

2025: NOVITÀ NEL TRATTAMENTO DELLE NEOPLASIE GINECOLOGICHE



Con il Patrocinio di



Tossicità da immunoterapia

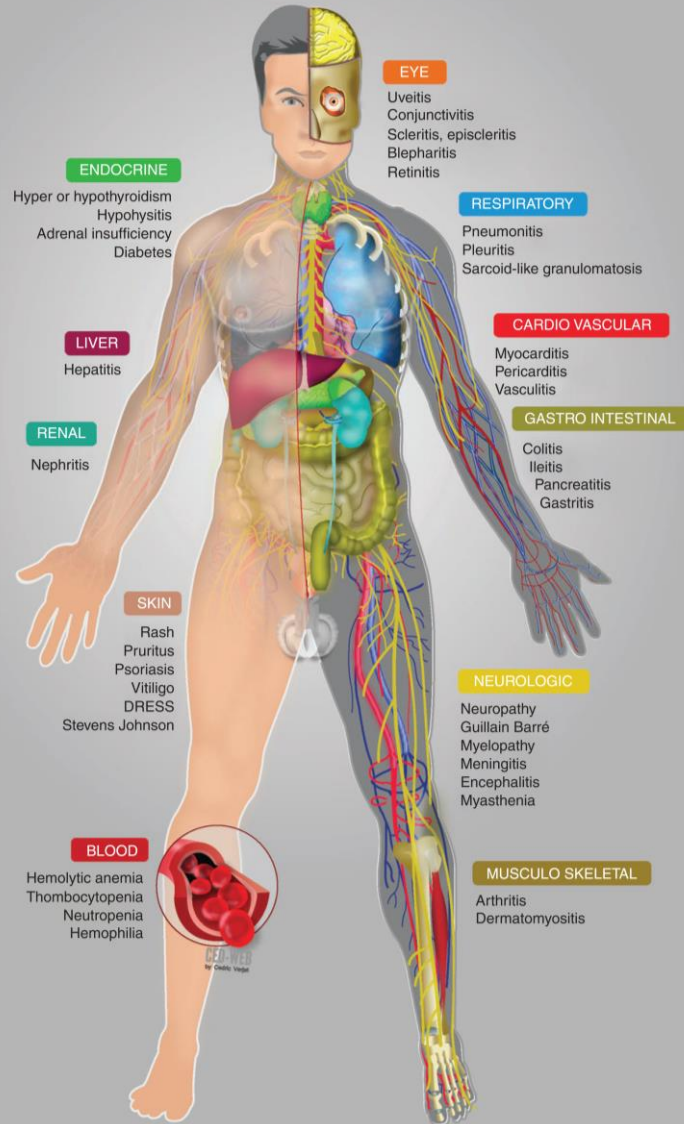
Alessandro Inno

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Disclosures

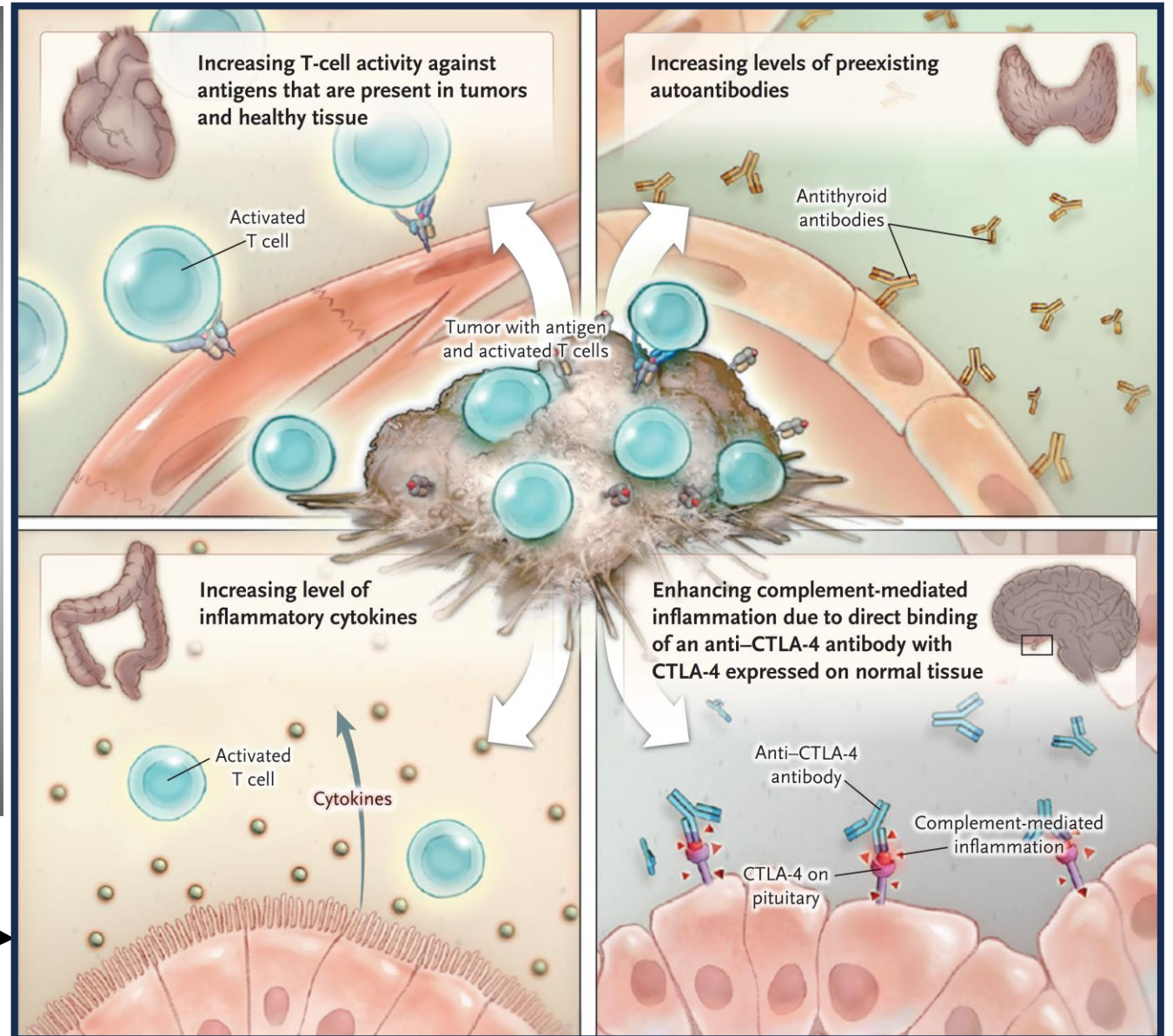
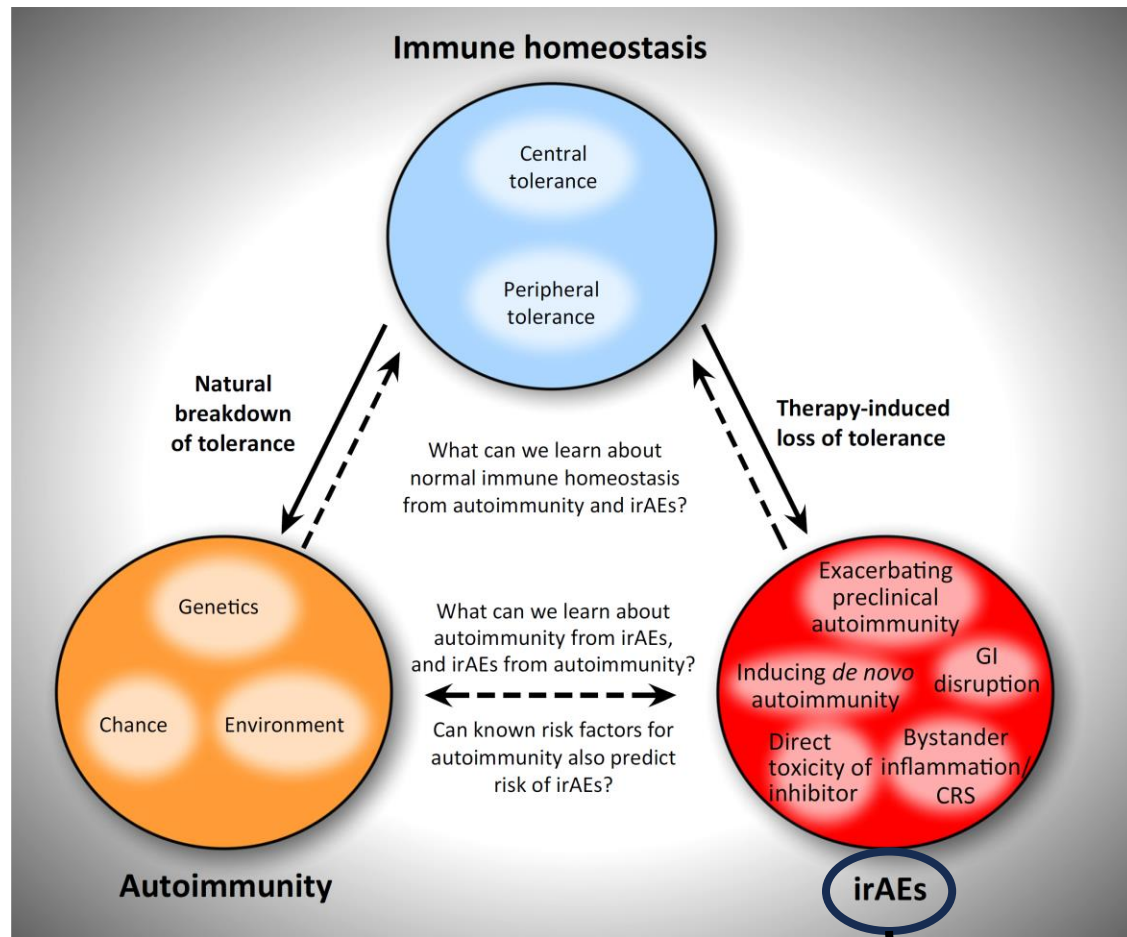
- Advisory Board/Honoraria: Amgen, AstraZeneca, Merck Sharp & Dohme, Novartis, Roche.
- Medical writing grant: Merck Serono.
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Eventi avversi immunocorrelati (irAEs)

