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dal 1846

AGGIORNAMENTI NELL'APPROCCIO DIAGNOSTICO-TERAPEUTICO AI TUMORI NEUROENDOCRINI GASTRO-ENTERO-PANCREATICI

Sabato 18 maggio 2013
Aula Magna Nuovo Arcispedale S.Anna
Cona, Ferrara

L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

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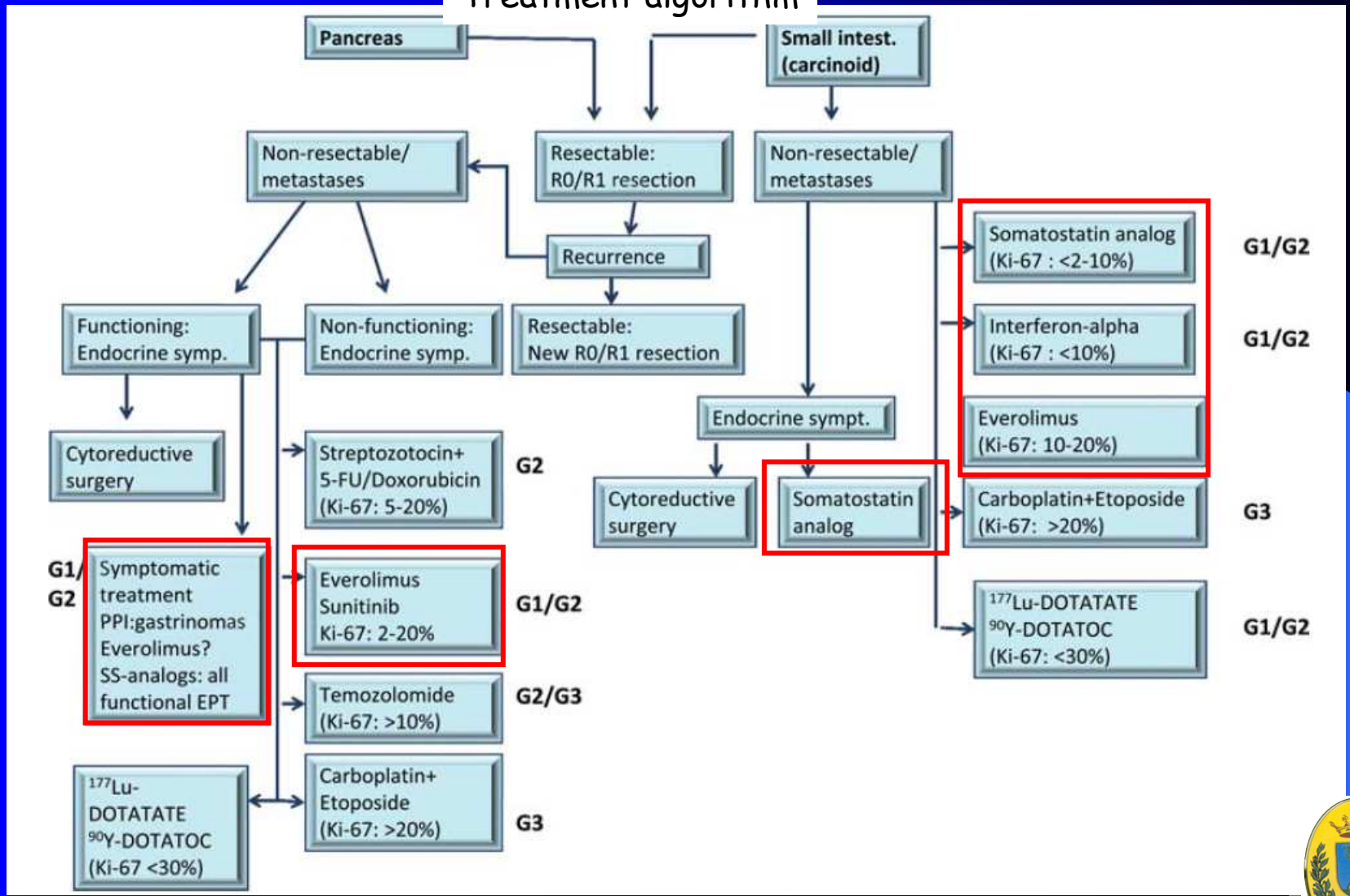
ESMO Clinical Practice Guidelines

Treatment algorithm



Öberg K et al Annals of Oncology.2012; 23 (7): vii124

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dalla chemioterapia ai nuovi farmaci a target molecolari

TUMORI NEUROENDOCRINI GASTRO-ENTERO-PANCREATICI

ANALOGHI della SOMATOSTATINA

rappresentano
la pietra angolare
della terapia dei
pazienti con NETs

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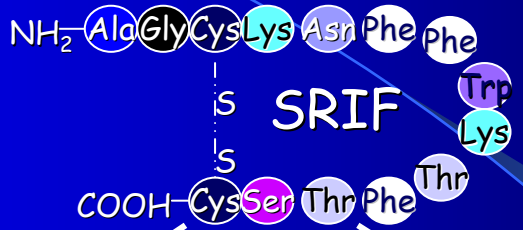
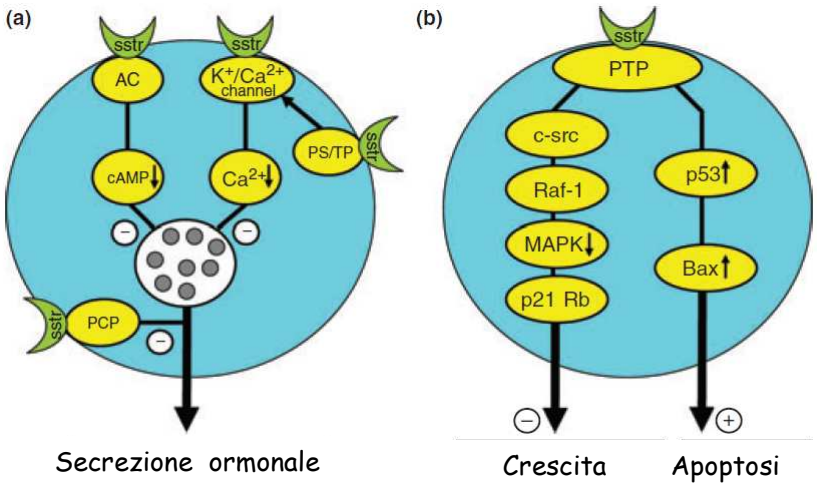
Somatostatina



