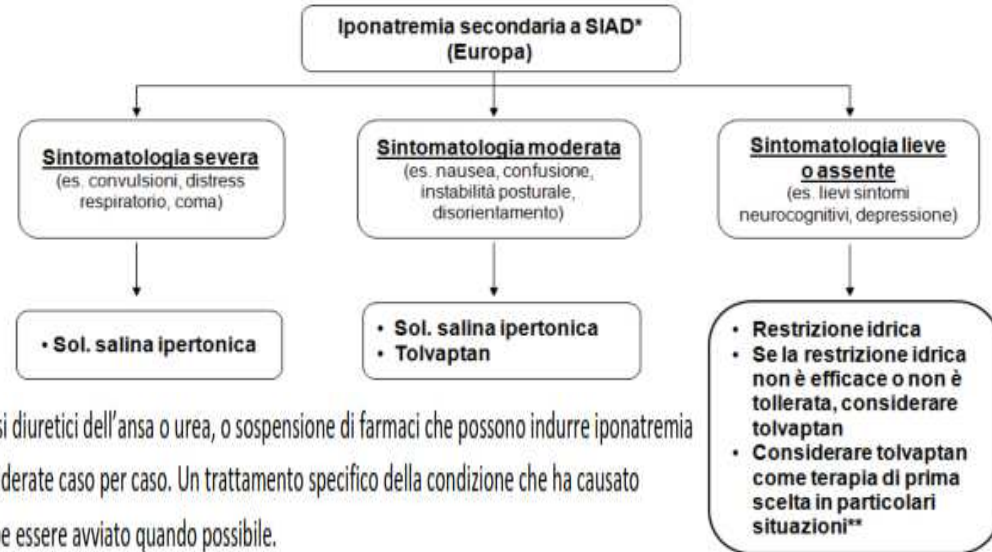
Hyponatraemia—SIADH in lung cancer diagnostic and treatment algorithms

Christian Grohé^{a,*}, Rossanna Berardi^b, Volker Burst^c



TRATTAMENTO

Considerata la mancata disponibilità di studi clinici analitici nei pazienti oncologici a supporto dei dati presenti in letteratura, le seguenti raccomandazioni relative al trattamento sono da considerarsi basate sull'opinione dei membri del gruppo di lavoro responsabile delle stesse (livello di evidenza 4) e/o su disegni di studio non analitici come report di casi e serie di casi (livello di evidenza 3), pertanto con GRADO DELLA RACCOMANDAZIONE D.



* Altre opzioni, inclusi diuretici dell'ansa o urea, o sospensione di farmaci che possono indurre iponatremia possono essere considerate caso per caso. Un trattamento specifico della condizione che ha causato iponatremia dovrebbe essere avviato quando possibile.