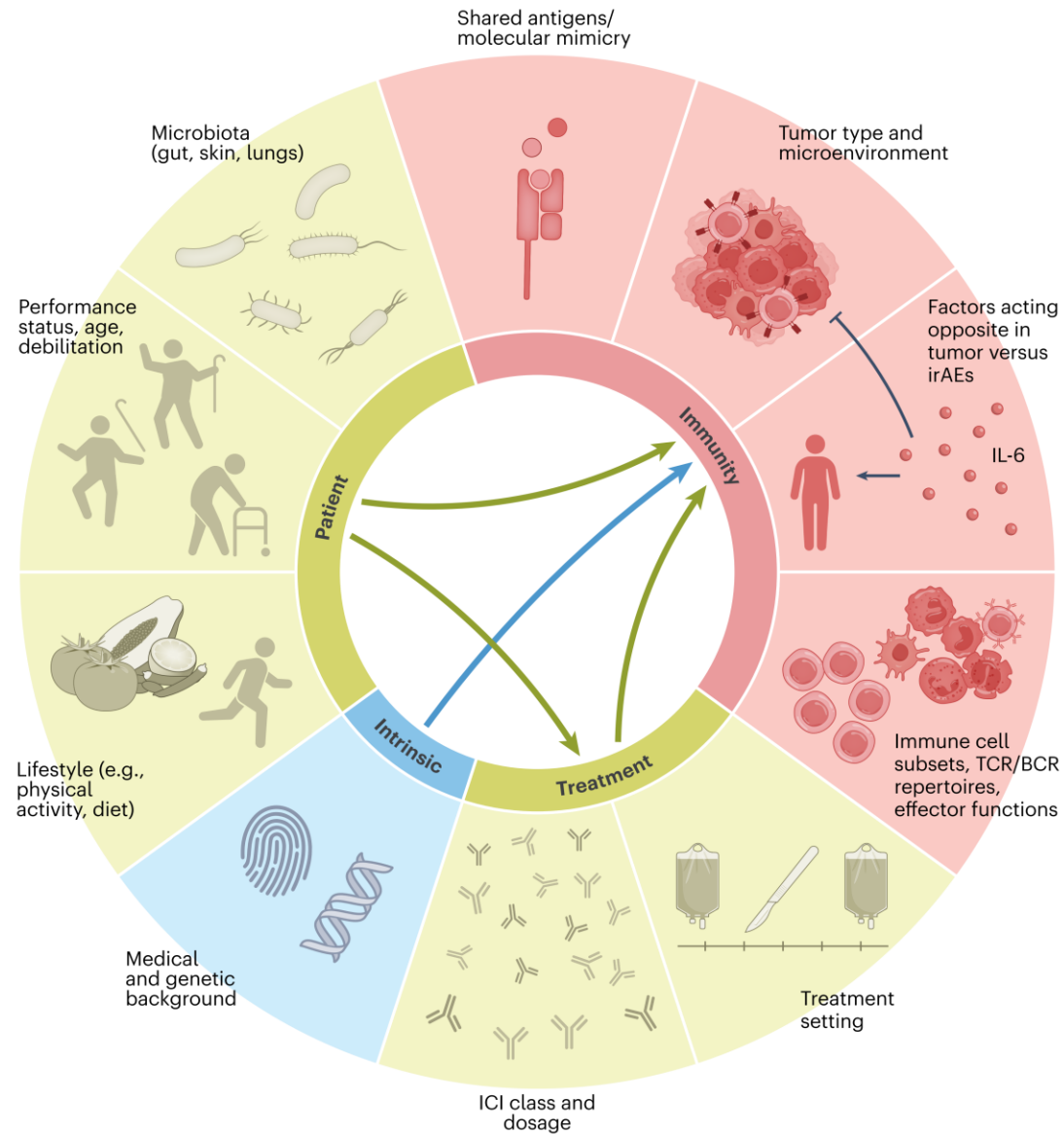


**Gli irAEs
possono colpire
potenzialmente qualsiasi
organo/apparato**

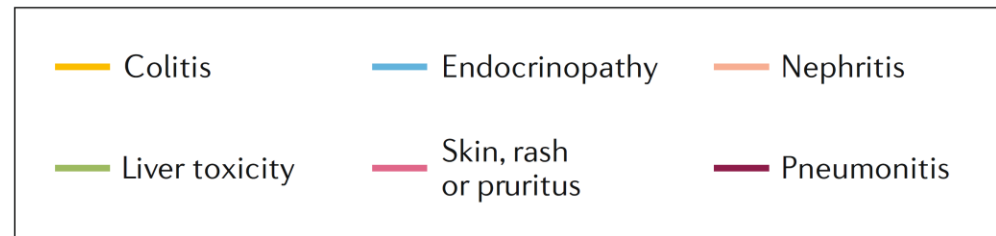
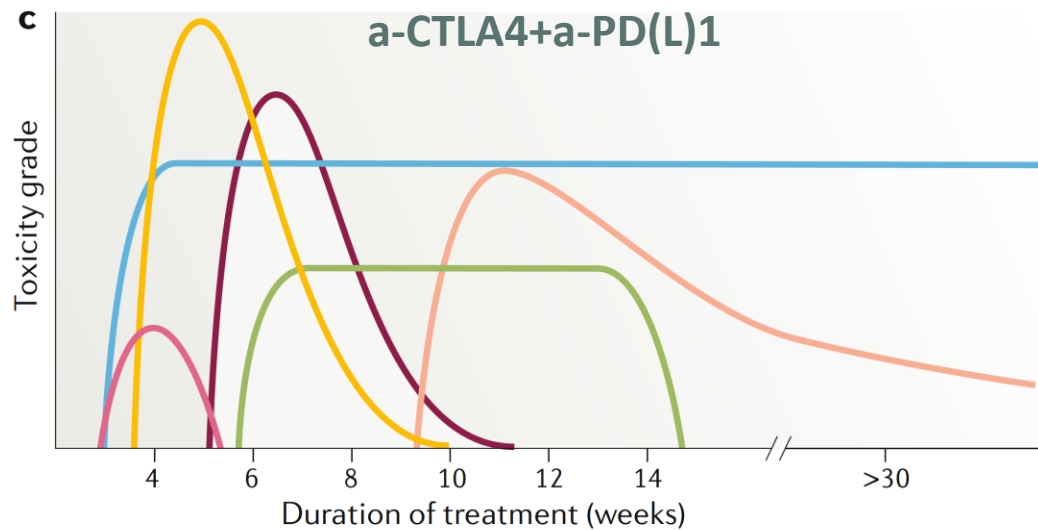
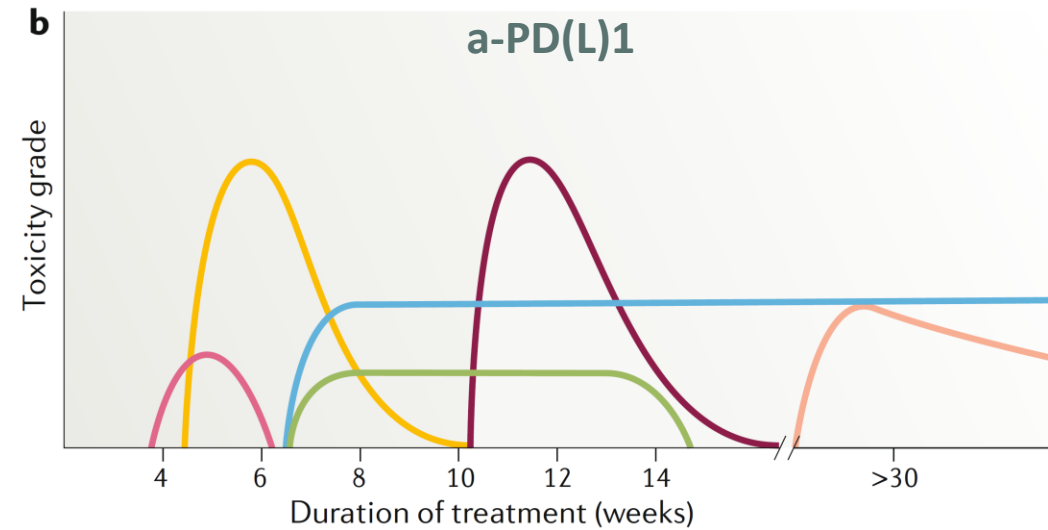
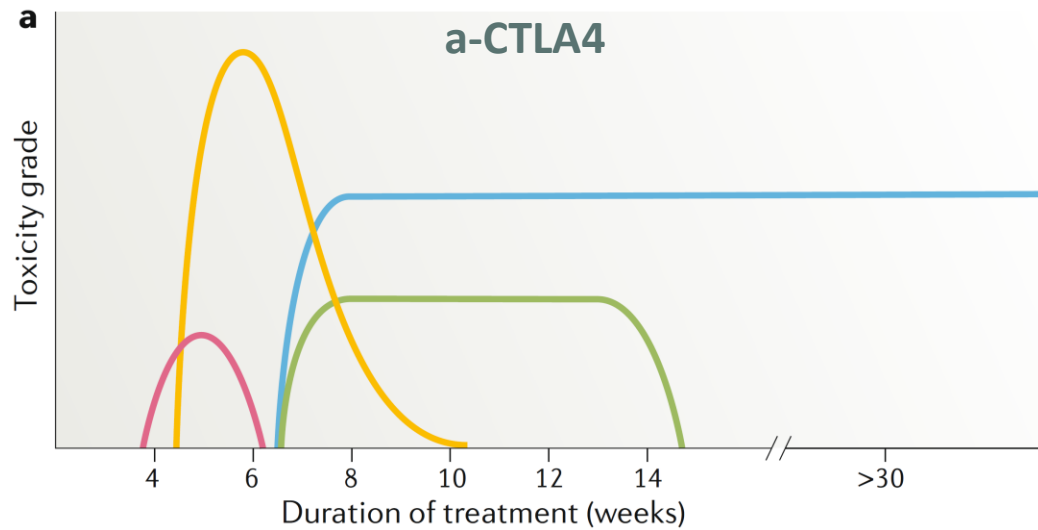
Patogenesi degli irAEs



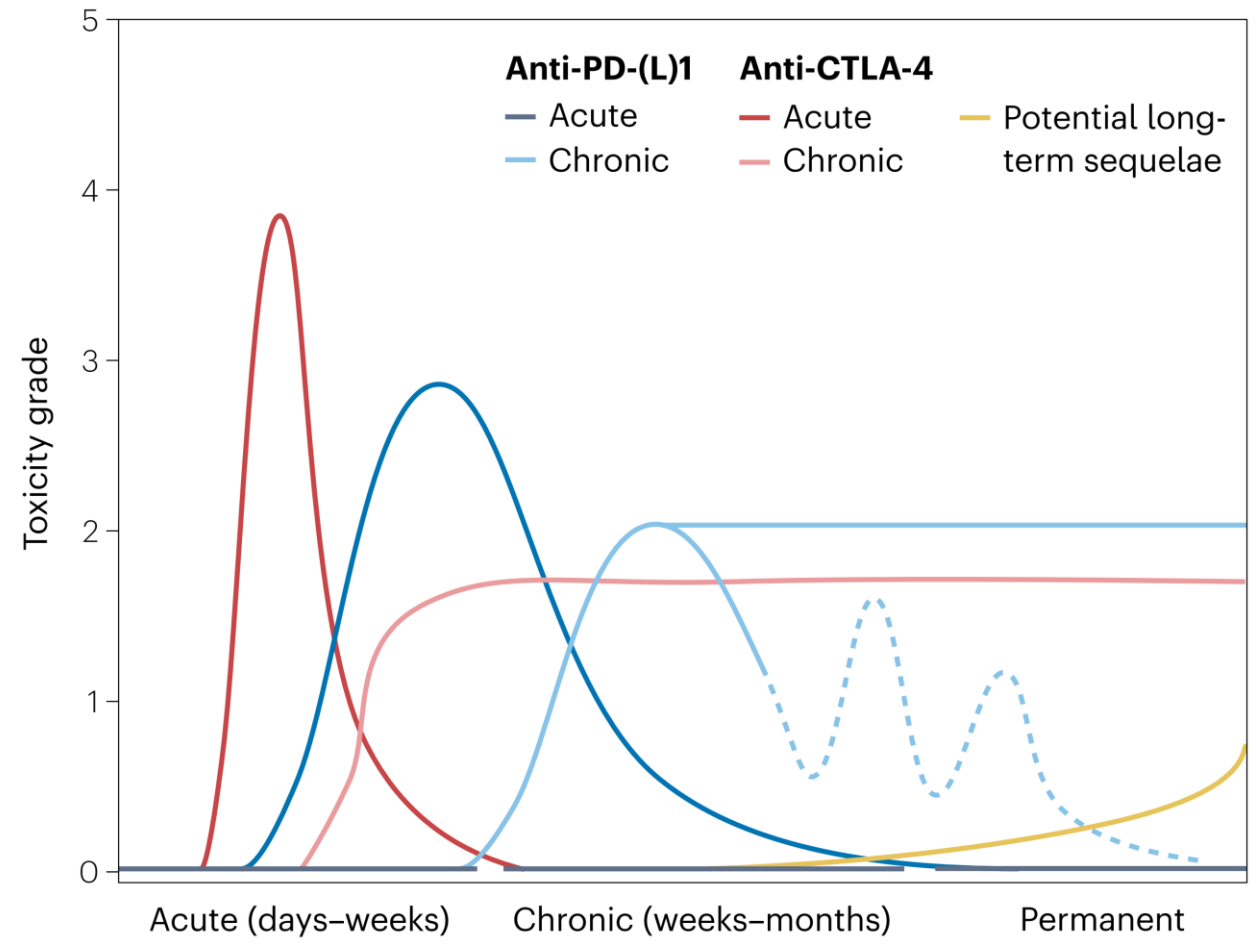
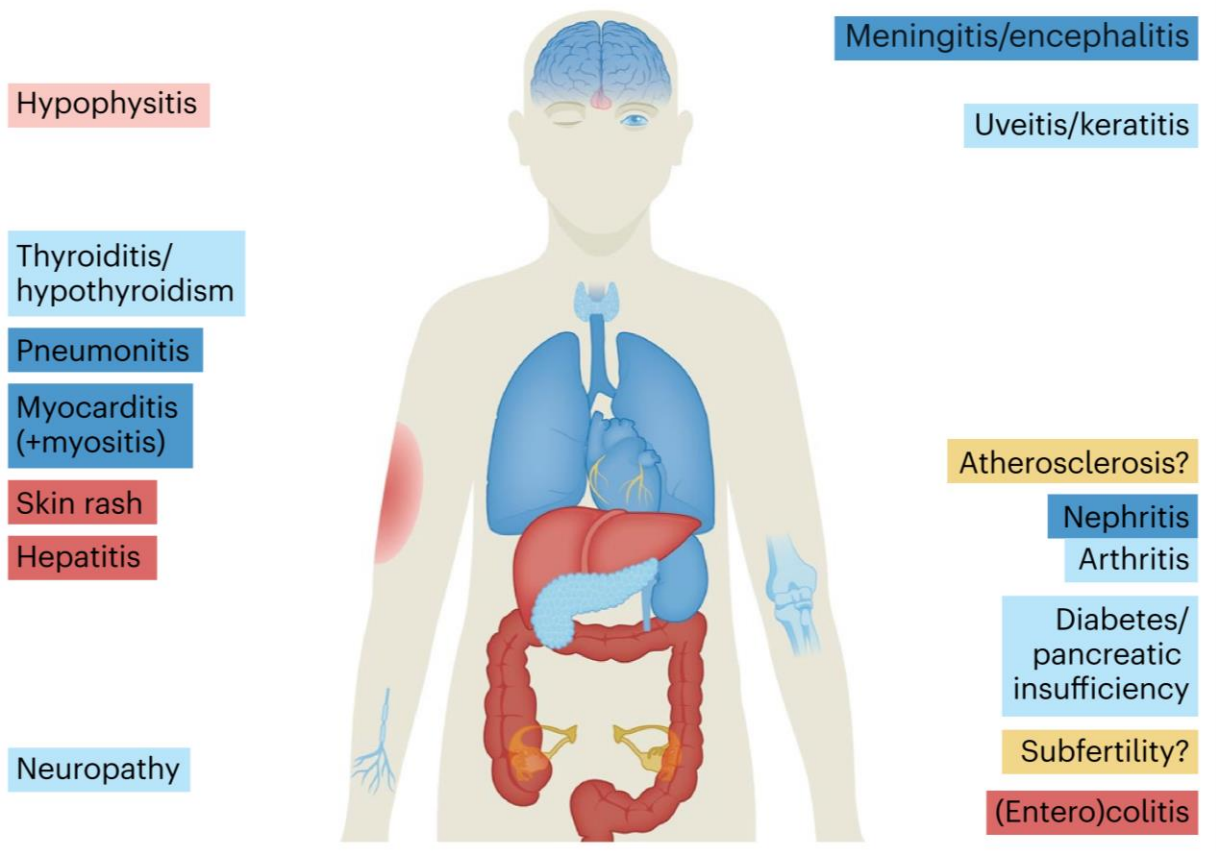
Fattori contribuenti all'insorgenza di irAEs