EFFETTI DIRETTI

Recettori presenti sulla superficie cellulare



EFFETTI INDIRETTI

- Risposta infiammatoria
- Rilascio di fattori di crescita
- Secrezione ormonale
- Angiogenesi

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SOMATOSTATINA ed i suoi ANALOGHI

Compound	Peptide size	Half-life (immediate-release products)	Binding affinity	Administration route	Development stage
Somatostatin	14/28 Amino acids	≤3 min	All receptors	IV	—
Octreotide	8 Amino acids	2 h	Primarily sst_2, plus sst_5	Octreotide acetate: IV, SC Octreotide LAR: IM	Approved and marketed
Lanreotide	8 Amino acids	2 h	Primarily sst_2, plus sst_5	Lanreotide: SC Lanreotide PR: IM Lanreotide AG: SC	Approved and marketed
Pasireotide	6 Amino acids	12 h	sst_5, plus sst_{1-3}	Pasireotide: SC Pasireotide LAR: IM	In clinical development

AG, autogel; IM, intramuscular; IV, intravenous; octreotide LAR, octreotide long-acting repeatable; pasireotide LAR, pasireotide long-acting release; PR, prolonged release; SC, subcutaneous.

Wolin E et al. Gastrointest Cancer Res. 2012 5:161

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L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

Consensus Guidelines for the Management of Patients with Digestive Neuroendocrine Tumors – Well-Differentiated Jejunal-Ileal Tumor/Carcinoma

Minimal Consensus Statement on Somatostatin Analogs

Somatostatin analog therapy is recommended as first-line medical treatment in functioning tumors

It provides
symptomatic improvement in 70–80% of patients
stabilization of tumor growth in up to 50% of patients
with varying duration

SSTR-positive tumors tend to respond better than SSTR-negative tumors

Eriksson B et al Neuroendocrinology 2008;87:8

L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

ENETS Consensus Guidelines for the Management of Patients with Digestive Neuroendocrine Neoplasms: Functional Pancreatic Endocrine Tumor Syndromes

Jensen RB et al.Neuroendocrinology 2012;95:98–119

Minimal Consensus Statements on Medical Treatment of RFT Functional Syndrome

Somatostatin analogues are an effective treatment in the control of symptoms in RFTs, especially in patients with VIPomas, GRHomas and glucagonomas

ENETS Guidelines Well-Differentiated Pancreatic Nonfunctioning Tumors/Carcinoma

Falconi M et al Neuroendocrinology 2006;84:196

Minimal Consensus Statement on Biotherapy

Biotherapy, preferentially SSA therapy, can be used as first line medical therapy in progressive tumors with a slow proliferation index Stabilization of the disease may occur in about 50% of the patients

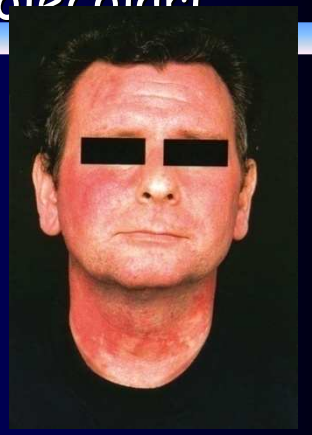
TUMORI NEUROENDOCRINI GASTRO-ENTERO-PANCREATICI

Analoghi della Somatostatina

- Sono fondamentali nel trattamento e la prevenzione della crisi da carcinoide perioperatoria

The 2012 NCCN guidelines on NETs specifically state that octreotide therapy should be initiated in all patients before resection of primary or metastatic functional (carcinoid) endocrine tumors

L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari



ENETS Guidelines

Consensus Guidelines for the Management of Patients with Liver Metastases from Digestive (Neuro)endocrine Tumors: Foregut, Midgut, Hindgut, and Unknown Primary

Minimal Consensus Statements –Symptomatic Treatment

Symptoms from hormonal hypersecretion are frequent in functional tumors with liver metastases.
Control of these symptoms is urgent and somatostatin analogues (with or without interferon) are often effective.
Locoregional therapies may be required to achieve symptomatic relief.

Prophylaxis against carcinoid crisis should be performed prior to surgical or locoregional interventions using adequate doses of somatostatin analogues (usually with bolus subcutaneous therapy or intravenously

Steinmüller T et al. Neuroendocrinology 2008;87:47

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L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

Table 2. Overview of reported adverse events during octreotide LAR treatment[25,28]

Adverse event	Mean percentage of subjects with symptom
Most common with 10–30 mg/month octreotide LAR	
Nausea	31.3
Abdominal pain	22.4
Headache	20.9
Dizziness	19.4
Fatigue	16.4
Back pain	14.9
Biliary effects over 18 months of treatment	
Gallbladder abnormalities*	62
New gallstones	24
Glucose metabolism	
Hyperglycemia	27
Hypoglycemia	4
Cardiac events in patients with carcinoid syndrome	
Sinus bradycardia	19
Conduction abnormalities	9
Arrhythmias	3

*Includes jaundice, gallstones, sludge, and dilatation.
LAR, long-acting repeatable.

Wolin E et al. Gastrointest Cancer Res. 2012 5:161

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L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

Table 3. Known or suspected drug interactions with octreotide LAR and resultant clinical requirements

Drug name	Effect of interaction with octreotide LAR	Clinical requirements
Cyclosporine[25]	Concomitant administration of octreotide injection with cyclosporine may decrease blood levels of cyclosporine and result in transplant rejection.	Close monitoring of blood levels of cyclosporine and rejection antibodies in transplant recipients.
Insulin and oral hypoglycemic drugs[25]	Octreotide inhibits the secretion of insulin and glucagon.	Blood glucose level monitoring when initiating octreotide LAR treatment or when adjusting the dose and antidiabetic treatment alteration accordingly.
Bromocriptine[34]	Concomitant administration of octreotide and bromocriptine increases the availability of bromocriptine by 40% through the inhibition of CYP3A4 metabolism secondary to the suppression of growth hormones by octreotide.	Monitoring of patients for signs of ergotism and other dopaminergic symptoms.
Beta-blockers[25]	Concomitant administration of bradycardia-inducing drugs (eg, beta-blockers, calcium channel blockers, and other antiarrhythmics) may have an additive effect on the reduction of heart rate associated with octreotide.	Heart rate and blood pressure monitoring and dose adjustment of concomitant medication if necessary.
Compounds known to be metabolized by CYP enzymes[25]	Octreotide may decrease the metabolic clearance of compounds metabolized by CYP enzymes, possibly through the suppression of growth hormone.	Drugs mainly metabolized by CYP3A4 and with a low therapeutic index (eg, quinidine, terfenadine) used with caution.
Orally administered drugs[25]	Octreotide has been associated with alterations in nutrient absorption, thus resulting in possible absorption effects on orally administered drugs.	Monitoring and possible dosage adjustments of concomitant drugs.