** Ad es. in pazienti iponatremici che devono essere sottoposti a procedure chirurgiche o a chemioterapia.



Iponatremia in Oncologia

*Linee guida
Associazione Italiana Oncologia
Toracica*

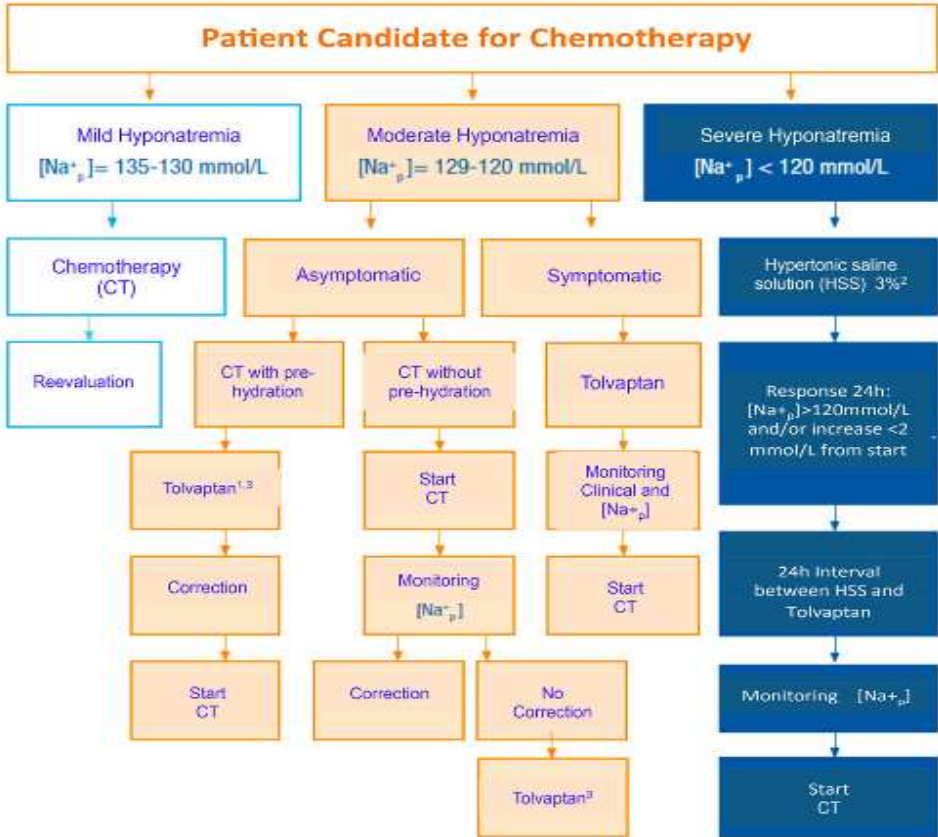
- RACCOMANDAZIONI**
- La restrizione idrica a 500 ml/die e una diuresi giornaliera di più di 500 ml/die costituisce un'opzione per pazienti con SIADH e iponatremia sintomatica
LIVELLO DI EVIDENZA III
GRADO DI RACCOMANDAZIONE B
 - In pazienti sintomatici con iponatremia protratta per più di 48 ore, la correzione dei livelli di sodio sierico deve avvenire lentamente (1.5 fino a 2 mEq/L/h) e non deve superare i 10-12 mEq nelle prime 24 ore, al fine di scongiurare i rischi di una sindrome da demielinizzazione osmotica.
LIVELLO DI EVIDENZA III
GRADO DI RACCOMANDAZIONE A
 - Se il paziente è asintomatico, la correzione deve avvenire più lentamente (0.5 mEq/L/h) e non deve superare i 10-12 mEq nelle prime 24 ore.
LIVELLO DI EVIDENZA III
GRADO DI RACCOMANDAZIONE A
 - La Demeclociclina (non autorizzata in Italia per l'iponatremia) è stata raccomandata in passato come terapia di seconda linea dell'iponatremia.
LIVELLO DI EVIDENZA III
GRADO DI RACCOMANDAZIONE D
 - Il Conivaptan, è stato approvato per l'uso in pazienti ricoverati con iponatremia. La sua somministrazione è endovenosa.
LIVELLO DI EVIDENZA III
GRADO DI RACCOMANDAZIONE B
 - Tolvaptan, indicato nella SIADH, viene somministrato per os e si è dimostrato efficace nel normalizzare la concentrazione sierica di Na in diverse condizioni patologiche.
LIVELLO DI EVIDENZA I
GRADO DI RACCOMANDAZIONE A

Che cosa fare?



SEOM guidelines on hydroelectrolytic disorders

R. De las Peñas · Y. Escobar · F. Henao ·
A. Blasco · C. A. Rodríguez



- Administer Tolvaptan until improvement of natremia and then start chemotherapy. Can be administered jointly with chemotherapy under strict control of diuresis.
- Patient weight =mL/h of SS 3%; with control of plasma Na+ every 2 hours at start.
- Check Tolvaptan SPC.

Iponatremia in Oncologia

Conclusioni

- L'ipoNa condiziona il PS e può impedire o dilazionare la piena realizzazione dei trattamenti programmati alle dosi previste
- La correzione dell'ipoNa può permettere in pazienti selezionati la somministrazione di trattamenti che diversamente potrebbero non essere tollerati e può migliorare la sopravvivenza
- In pazienti off-therapy selezionati il miglioramento del PS può permettere di continuare le cure in regimi diversi da quello ospedaliero
- Non esistono al momento trial clinici sufficienti in ambito oncologico per trarre conclusioni su efficacia della correzione con vaptani in termini di
 - aumento della sopravvivenza a lungo termine
 - tollerabilità dei trattamenti proposti