Cinetica degli irAEs (1/2)



Cinetica degli irAEs (2/2)



IrAEs cronici

n=387 pts with stage III-IV melanoma treated with adjuvant anti-PD-1

Table 2. Incidence of Chronic Immune-Related Adverse Events (irAEs)

Chronic irAEs	Patients, No. (%)	
	With chronic irAEs	Ongoing chronic irAE at last follow-up
Total chronic irAEs	167 (100)	NA
Required steroids	55 (32.9)	NA
Symptomatic	82 (49.1)	NA
Resolved	24 (14.4)	NA
≥Grade 2	90 (53.9)	NA
Grade 3-5	6 (3.6)	NA
irAE Type ^a		
Adrenal insufficiency	12 (3.1)	12 (100)
Arthritis/arthralgias	22 (5.7)	22 (100)
Colitis/diarrhea	6 (1.6)	2 (33.3)
Dermatitis/pruritus	19 (6.6)	17 (89.5)
Xerostomia ^b	9 (2.3)	8 (88.9)
Hypophysitis	8 (2.1)	8 (100)
Neuropathy	3 (1.8)	1 (33.3)
Ocular toxic effect ^c	5 (1.3)	5 (100)
Other neurotoxicity ^d	8 (2.1)	5 (63.0)
Pneumonitis	6 (1.6)	4 (66.7)
Thyroiditis/hypothyroid	54 (14.0)	54 (100)

Abbreviation: NA, not applicable.

^a Greater than 1% observation frequency.

^b Dry mouth (n = 6), Sicca syndrome (n = 2), and Sjogren syndrome (n = 1).

^c Conjunctivitis (n = 1), uveitis (n = 1), retinal vasculitis (n = 1), nonischemic optic neuropathy (n = 1), and blurred vision (n = 1).

^d Guillain-Barré syndrome (n = 2), Bell palsy (n = 1), parkinsonian gait (n = 1), myasthenia gravis (n = 1), autonomic neuropathy (n = 1), tremors (n = 1), and transverse myelitis (n = 1).

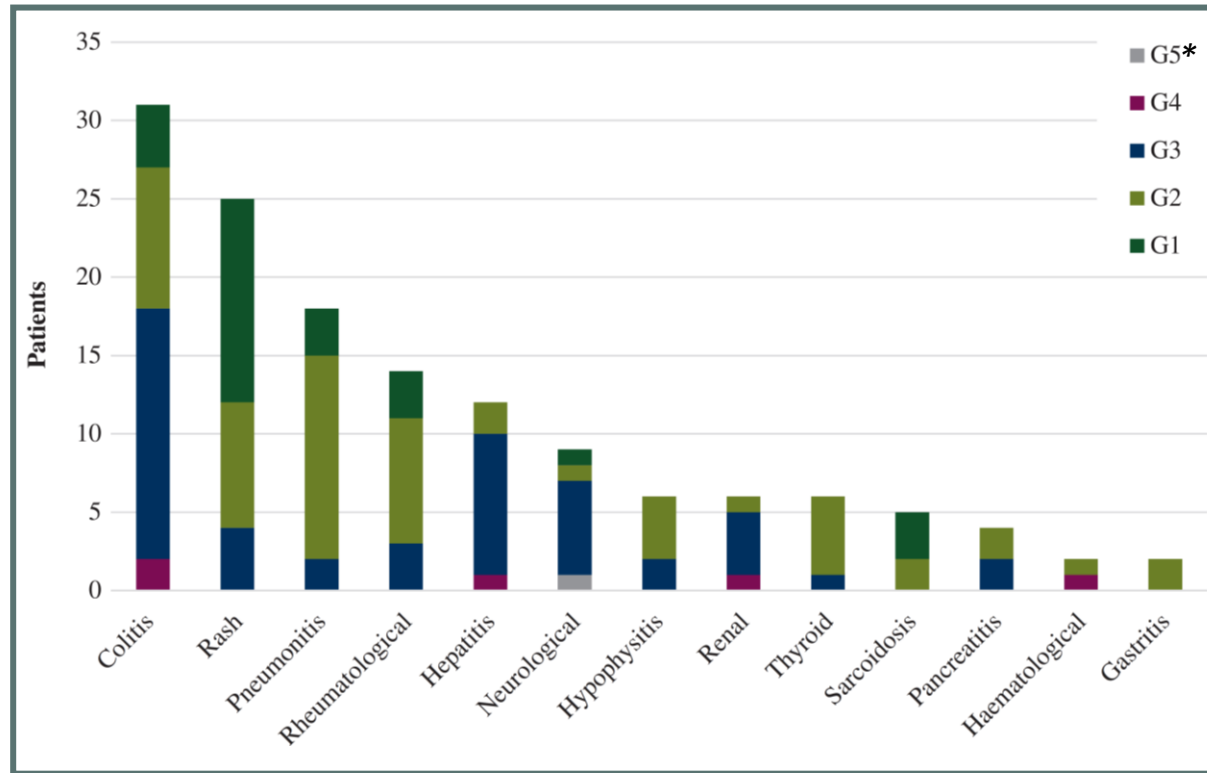
43.2% had chronic* irAEs

** defined as irAEs persisting at least 12 weeks after therapy cessation*

IrAEs tardivi

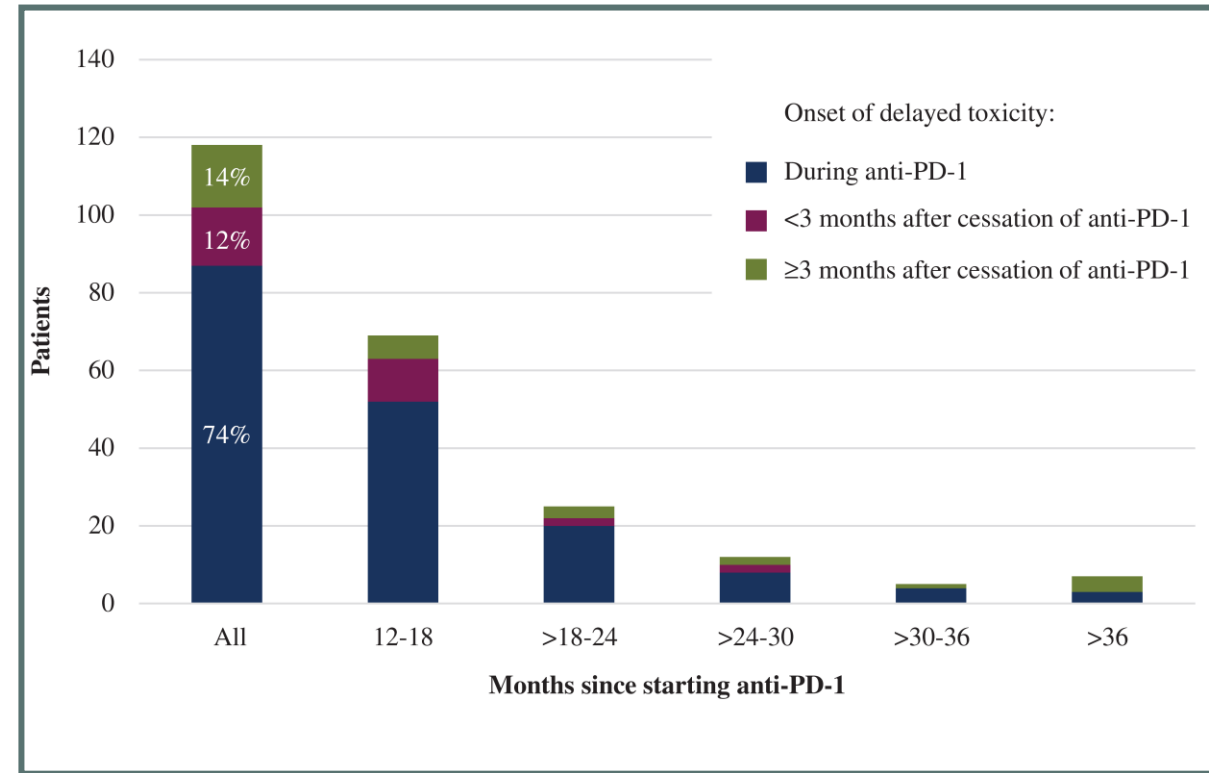
- 999 melanoma pts treated with immunotherapy surviving > 1 year (retrospective data)
- **Incidence** of delayed irAEs (occurring >1 year after immunotherapy initiation): **5.3%**; may be high-grade and can lead to death
- 58% also had a previous irAEs, often affecting a different organ (86%)

N. of delayed toxicity cases by irAE subtype and grade

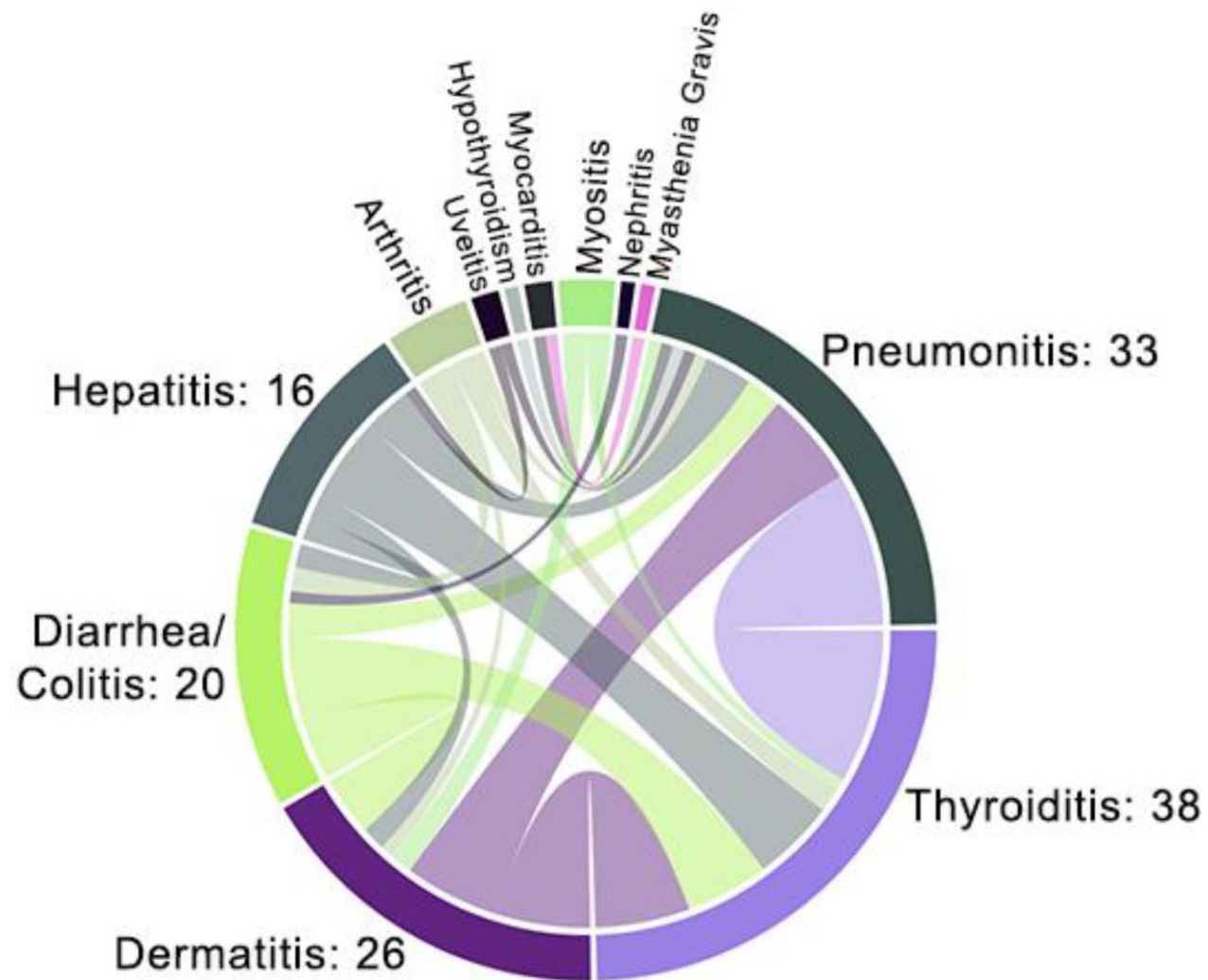


*1 case of G5 encephalitis and 1 case of multi-organ irAE

Onset of delayed IrAEs in relation to anti-PD-1 therapy.