CYP, cytochrome P450; LAR, long-acting repeatable.

Wolin E et al. Gastrointest Cancer Res. 2012 5:161

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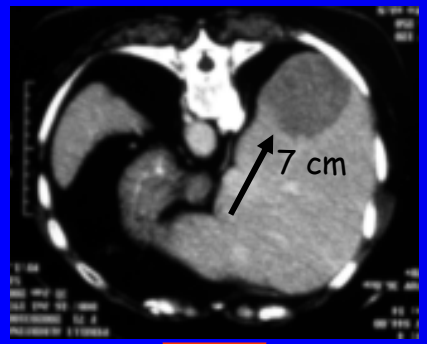
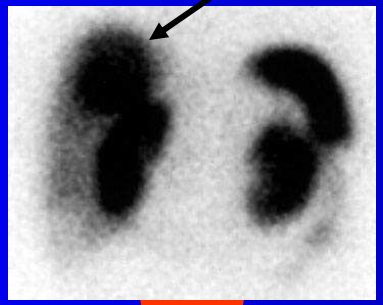
L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

Regression of liver metastases of occult carcinoid tumor with slow release lanreotide therapy

TC



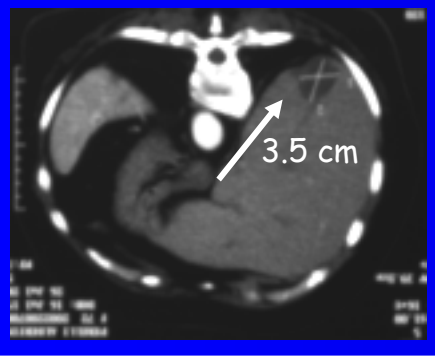
Octreoscan

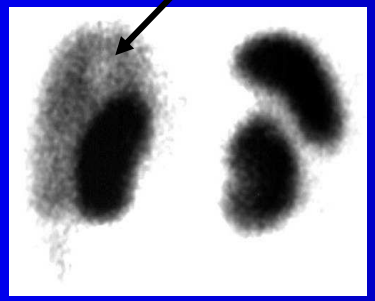


Markers

CgA (ng/ml)	5-HT (ng/ml)	5-HIAA (mg/24h)
922	412	14

6 mesi dopo terapia con analoghi della somatostatina





108.2	248	2.5

Bondanelli et al.. World J Gastroenterol, 11: 2041-4, 2005

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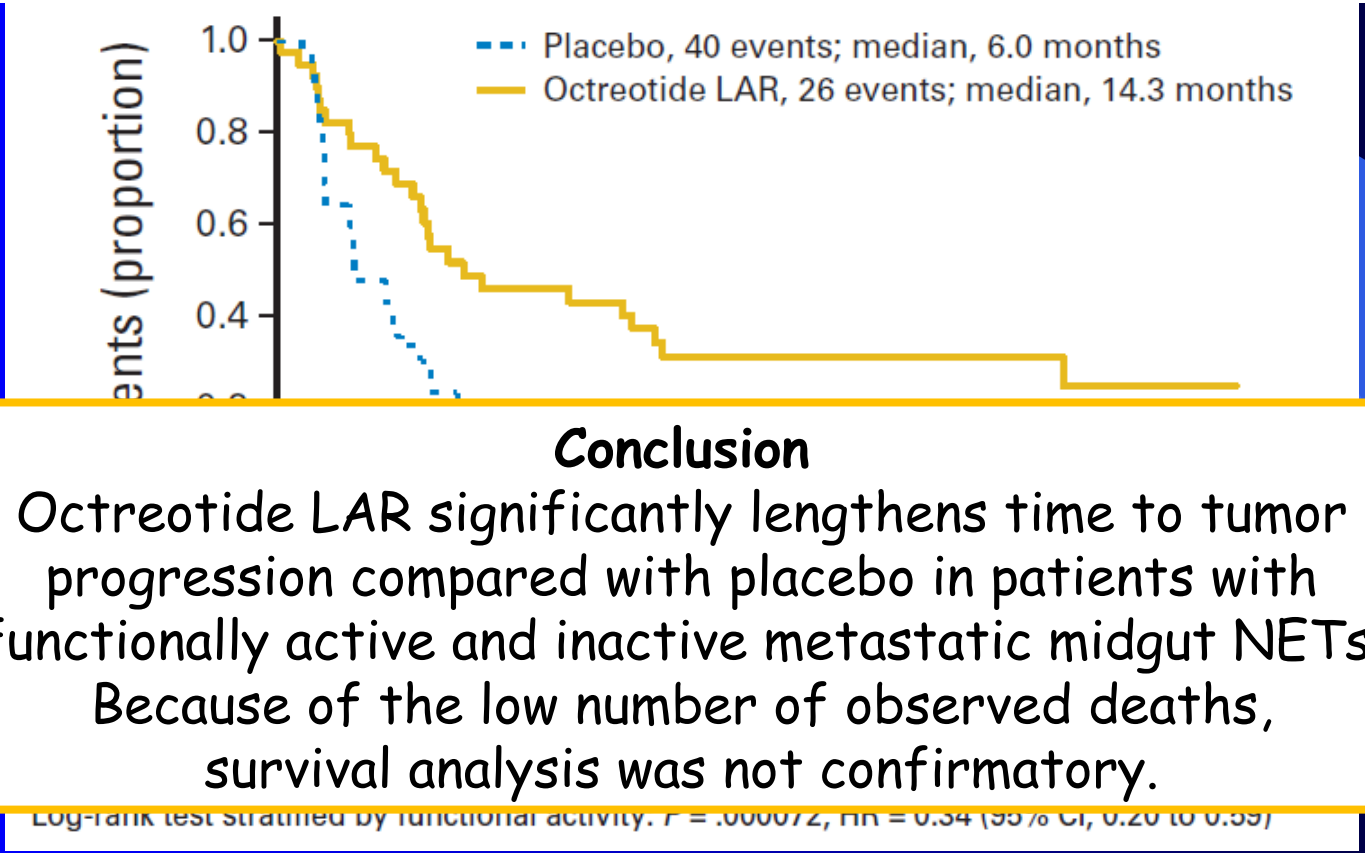
L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

Placebo-Controlled, Double-Blind, Prospective, Randomized Study on the Effect of Octreotide LAR in the Control of Tumor Growth in Patients With Metastatic Neuroendocrine Midgut Tumors: A Report From the PROMID Study Group

Conservative intent-to-treat analysis of time to progression or tumor related death



Conclusion

Octreotide LAR significantly lengthens time to tumor progression compared with placebo in patients with functionally active and inactive metastatic midgut NETs. Because of the low number of observed deaths, survival analysis was not confirmatory.