IrAEs multipli



n=623

pts with stage III/IV NSCLC, treated with anti-PD-(L)1

Multiple irAEs: 58 (9.3%)

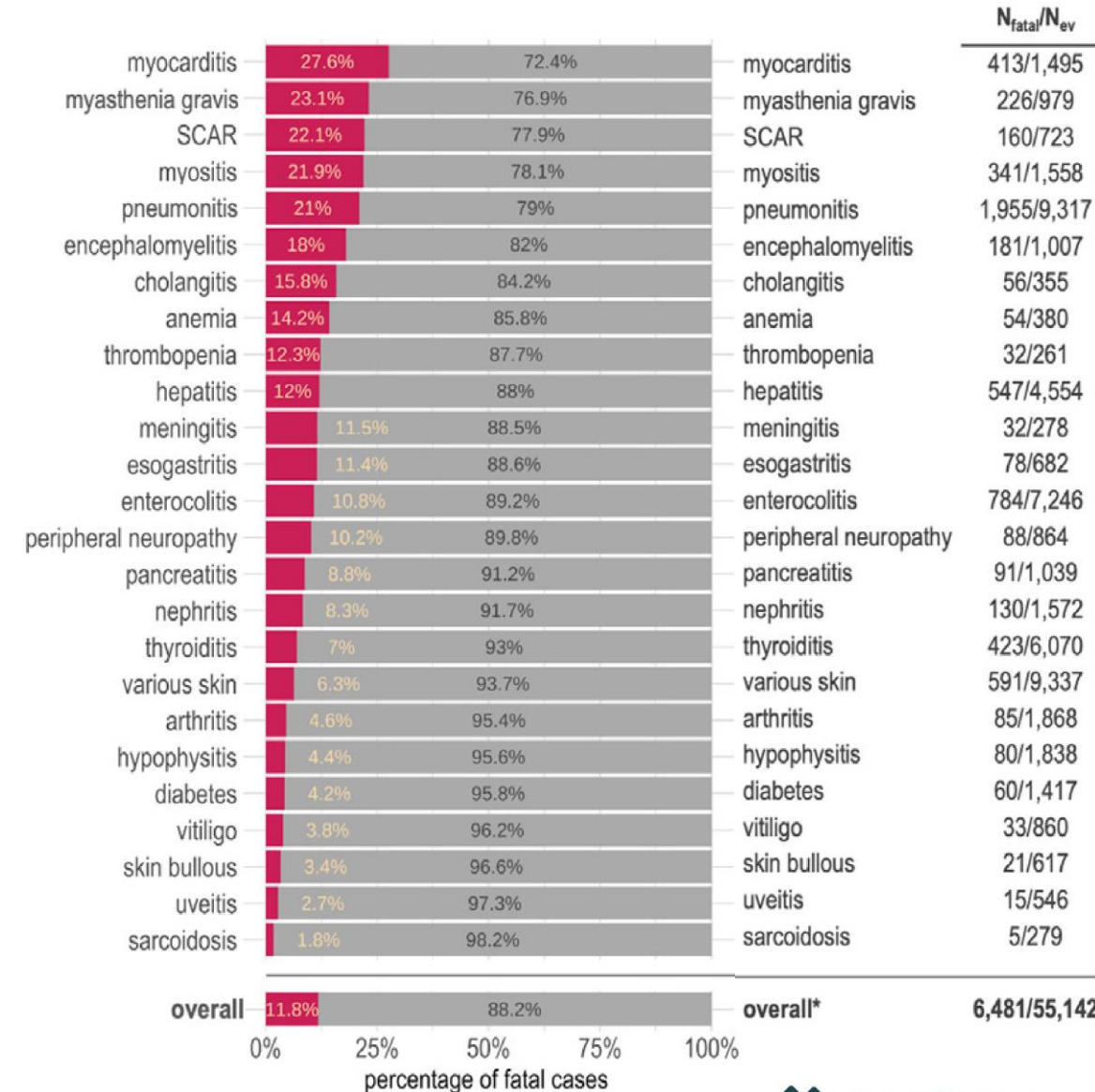
Most common multisystem patterns:

Pneumonitis	Thyroiditis	(14%)
Hepatitis	Thyroiditis	(10%)
Dermatitis	Pneumonitis	(10%)
Dermatitis	Thyroiditis	(8%)

IrAEs fatali

Table 2. Incidence and Types of Immune Checkpoint Inhibitor-Related Fatalities From Systematic Review and Meta-analysis

Variable	Anti-CTLA-4 (n = 5368)	Anti-PD-1 (n = 9136)	Anti-PD-L1 (n = 3164)	Anti-PD-1/PD-L1 Plus CTLA-4 (n = 1549)
Deaths, No. (%)	58 (1.08)	33 (0.36)	12 (0.38)	19 (1.23)
Type of fatal toxic effect				
Colitis	23 (40)	2 (6)	0	2 (11)
Pneumonitis	3 (5)	14 (42)	5 (42)	4 (21)
Hepatitis	5 (9)	0	1 (8)	2 (11)
Cardiac	9 (16)	4 (12)	3 (25)	4 (21)
Neurologic	1 (2)	1 (3)	0	3 (16)
Nephritis	1 (2)	0	0	1 (5)
Hematologic	2 (4)	2 (6)	0	2 (11)
Infectious	8 (14)	5 (15)	2 (18)	3 (16)
Hemorrhagic/thrombotic	2 (4)	1 (3)	0	1 (5)
Electrolyte imbalance	1 (2)	2 (6)	0	0
Multiorgan failure	3 (5)	0	0	0
Other	1 (2)	2 (6)	1 (8)	0



Wang DY et al. JAMA Oncol 2018;4(12):1721-1728.
Gougis P, et al. EClinicalMedicine 2024 22;70:102536.

SCAR: serious cutaneous adverse reaction; N_{ev} : number total evaluable

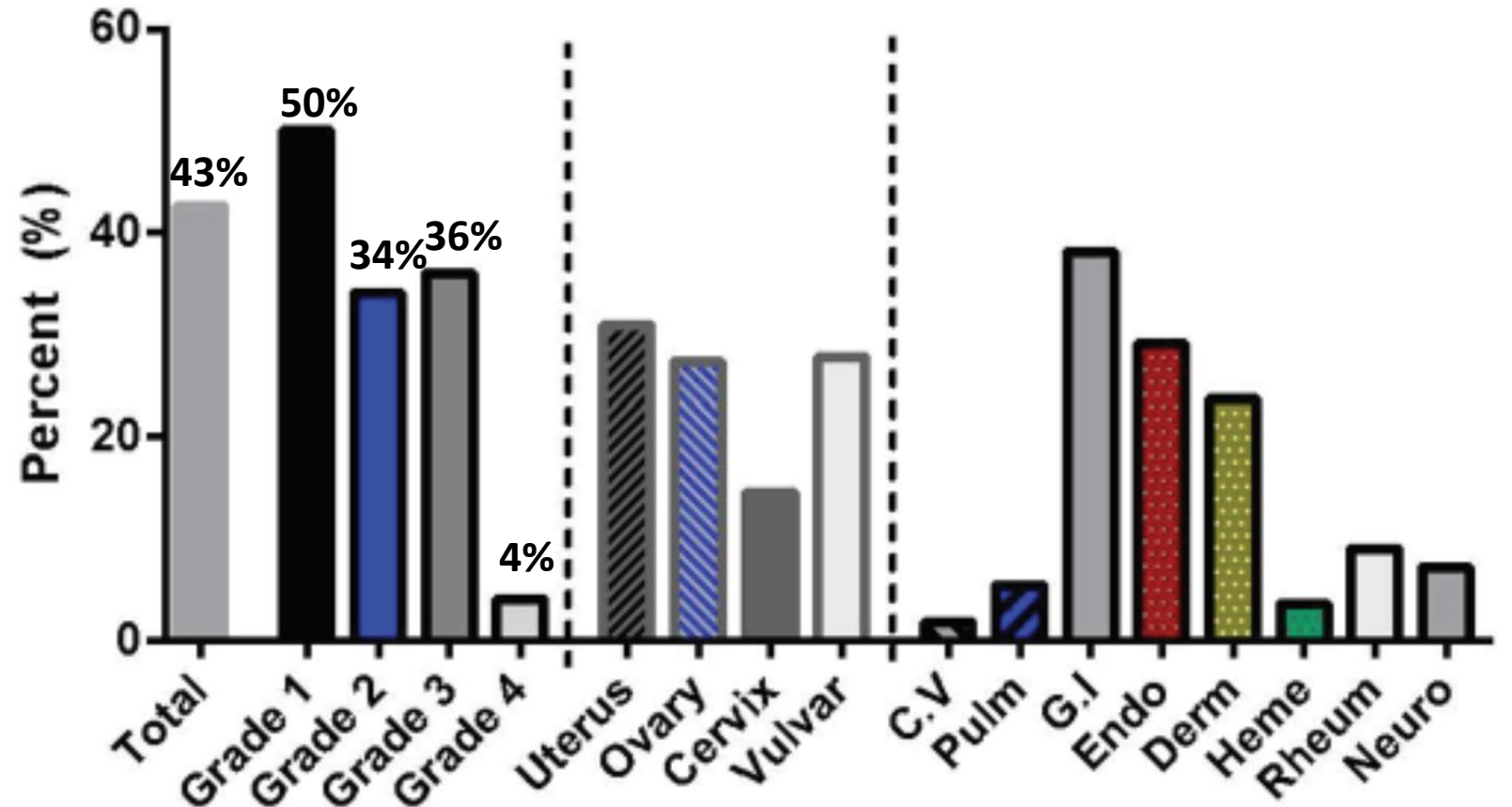


Incidenza di irAEs nelle neoplasie ginecologiche

Retrospective study (n=129)

@ Mass General Brigham Integrated Health Care System and the Dana Farber Cancer Institute)

N=129	
Primary site	
Uterine cancer	40%
Vulvar/vaginal	22%
Ovarian cancer	21%
Cervical cancer	17%
Treatment	
Anti-PD1	80%
Anti-PD1+anti-CTLA4	16.3%
Anti-PDL1	2.3%
Anti-CTLA4	0.8%



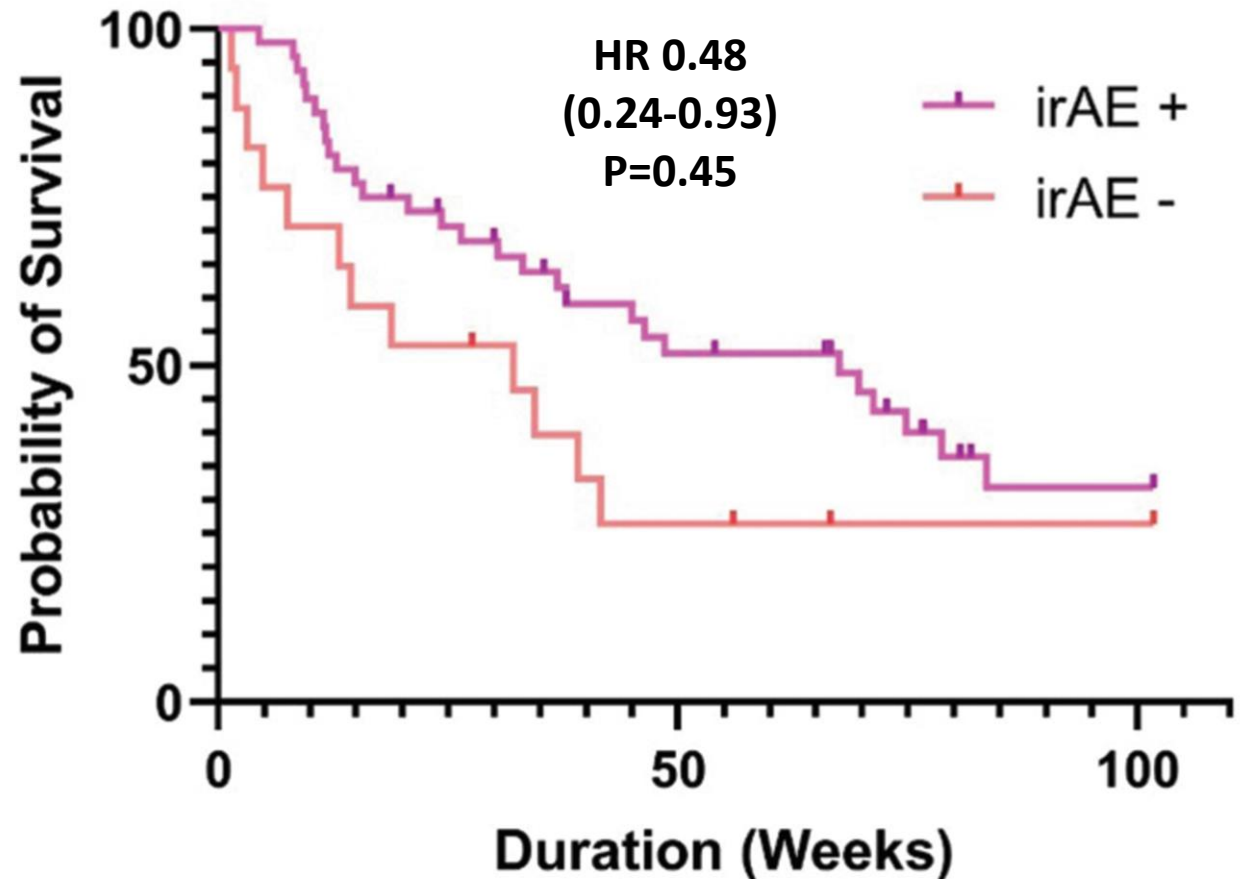
16.5% discontinued due to toxicity

IrAEs e outcome nelle neoplasie ginecologiche

Single centre, retrospective study on EC patients (n=64)

	N=64
Treatment	
Pembro/Len	72%
Pembro	18%
irAEs	
Hypothyroidism	66%
Hyperthyroidism	11%
Dermatitis	7%

Progression Free Survival (2yr)



Linee guida su gestione degli irAEs

Management of Immune-Related Adverse Events in Patients Treated With Immune Checkpoint Inhibitor Therapy: ASCO Guideline Update



Annals of Oncology 28 (Supplement 4): i119–i142, 2017
doi:10.1093/annonc/mdx225

CLINICAL PRACTICE GUIDELINES

Management of toxicities from immunotherapy: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up[†]

Open access

Position article and guidelines



Society for Immunotherapy of Cancer (SITC) clinical practice guideline on immune checkpoint inhibitor-related adverse events

The cover features a blue header with the SNLG logo and text 'SNLG dell'Istituto Superiore di Sanità'. A green hexagonal pattern is on the left. The Aiom logo (Associazione Italiana Oncologia Medica) is on the right. The title 'Linee guida GESTIONE DELLA TOSSICITÀ DA IMMUNOTERAPIA' is centered. Below it, 'Edizione 2023' and 'Aggiornata a luglio 2023' are listed. A section 'In collaborazione con' displays logos for various Italian medical societies: ACCO (Associazione Italiana di Cardiologia), imi (Istituto Nazionale Tumori), nicso (Núcleo Italiano di Scienze Oncologiche), SIE (Società Italiana di Endocrinologia), SIn (Società Italiana di Neurologia), SITP (Società Italiana di Pneumologia), SIR (Società Italiana di Radiologia Medica e Interventistica), and SIRM (Società Italiana di Radiologia Medica e Interventistica). At the bottom, the coordinator is identified as Alessandro Inno, Oncologo Medico at IRCCS Ospedale Sacro Cuore Don Calabria in Negrar di Valpolicella (VR).

Schneider BJ, et al. *J Clin Oncol* 2021;39(36):4073-4126. Haanen JBAG, et al. *Ann Oncol* 2018;29(Suppl 4):iv264-iv266.

Brahmer JR, et al. *J Immunother Cancer* 2021;9(6):e002435. <https://www.iss.it/-/snlg-tossicita-immunoterapia>

Gestione della tossicità: principi generali

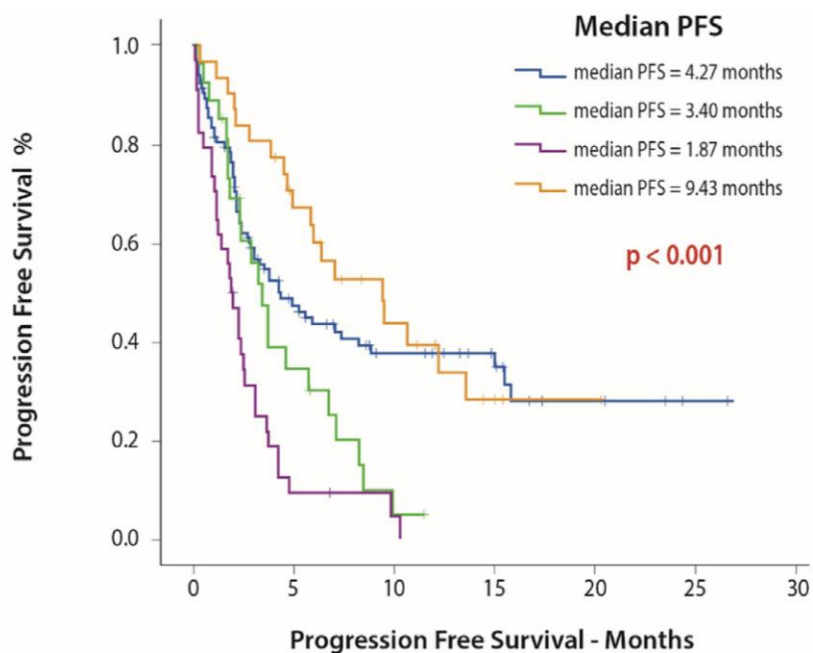
It is recommended that clinicians manage toxicities as follows:

- Patient and family caregivers should receive timely and up-to-date education about immunotherapies, their mechanism of action, and the clinical profile of possible irAEs before initiating therapy and throughout treatment and survivorship.
- There should be a high level of suspicion that new symptoms are treatment-related.
- In general, ICPi therapy should be continued with close monitoring for grade 1 toxicities, except for some neurologic, hematologic, and cardiac toxicities.
- Consider holding ICPis for most grade 2 toxicities and resume when symptoms and/or laboratory values revert \leq grade 1. Corticosteroids (initial dose of 0.5-1 mg/kg/d of prednisone or equivalent) may be administered.
- Hold ICPis for grade 3 toxicities and initiate high-dose corticosteroids (prednisone 1-2 mg/kg/d or equivalent). Corticosteroids should be tapered over the course of at least 4-6 weeks. If symptoms do not improve with 48-72 hours of high-dose steroid, infliximab may be offered for some toxicities.
- When symptoms and/or laboratory values revert \leq grade 1, rechallenging with ICPis may be offered; however, caution is advised, especially in those patients with early-onset irAEs. Dose adjustments are not recommended. Rechallenge with PD-1/PD-L1 monotherapy may be offered in patients with toxicity from combined therapy with a CTLA-4 antagonist once recovered to \leq grade 1.
- In general, grade 4 toxicities warrant permanent discontinuation of ICPis, except for endocrinopathies that have been controlled by hormone replacement.

Impatto dello steroide sull'outcome

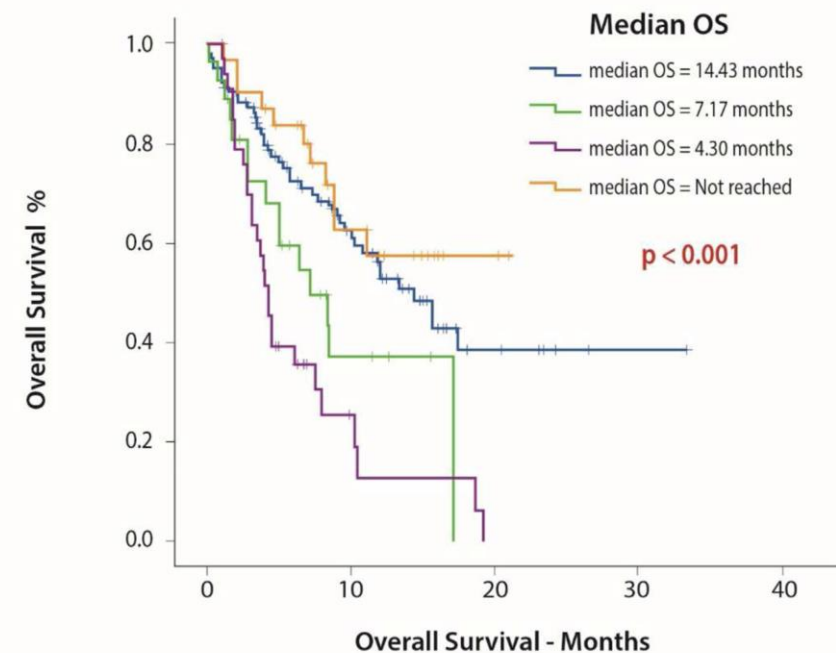
Retrospective study on 196 NSCLC patients

Steroids use defined as >10 mg prednisone-equivalent for >10days



Number at risk

	0	5	10	15	20	25	30
— Steroids naive	104	37	23	13	5	2	0
— Baseline steroids for supportive reasons - not cancer related	27	8	1	0	0	0	0
— Steroids for palliation of cancer associated symptoms	34	3	1	0	0	0	0
— Steroids due to irAEs	31	19	10	3	1	0	0