Rinke A et al.J Clin Oncol.2009;27:4656

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L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

Lanreotide Autogel in Nonfunctioning Enteropancreatic Endocrine Tumors: CLARINET Study

Study of phase III
Randomized
double-blind,
placebo-controlled
multicenter

to assess
the effect of
lanreotide *autogel*/120 mg subcutaneous
injection every 28 days
on Progression Free Survival
in patients with
nonfunctioning enteropancreatic endocrine tumors

The results of this study should determine whether lanreotide has an inhibitory effect on tumor growth in patients with advanced nonfunctioning neuroendocrine tumors of intestinal or pancreatic origin

Final data collection for the primary outcome measure is estimated to occur in June 2013

Wolin E et al. Gastrointest Cancer Res. 2012 5:161

TUMORI NEUROENDOCRINI GASTRO-ENTERO-PANCREATICI

Analoghi della Somatostatina

L'aumento del dosaggio

≤60 mg ogni 28 giorni o 30 mg ogni 21 giorni

sembra associarsi a

miglior controllo dei sintomi e della progressione di malattia

- Tumori neuroendocrini GEP
- Basso grado di malignità
- Basso indice di proliferazione cellulare
- Alta densità recettoriale specifica in vivo

Wolin E et al. Gastrointest Cancer Res. 2012 5:161
Appetecchia M & Baldelli R Jour Exp Clin Canc Res 2010, 29:19

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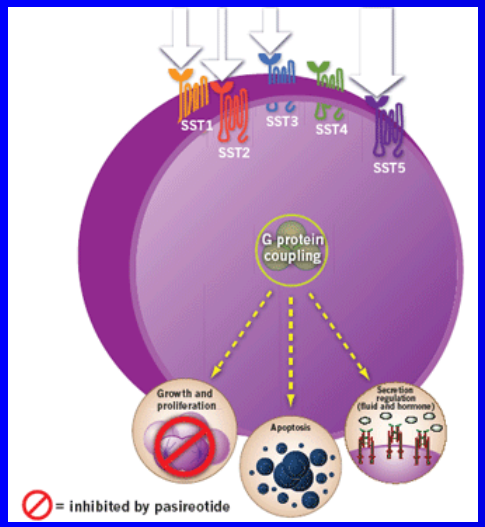
L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

other biotherapy options



Pasireotide (SOM230)

multi-ligand somatostatin analog
with high binding affinity to SSTR1, SSTR2, SSTR3, and SSTR5

Compared with octreotide, pasireotide has
30-, 5- and 40-times greater binding affinity
for SSTR1, SSTR3, and SSTR5

and comparable affinity for SSTR2

	Receptor subtype affinity [IC50, nM]				
Compound	**SSTR1**	**SSTR2**	**SSTR3**	**SSTR4**	**SSTR5**
SMS-14	2.26	0.23	1.43	1.77	0.88
SMS-28	1.85	0.31	1.3	ND	0.4
Octreotide	1140	0.56	34	7030	7
Lanreotide	2330	0.75	107	2100	5.2
Pasireotide	9.3	1	1.5	>100	0.16

SMS, Somatostatin; ND, not determined.

Schmid HA et al. Neuroendocrinology. 2004;80(1):47

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L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

Safety and efficacy of pasireotide (SOM230) in patients with metastatic carcinoid tumors refractory or resistant to octreotide LAR: Results of a phase II study

44 patients with metastatic carcinoid tumors, predominantly of midgut origin

diarrhea and flushing inadequately controlled by octreotide LAR

pasireotide 300 μg -1200 μg subcutaneously twice per day

Control of symptoms was achieved in 27% of patients (12/44)

Kvols L et al. Endocr Relat Cancer. 2012;19:657

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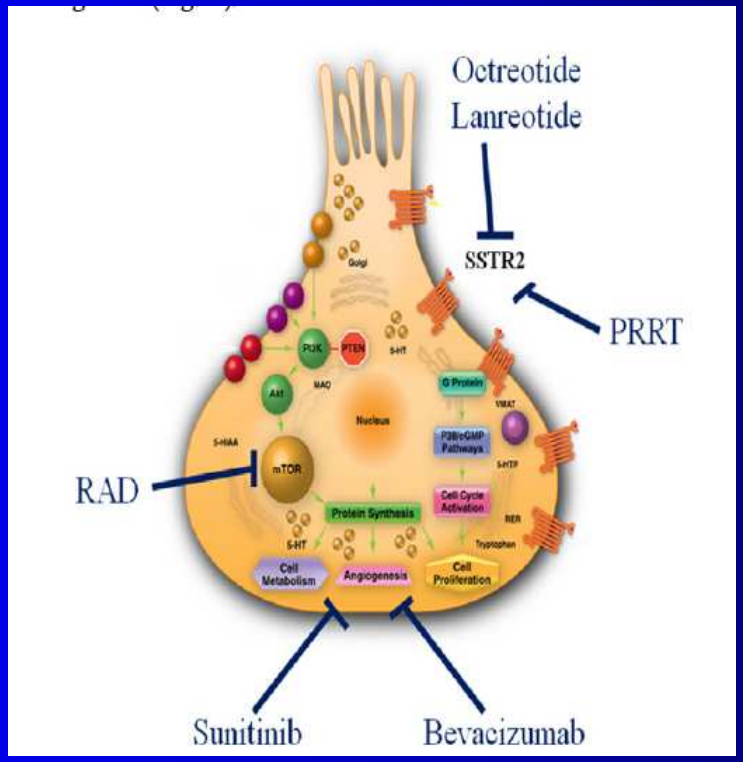
L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

I farmaci a bersaglio molecolare costituiscono la nuova frontiera della lotta contro i NET, Vanno ad agire direttamente a livello di specifici bersagli cellulari



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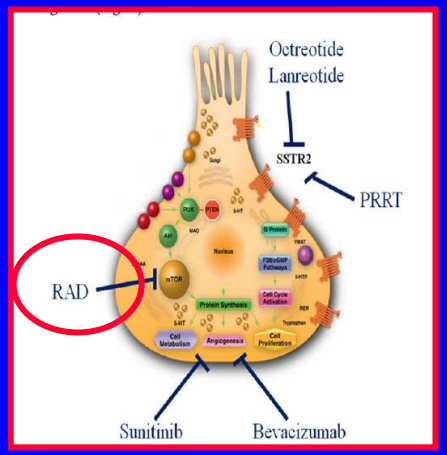
L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

EVEROLIMUS

inibitore selettivo della proteina mTOR, la cui attivazione aberrante è correlata all'oncogenesi e alla progressione dei NET pancreatici



rimborsato in Italia dal SSN

per
il trattamento dei tumori neuroendocrini di origine pancreatica in stadio avanzato

La via mTOR gioca un ruolo centrale nella regolazione dei principali meccanismi che portano alla formazione e alla progressione del tumore: angiogenesi, proliferazione, crescita e metabolismo cellulare

Everolimus for Advanced Pancreatic Neuroendocrine Tumors

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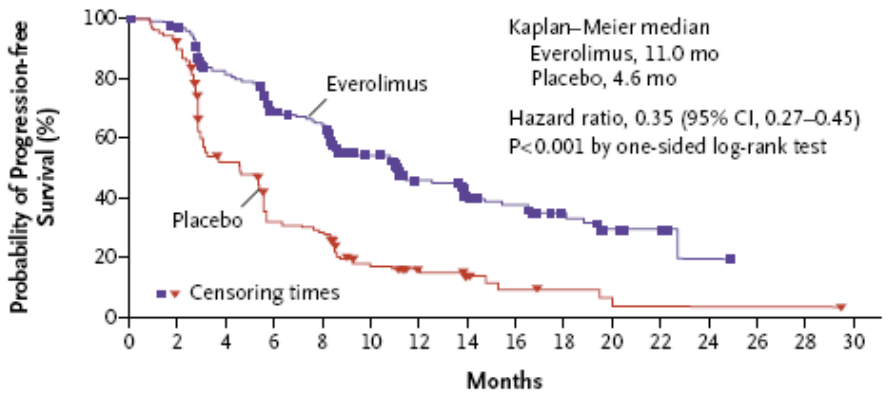
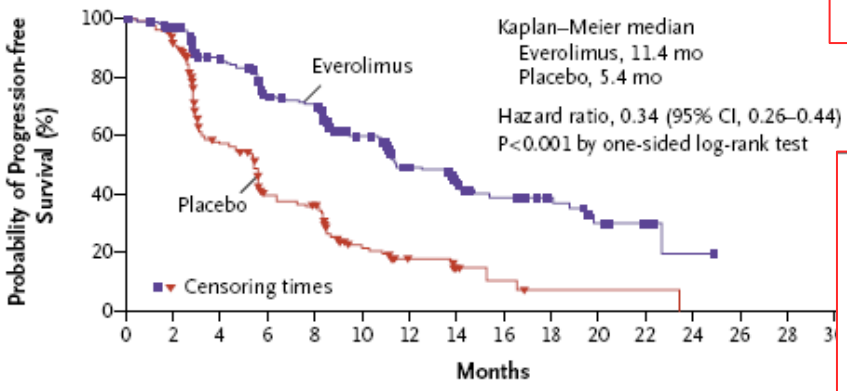
RADIANT-3

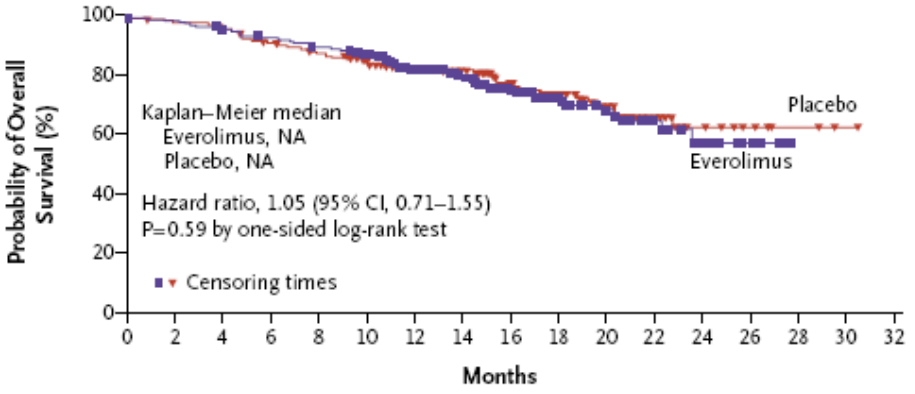
A Progression-free Survival, Local Assessment



B Progression-free Survival, Adjudicated Central Review



D Overall Survival



CONCLUSIONS

Everolimus, as compared with placebo, significantly prolonged progression-free survival among patients with progressive advanced pancreatic neuroendocrine tumors and was associated with a low rate of severe adverse events. (Funded by Novartis Oncology; RADIANT-3 ClinicalTrials.gov number, NCT00510068.)

Yao JC et al. N Engl J Med. 2011;364:6

Everolimus for Advanced Pancreatic Neuroendocrine Tumors

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Drug-Related Adverse Events Occurring in at Least 10% of Patients

Adverse Event	Everolimus (N=204)		Placebo (N=203)	
	All Grades	Grade 3 or 4	All Grades	Grade 3 or 4
	no. of patients (%)			
Stomatitis*	131 (64)	14 (7)	34 (17)	0
Rash	99 (49)	1 (<1)	21 (10)	0
Diarrhea	69 (34)	7 (3)	20 (10)	0
Fatigue	64 (31)	5 (2)	29 (14)	1 (<1)
Infections†	46 (23)	5 (2)	12 (6)	1 (<1)
Nausea	41 (20)	5 (2)	37 (18)	0
Peripheral edema	41 (20)	1 (<1)	7 (3)	0
Decreased appetite	40 (20)	0	14 (7)	2 (1)
Headache	39 (19)	0	13 (6)	0
Dysgeusia	35 (17)	0	8 (4)	0
Anemia	35 (17)	12 (6)	6 (3)	0
Epistaxis	35 (17)	0	0	0
Pneumonitis‡	35 (17)	5 (2)	0	0
Weight loss	32 (16)	0	9 (4)	0
Vomiting	31 (15)	0	13 (6)	0
Pruritus	30 (15)	0	18 (9)	0
Hyperglycemia	27 (13)	11 (5)	9 (4)	4 (2)
Thrombocytopenia	27 (13)	8 (4)	1 (<1)	0
Asthenia	26 (13)	2 (1)	17 (8)	2 (1)
Nail disorder	24 (12)	1 (<1)	2 (1)	0
Cough	22 (11)	0	4 (2)	0
Pyrexia	22 (11)	0	0	0
Dry skin	21 (10)	0	9 (4)	0

* Included in this category are stomatitis, aphthous stomatitis, mouth ulceration, and tongue ulceration.
† All types of infections are included.
‡ Included in this category are pneumonitis, interstitial lung disease, lung infiltration, and pulmonary fibrosis.