Number at risk

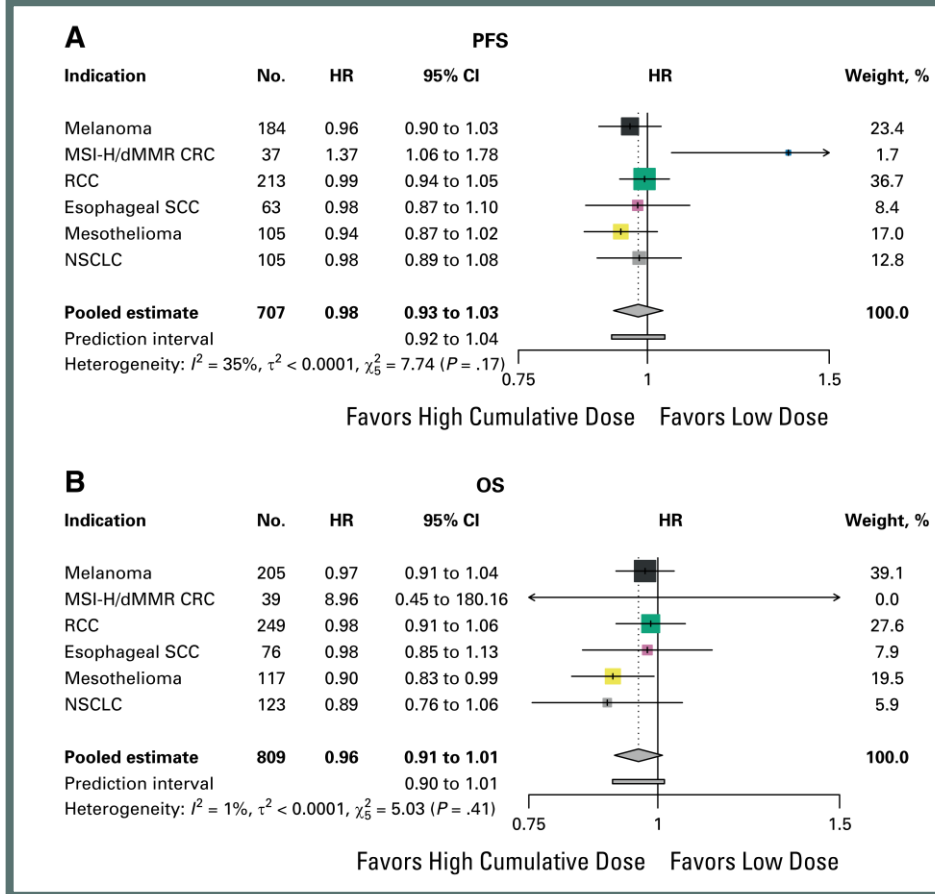
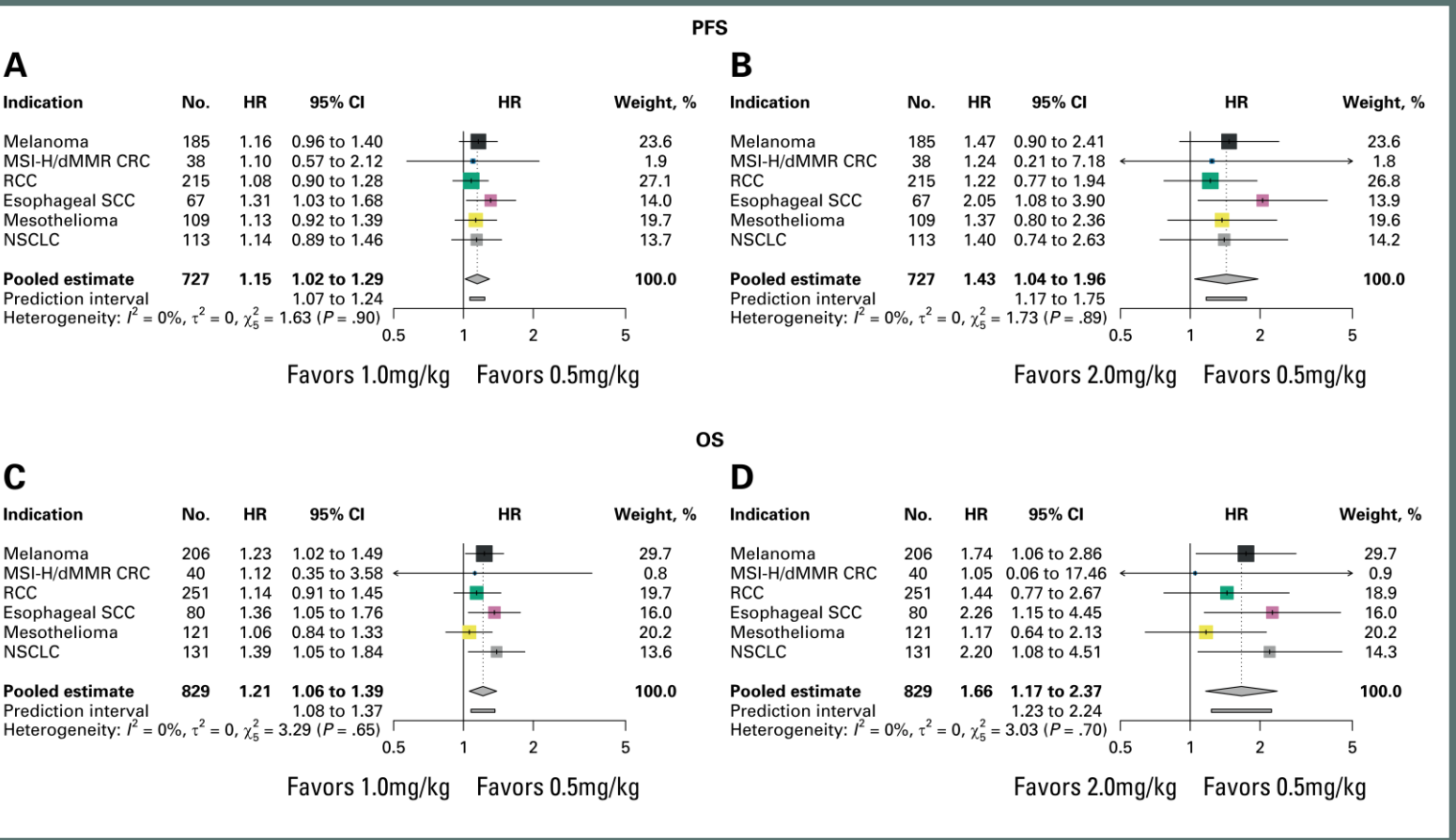
	0	10	20	30	40
— Steroids naive	104	41	8	1	0
— Baseline steroids for supportive reasons - not cancer related	27	6	0	0	0
— Steroids for palliation of cancer associated symptoms	34	4	0	0	0
— Steroids due to irAEs	31	13	2	0	0

Dose picco e dose cumulativa dello steroide

Post-hoc analysis of IPD from 6 clinical trials of pts treated with anti-CTLA4+anti-PD1
n=834 pts treated for irAEs

Peak dose

Cumulative dose



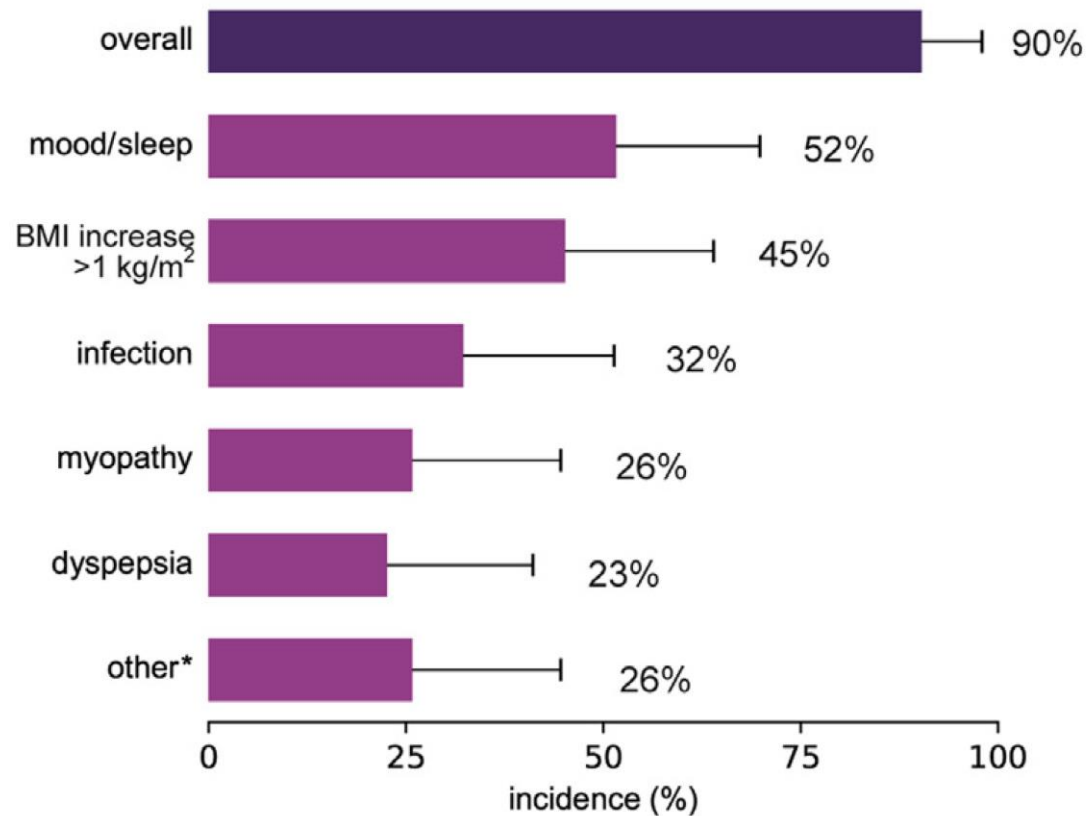
Tapering dello steroide

n=16 melanoma pts with ICI-related pneumonitis

Characteristics	No recurrent pneumonitis (n = 13), n (%)	Recurrent unprovoked pneumonitis (n = 3), n (%)
Treatment		
Anti-PD-1	10 (77)	3 (100)
Ipi-nivo	3 (23)	0 (0)
BRAF ^{V600} mutant	1 (8)	1 (33)
Onset of first event (median, range), wk ^a	26.4 (3.6–123.7)	12.4 (12.3–22.1)
Additional organ classes involved with irAEs		
0 (only pneumonitis)	4 (31)	1 (33)
1 or more	9 (69)	2 (67)
Grade of first event		
G1	5 (38)	1 (33)
G2	7 (54)	1 (33)
G3	0 (0)	1 (33)
G4	1 (8)	0 (0)
Grade of recurrent event		
G1	n/a	0 (0)
G2	n/a	1 (33)
G3	n/a	2 (67)
Duration of steroid treatment at first event, median (range), wk	10.0 (4.6–26)	5.1 (5.1–8)
Disease control		
Yes	12 (92)	2 (67)
No	1 (8)	1 (33)

Eventi avversi dello steroide

Adverse effects of systemic steroids reported by lung cancer patients who received treatment for at least 30 days (n = 31)



Other adverse effects included hyperglycemia without diabetes (n=3), hypertension (n=2), bruising (n=2), symptomatic compression fracture (n=1), and acne (n=1).

Preventing the adverse events associated with corticosteroids

SIX KEY MEASURES



- 1 rule out infections** before initiating corticosteroids (e.g. perform a bronchoalveolar lavage for pneumonitis). Protect against the main opportunistic infections, as follows:

Drug	Opportunistic Infection	Population of patients involved
Sulfamethoxazole	Pneumocystis	All patients
Ivermectin or albendazole (one dose)	Strongyloidiasis	Patients living in or having travelled in the tropics
Aciclovir or Valaciclovir	Varicella zoster virus	Elderly patients
Rifampicin and INH or INH alone	Tuberculosis	Patients with a history of tuberculosis



- 2 Electrolytes imbalance**



- 3 Decompensation of diabetes**



- 4 Mood disorders**



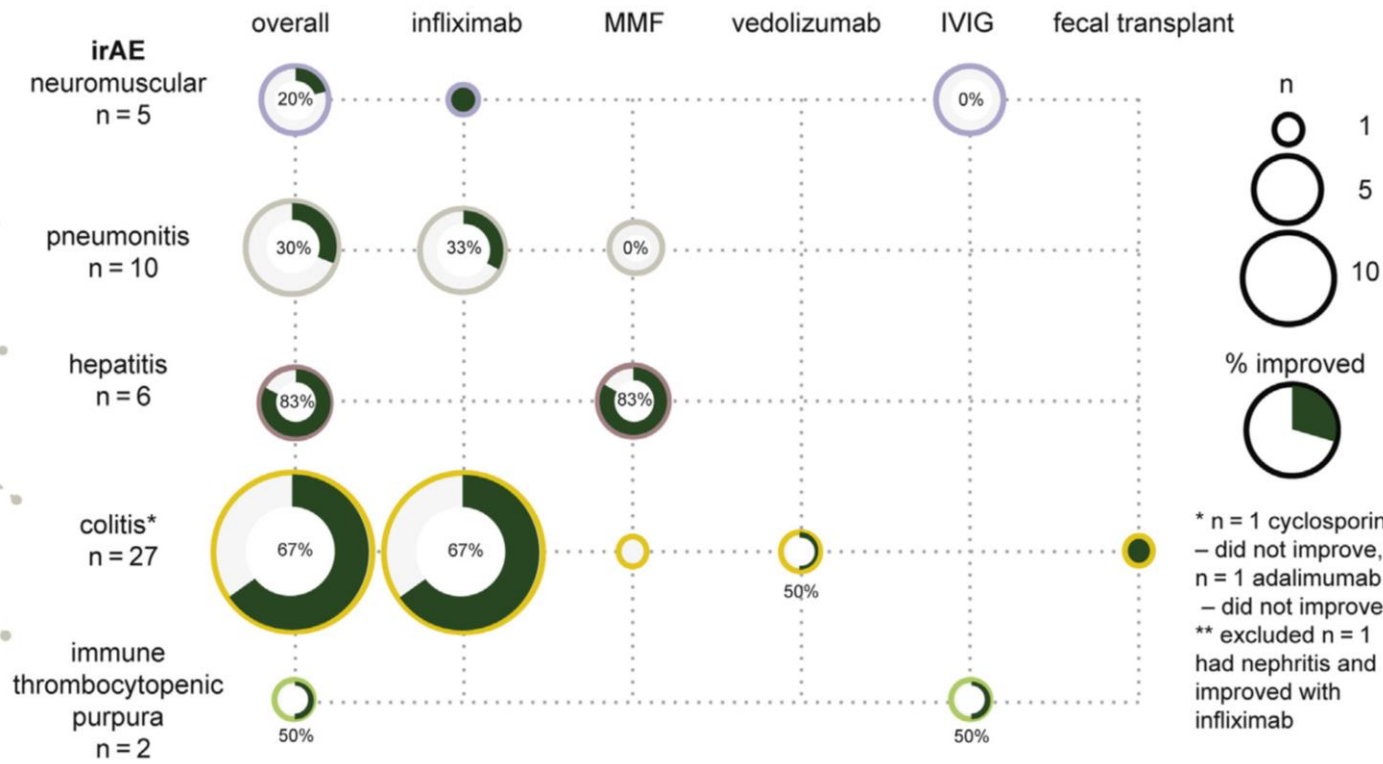
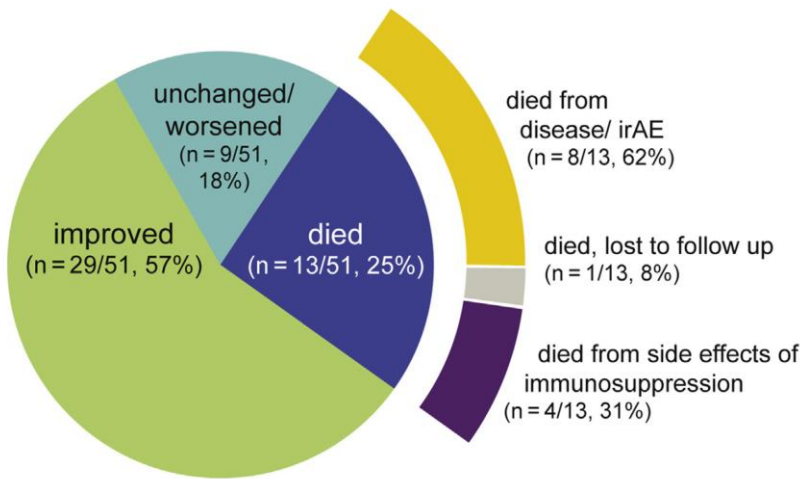
- 5 Adrenal insufficiency**