Yao JC et al. N Engl J Med. 2011;364:6

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Glycemic Control in Patients with Insulinoma Treated with Everolimus

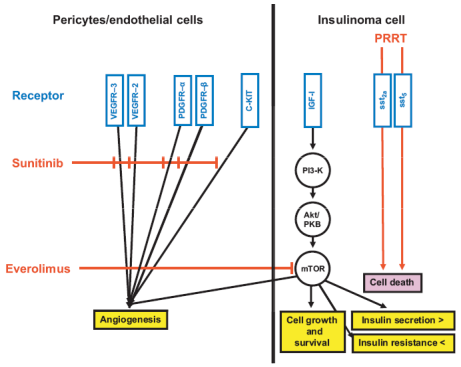

Table 1. Characteristics of the Patients, Previous Therapy, and Response to Everolimus.*

Patient No.	Age (yr)	Sex	Medical Center	Previous Therapy	Glucose Control		Tumor Response and Progression-free Survival
					At Study Entry	During Everolimus Therapy	
1	57	F	M.D. Anderson Cancer Center	Depot octreotide, radiofrequency ablation, 111-indium octreotide, hepatic-artery chemoembolization, streptozocin plus doxorubicin	Depot octreotide, diazoxide, dexamethasone, and oral feeding every 2 hr and nocturnal continuous enteral feeding	Normalization of glucose level; discontinuation of diazoxide and nocturnal feedings	Partial response for 16 mo
2	40	F	M.D. Anderson Cancer Center	Surgical debulking and radiofrequency ablation, hepatic-artery embolization, hepatic-artery chemoembolization	Depot octreotide, diazoxide, and glucose tablets	Normalization of glucose level; discontinuation of diazoxide and glucose tablets	Partial response for 29 mo
3	22	F	Dana–Farber Cancer Institute	Resection of primary tumor, surgical debulking and radiofrequency ablation, temozolomide plus bevacizumab	Intermittent symptomatic hypoglycemia despite use of depot octreotide and diazoxide	Normalization of glucose level; discontinuation of diazoxide	Stable disease for >6 mo
4	66	M	University of California, San Francisco	Depot octreotide, streptozocin plus doxorubicin, surgical debulking, FOLFOX plus bevacizumab	Glucose control requiring nocturnal dextrose infusion	Normalization of glucose level; discontinuation of nocturnal dextrose infusions	Stable disease for >6 mo

Kulke MH et al. N Engl J Med 2009;360;2

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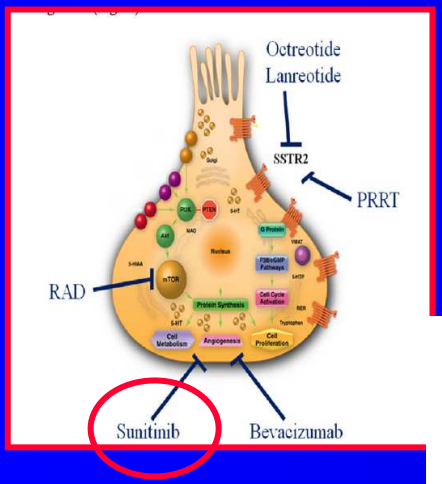
Everolimus for Advanced Pancreatic Neuroendocrine Tumors

SUNITINIB

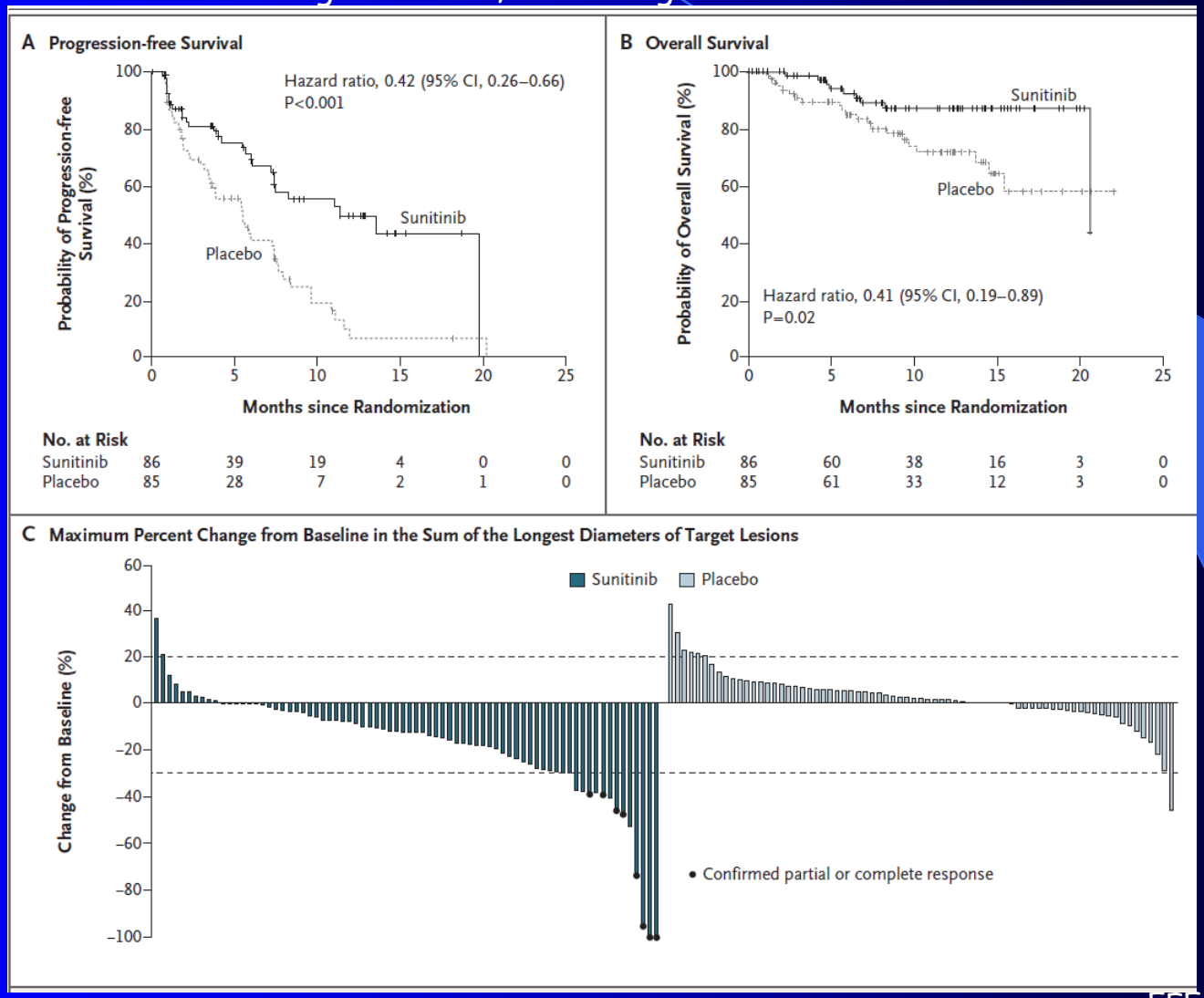
inibisce molteplici recettori delle tirosin chinasi che sono coinvolte nella crescita dei tumori, nella neoangiogenesi tumorale e nella progressione metastatica del cancro