- 6 Bone growth and osteoporosis**

Trattamento delle tossicità steroido-refrattarie

n= 51 (2%) out of 2750 lung cancer pts treated with steroids + an additional immunosuppressant for severe irAEs



Timing di inizio dell'immunosoppressore

Retrospective study on 84 pts with immune-related colitis receiving selective immunosuppressive therapy¹

Table 1 Clinical characteristics stratified by the timing of selective immunosuppressive therapy initiation (SIT)

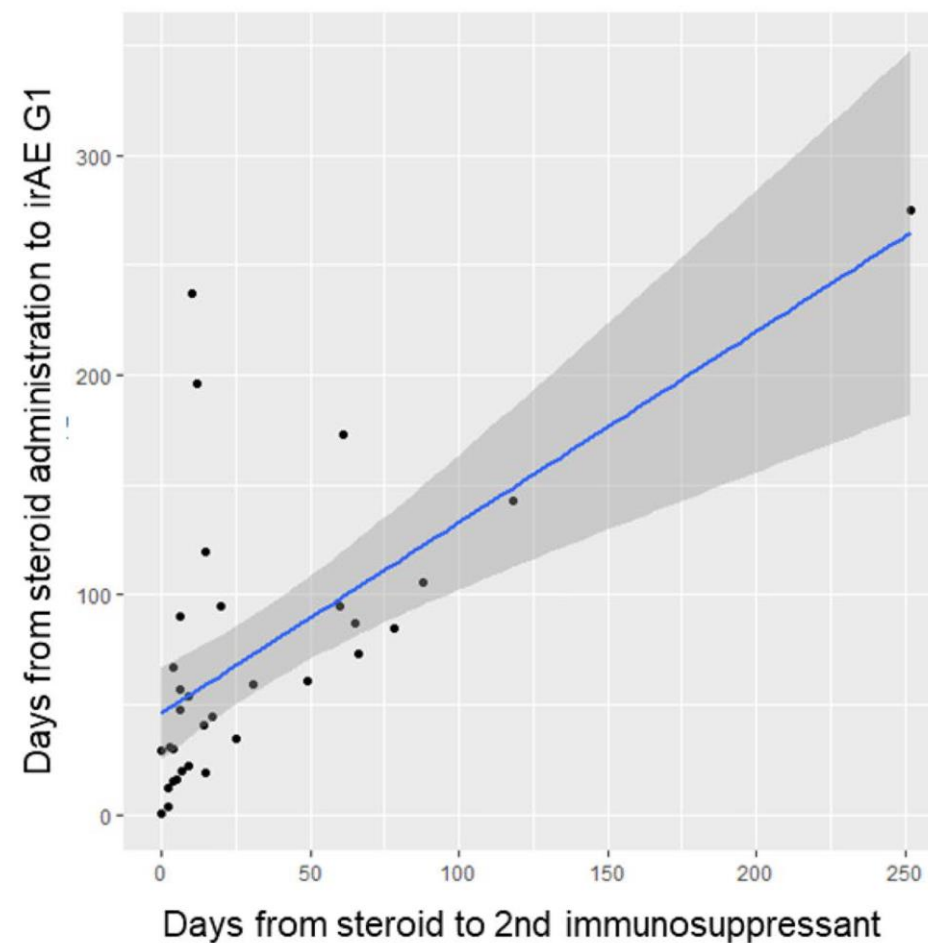
Covariate	≤ 10 days of onset N = 44	> 10 days of onset N = 40	P
ICI type, No. (%)			0.687
Anti-CTLA-4 monotherapy	11 (25)	10 (25)	
Anti-PD-1/L1 monotherapy	19 (43)	14 (35)	
Combination	14 (32)	16 (40)	
Diarrhea grade, No. (%)			0.668
1-2	8 (18)	6 (15)	
3	28 (64)	29 (73)	
4	8 (18)	5 (13)	
Colitis grade, No. (%)			0.603
1-2	24 (56)	22 (55)	
3	16 (37)	17 (43)	
4	3 (7)	1 (3)	
Endoscopic features, No. (%)			0.739
Ulcer	13 (42)	17 (52)	
Non-ulcerative inflammation	12 (39)	11 (33)	
Normal	6 (19)	5 (15)	
High-risk endoscopic features initially, No. (%) ^a	17 (55)	23 (70)	0.302
Overall duration of steroids, mean days (SD)	64 (38)	82 (51)	0.092
Duration of hospitalization, mean days (SD)	10 (8)	12 (8)	0.321
Duration of symptoms, mean days (SD)	25 (32)	50 (40)	0.002
Follow-up duration, mean months (SD)	5 (3)	4 (3)	0.875
Number of steroids tapering attempts, median (IQR)	1 (1-4)	2 (1-4)	< 0.001
Multiple hospitalization, No. (%)	13 (30)	22 (55)	0.026
Failed steroid tapering after SIT, No. (%) ^b	9 (23)	19 (49)	0.033
Recurrent IMC, No. (%)	8 (18)	8 (20)	1.000
Infectious adverse events, No. (%)	16 (36)	9 (23)	0.233

^aHigh-risk features are ulcers deeper than 2 mm or wider than 1 cm, and extensive endoscopic inflammation involving the colon proximal to the splenic flexure

^bAvailable for the 79 patients who received steroids

Abbreviation: SIT, selective immunosuppressive therapy

Retrospective study on 73 NSCLC pts with steroid-refractory irAEs receiving second-line immunosuppressive therapy²



1. Abu-Sbeih H, et al. J Immunother Cancer 2019;7(1):93.
2. Ogusu S, et al. Cancer Immunol Immunother 2023;72(11):3765-3772.

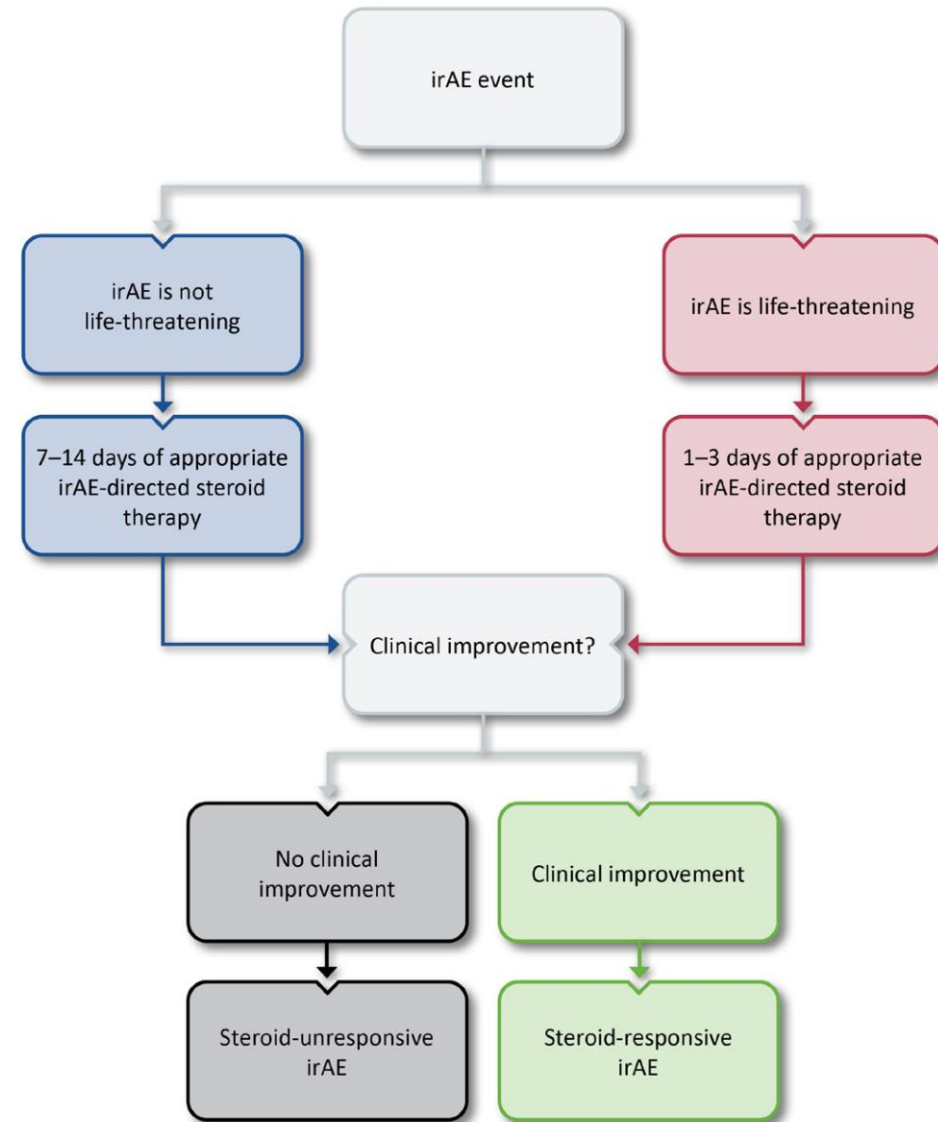
Definizione di steroido-refrattarietà

Steroid-unresponsive irAEs include:

- ⇒ irAEs in which there is no clinical improvement after a standard time frame of guideline-based irAE-directed steroid therapy.
- ⇒ Steroid-refractory irAEs are those that derived no clinical benefit with steroids.
- ⇒ Steroid-resistant irAEs derived some clinical benefit without resolution of the event.

Life-threatening versus non-life-threatening irAEs:

- ⇒ For life-threatening irAEs (eg, pneumonitis, myocarditis, colitis), steroid-unresponsive irAEs are those in which there is no clinical improvement after 1–3 days of appropriate irAE-directed steroid therapy.
- ⇒ For non-life-threatening irAEs (eg, arthritis), steroid-unresponsive irAEs are those in which there is no clinical improvement after 7–14 days of appropriate irAE-directed steroid therapy.



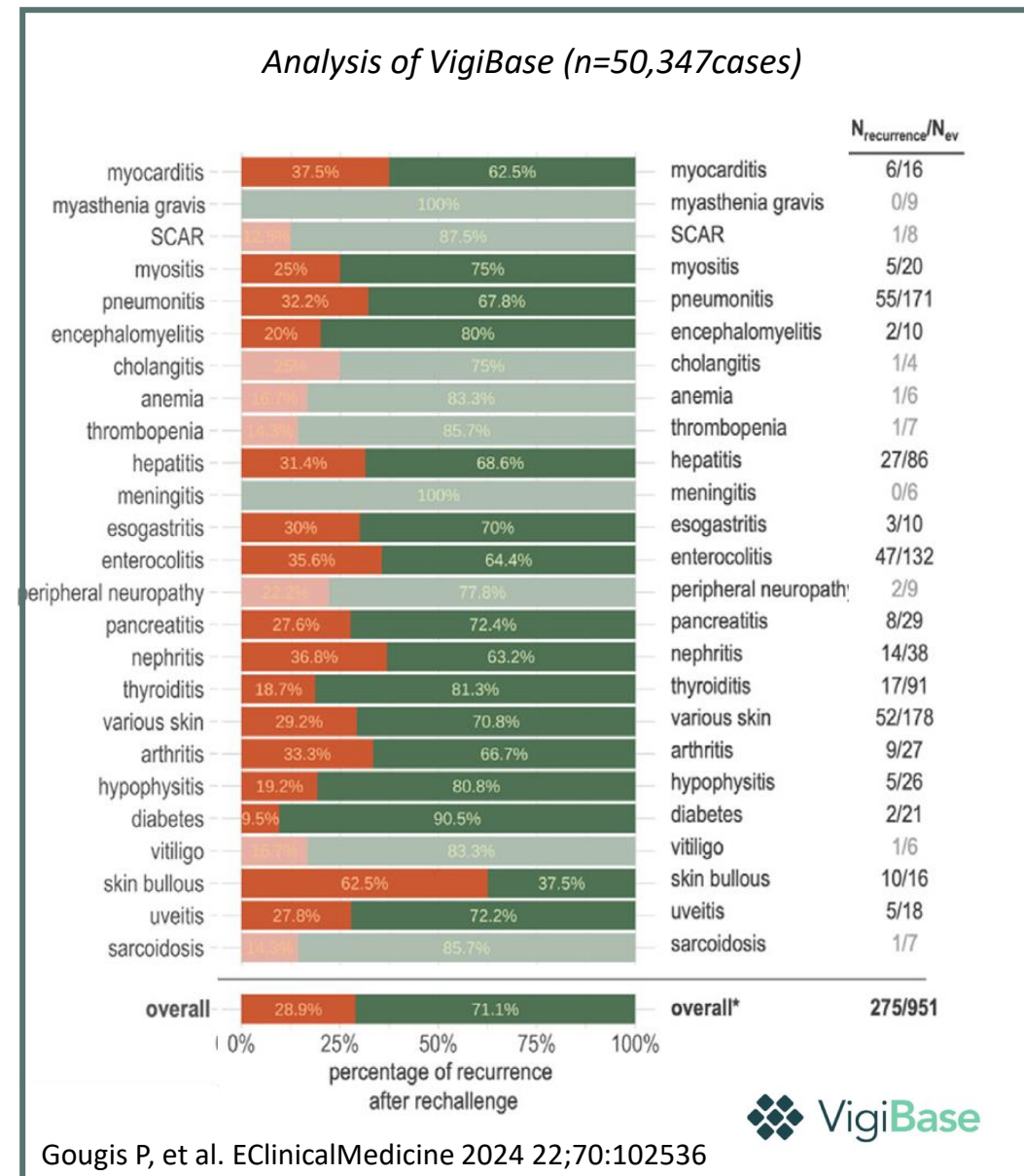
Ripristino dell'immunoterapia dopo tossicità