INDICATO per
Tumori neuroendocrini pancreatici ben differenziati, non operabili o metastatici, in progressione di malattia, negli adulti

Sunitinib Malate for the Treatment of Pancreatic Neuroendocrine Tumors

Kaplan-Meier Analysis of Progression-free Survival and Overall Survival in the Intention-to-Treat Population and the Maximum Percent Change from Baseline in the Sum of the Longest Diameters of Target Lesions, According to Patient.



Raymond E et al. N Engl J Med 2011;364:501

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Sunitinib Malate for the Treatment of Pancreatic Neuroendocrine Tumors

Common Adverse Events in the Safety Population

Event	Sunitinib (N=83)			Placebo (N=82)		
	All Grades	Grade 1 or 2	Grade 3 or 4	All Grades	Grade 1 or 2	Grade 3 or 4
	number of patients (percent)					
Diarrhea	49 (59)	45 (54)	4 (5)	32 (39)	30 (37)	2 (2)
Nausea	37 (45)	36 (43)	1 (1)	24 (29)	23 (28)	1 (1)
Asthenia	28 (34)	24 (29)	4 (5)	22 (27)	19 (23)	3 (4)
Vomiting	28 (34)	28 (34)	0	25 (30)	23 (28)	2 (2)
Fatigue	27 (32)	23 (28)	4 (5)	22 (27)	15 (18)	7 (8)
Hair-color changes	24 (29)	23 (28)	1 (1)	1 (1)	1 (1)	0
Neutropenia	24 (29)	14 (17)	10 (12)	3 (4)	3 (4)	0
Abdominal pain	23 (28)	19 (23)	4 (5)	26 (32)	18 (22)	8 (10)
Hypertension	22 (26)	14 (17)	8 (10)	4 (5)	3 (4)	1 (1)
Palmar–plantar erythro-dysesthesia	19 (23)	14 (17)	5 (6)	2 (2)	2 (2)	0
Anorexia	18 (22)	16 (19)	2 (2)	17 (21)	16 (20)	1 (1)
Stomatitis	18 (22)	15 (18)	3 (4)	2 (2)	2 (2)	0
Dysgeusia	17 (20)	17 (20)	0	4 (5)	4 (5)	0
Epistaxis	17 (20)	16 (19)	1 (1)	4 (5)	4 (5)	0
Headache	15 (18)	15 (18)	0	11 (13)	10 (12)	1 (1)
Insomnia	15 (18)	15 (18)	0	10 (12)	10 (12)	0
Rash	15 (18)	15 (18)	0	4 (5)	4 (5)	0
Thrombocytopenia	14 (17)	11 (13)	3 (4)	4 (5)	4 (5)	0
Mucosal inflammation	13 (16)	12 (14)	1 (1)	6 (7)	6 (7)	0
Weight loss	13 (16)	12 (14)	1 (1)	9 (11)	9 (11)	0
Constipation	12 (14)	12 (14)	0	16 (20)	15 (18)	1 (1)
Back pain	10 (12)	10 (12)	0	14 (17)	10 (12)	4 (5)

* Adverse events were defined on the basis of the National Cancer Institute Common Terminology Criteria for Adverse Events, version 3.0. Events listed are those of any grade that occurred in more than 15% of patients in either group.

Raymond E et al. N Engl J Med 2011;364:501

CASISTICA AZIENDA OSPEDALIERO UNIVERITARIA FERRARA

EVEROLIMUS

AFINITOR (everolimus) tablets

	Istologia	**Metastasi**	**Grading**	**Stadio**	**Terapia**
AF	Neoplasia neuroendocrina del polmone tipo carcinoide tipico	Epatiche Ossee Linfonodali	G1	T4 N1 M1 Stadio IV	Chirurgica Chemioterapia Medica Chemioembolizzazione Radioterapia lesioni ossee
DM	Carcinoide atipico	Linfonodali Polmonari Epatiche Ossee	G2	T4 N1 M1 Stadio IV	Chirurgica Chemioterapia Radiometabolica Medica
UF	Carcinoma neuroendocrino ileale bene differenziato	Epatiche Ossee Linfonodali	G1	T4 N1 M1 Stadio IV	Chirurgica Medica Radiometabolica
GG	Carcinoma neuroendocrino ileale bene differenziato	Epatiche Linfonodali	G1	T3 N1 M1 Stadio IV	Chirurgica Chemioembolizzazione Medica Radiometabolica
RM	Carcinoma neuroendocrino ileale bene differenziato	Epatiche Ossee Linfonodali	G1	T4 N1 M1 Stadio IV	Chirurgica Medica Chemioembolizzazione Chemioterapia Radiometabolica Radioterapia

CASISTICA AZIENDA OSPEDALIERO UNIVERITARIA FERRARA

Iniziali	Diagnosi	Metastasi	Grading	Stadio	Terapia
SB	Carcinoma neuroendocrino Pancreatico bene differenziato (non funzionante)	Linfonodali Epatiche	G2	T4 N1 M1 Stadio IV	Medica Radiometabolica Termoablazione con RF
FL	Carcinoma neuroendocrino pancreatico bene differenziato (non funzionante)	Epatiche	G2	T4 N1 M1 Stadio IV	Chirurgica Medica Chemioembolizzazione Radiometabolica
GB	Carcinoma neuroendocrino bene differenziato (insulinoma)	Linfonodali Epatiche	G2	T3 N1 M1 Stadio IV	Chirurgica Terapia Medica
PC	Carcinoma neuroendocrino pancreatico bene differenziato (non funzionante)	Epatiche	G1	T4 N1 M1 Stadio IV	Chirurgica Medica Radiometabolica
LB	Carcinoide insulare desmoplastico annessiale bilaterale	Linfonodali Epatiche Peritoneali Polmonari	G1	T4 N1 M1 Stadio IV	Chirurgica Medica Termoablazione con RF

Società Medico Chirurgica di Ferrara

L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

	Risposta parziale	**Stabilità**	**Progressione**	**Sospensione per effetti collaterali**
Ca ileale				2 mesi
Ca ileale			12 mesi	
Ca ileale		8 mesi		
Carcinoide desmoplastico			4 mesi	
Carcinoide polmonare tipico			3 mesi	
Carcinoide polmonare atipico	6 mesi		12 mesi	
Ca pancreatico				5 mesi
Ca pancreatico		6 mesi		
Ca pancreatico		12 mesi		

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SUNITINIB

1998: asportazione di "neoplasia neuroendocrina del pancreas a struttura carcinoidea di tipo alveolare infiltrante estesa al tessuto adiposo peripancreatico".

2009: riscontro TC di recidiva cefalo a carico della testa del pancreas + sospetta metastasi linfonodale peripancreatica

→ iniziata terapia con Octreotide LAR 30 mg: 1 fl i.m ogni 28 gg

→ Da gennaio 2010 ad ottobre 2011 il paziente ha eseguito 8 cicli di terapia radiometabolica con 90 Y DOTATATE

Settembre 2012: progressione di malattia a livello pancreatico

→ottobre 2013: il paziente ha iniziato terapia con Sunitinib 37.5 mg/die.

FOLLOW UP A 6 MESI →STABILITA'

Effetti collaterali prurito disgeusia

EFE 2013

TUMORI NEUROENDOCRINI GASTRO-ENTERO-PANCREATICI

Alla luce dei trattamenti oggi disponibili, la terapia deve essere individualizzata

La scelta della strategia terapeutica, basata sulle caratteristiche del tumore/paziente è più importante della decisione sulla singola terapia e richiede un approccio multidiciplinare

Società Medico Chirurgica di Ferrara

L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

Endocrinologo

Radiologo

Patologo

Medico Nucleare

Chirurgo

Oncologo

Pneumologo

Radioterapista

Gastroenterologo

Farmacista

Laboratorista

EFE 2013

Società Medico Chirurgica di Ferrara

L'evoluzione della terapia medica: dalla chemioterapia ai nuovi farmaci a target molecolari

23 luglio 2002

Funzione Operativa Polispecialistica focalizzata sui pazienti affetti da neoplasia neuroendocrina gastroenteropancreatica (GEP) e carcinoide bronchiale

Endocrinologia

Medicina Nucleare

Oncologia

EFE 2013

PARTECIPANTI AL GRUPPO

Istituto di Anatomia Patologica

Istituto di Chirurgia Generale

Istituto di Clinica Chirurgica

Sezione di Endocrinologia

Unità Operativa di Gastroenterologia

Unità Operativa di Medicina Nucleare

Unità Operativa di Oncologia

Istituto di Radiologia

Unità Operativa di Radiologia

Gruppo NETs GEP Azienda Ospedaliero Universitaria di Ferrara

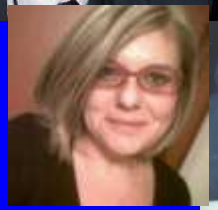






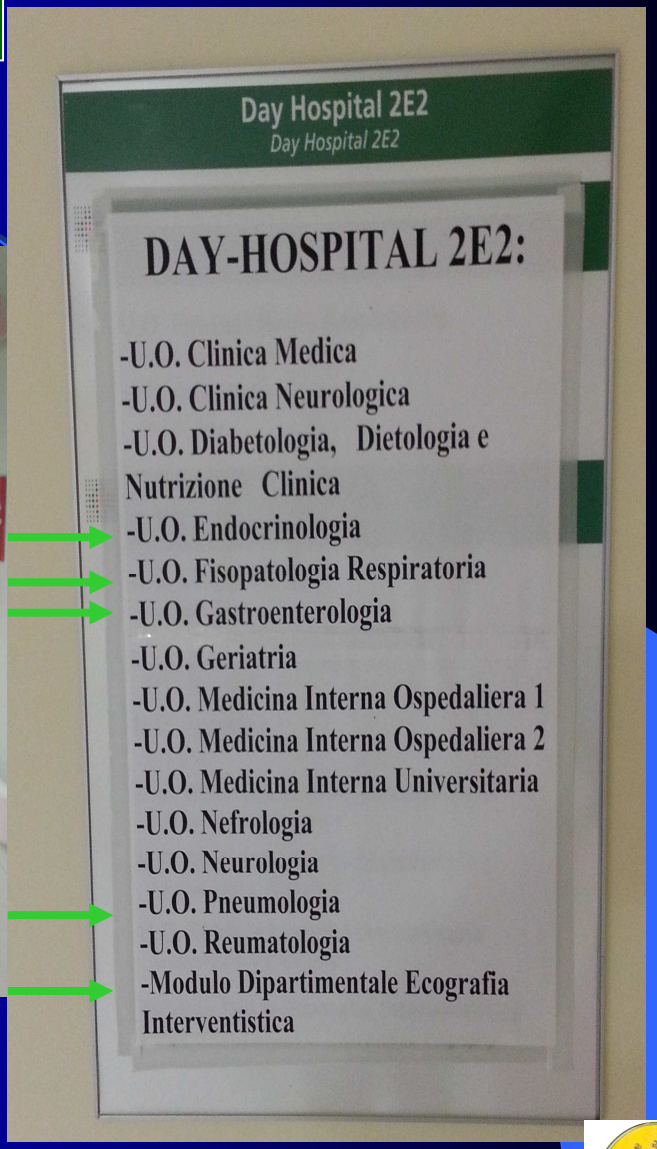




Blocco 2E2

DAY-HOSPITAL



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