Summary of retrospective studies on rechallenge ICI after irAEs

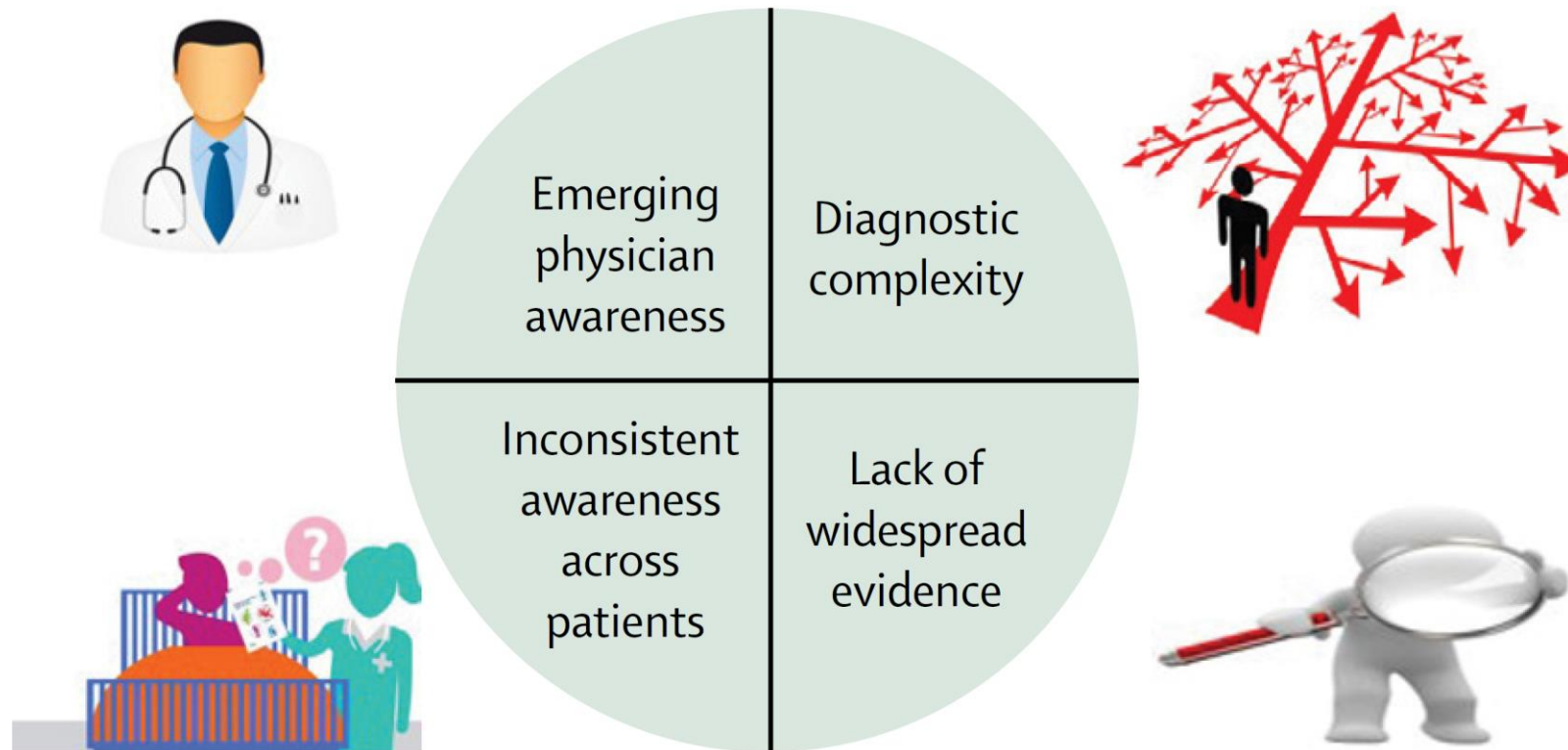
	Santini ¹	Simonaggio ²	Abu-Sbeih ³	Naidoo ⁴	Pollack ⁵	Delaunay ⁶
N irAEs	68 various	93 various	167 colitis	43 pneumonitis	80 various	64 pneumonitis
tumor	NSCLC	Multiple	Multiple	Multiple	Melanoma	Multiple
Retreat.	38	40	167	12	80	10
New/Recurr.	52% (40% G≥3)	55% (60% G≥3)	34% (10% G≥3)	25% (0% G≥3)	18% (0% G≥3)	30% (0% G≥3)

≈20-50% New/Recurrent irAEs

1. Santini FC, et al. Cancer Immunol Res 2018;6(9):1093-1099.
2. Simonaggio A, et al. JAMA Oncol 2019;5(9):1310-7.
3. Abu-Sbeih H, et al. J Clin Oncol 2019;37(30):2738-2745.
4. Naidoo J, et al. J Clin Oncol 2017;35(7):709-717. 5. Pollack MH, et al. Ann Oncol 2018;29(1):250-255.
6. Delaunay M, et al. Eur Respir J 2017;50(2):1700050.



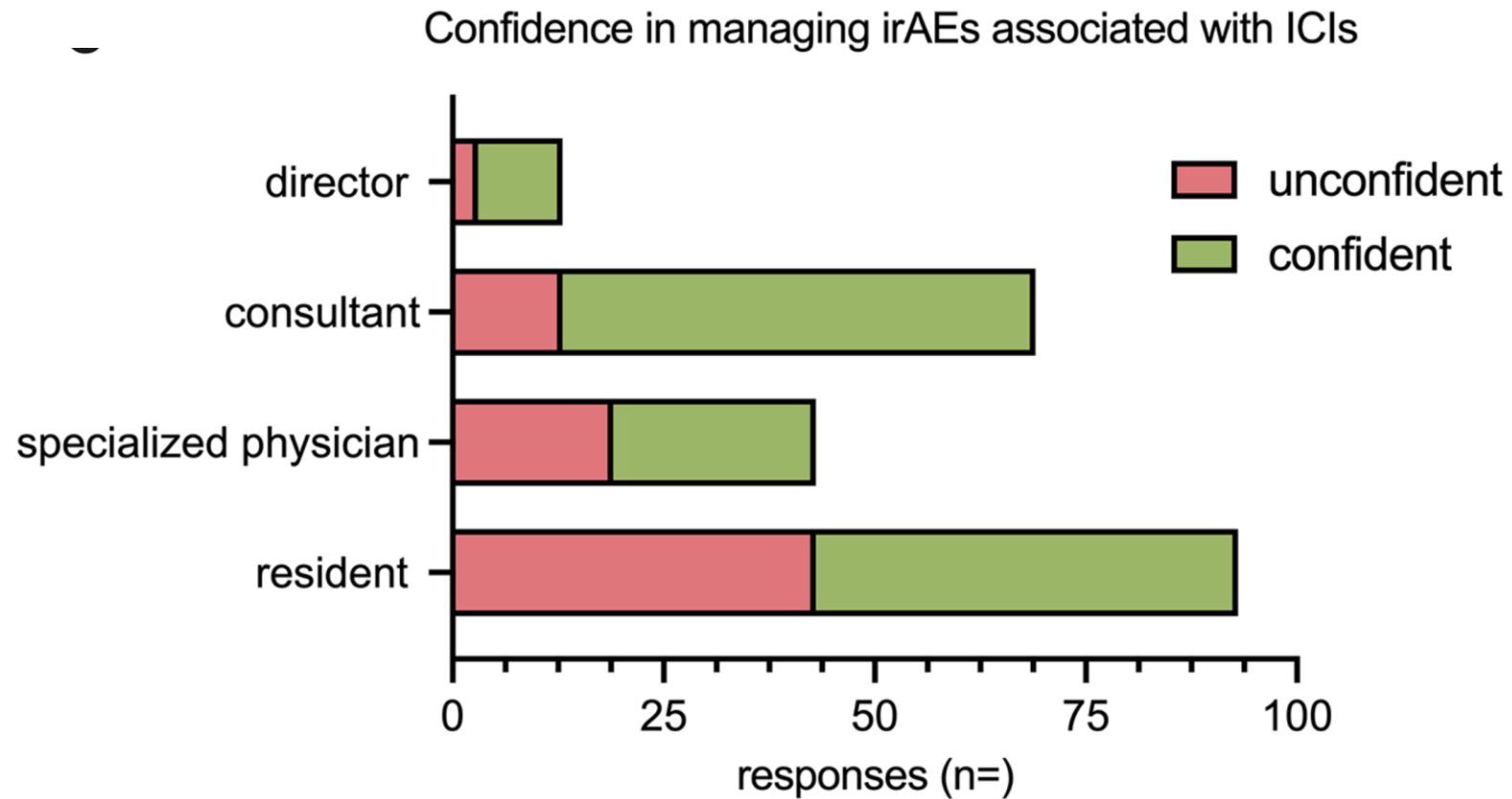
Principali ostacoli nella gestione degli irAEs



Bisogni formativi nella gestione degli irAEs

Survey by the Young Academy of Gynecologic Oncology (JAGO) under supervision of the North-Eastern German Society of Gynecologic Oncology (NOGGO)

N= 221 Gyn Oncologists from Germany, Austria, and Switzerland across all clinical positions

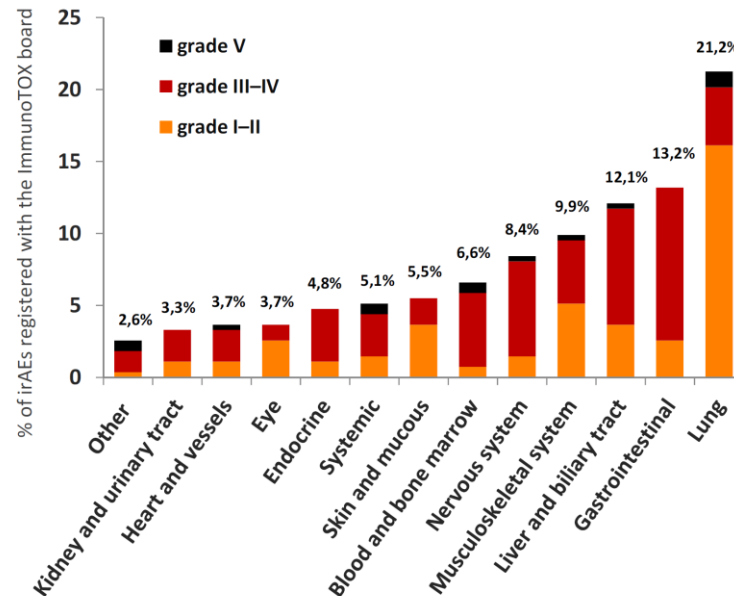


Approccio multidisciplinare



Original Research

The 2016–2019 ImmunoTOX assessment board report of collaborative management of immune-related adverse events, an observational clinical study



Vantaggi di board multidisciplinari per gestione di tossicità immunorelate

- Ottimizzazione del management
- Identificazione di tossicità rare
- Incremento di conoscenza tramite **cross-contamination**
- Raccolta di dati clinici e traslazionali
- Network building con altri istituti e figure professionali

Take Home Messages

- L'immunoterapia è un trattamento ben tollerato
- La maggior parte degli irAEs è precoce e reversibile, ma esistono anche eventi tardivi, cronici o fatali
- Necessaria adeguata informazione a paziente e caregivers
- Necessario elevato livello di attenzione da parte del medico
- Diagnosi differenziale / di esclusione
- Trattamento secondo linee guida: introduzione tempestiva dello steroide quando indicato, lento tapering, profilassi degli eventi avversi correlati allo steroide, impiego di altri agenti immunosoppressivi nelle tossicità steroide-refrattarie
- Approccio interdisciplinare
- Necessaria formazione degli operatori sanitari
- Necessario maggior sforzo nella ricerca (di base, traslazionale, clinica) per generare evidenze



