Mauro Krampera
Direttore della UOC di Ematologia e Centro Trapianto di Midollo Osseo AOUI Verona

Mieloma multiplo (MM)

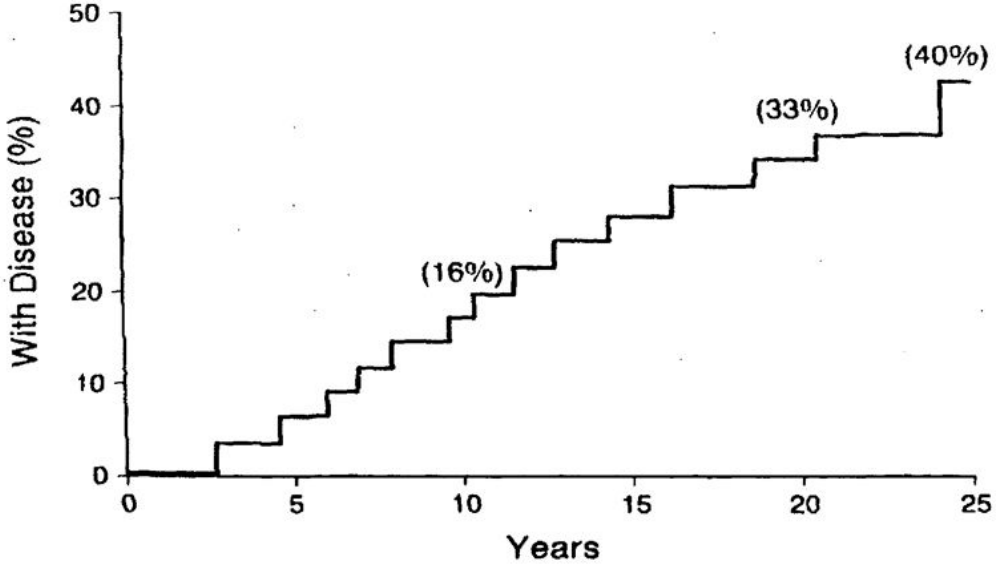
1° concetto

Patologia a bassa incidenza,
ma elevata prevalenza

Mieloma multiplo (MM) - Epidemiologia

- 2° tumore del sangue dopo linfomi
- 2 - 4 casi ogni 100.000 persone
- Rapporto Maschi : Femmine → 1,6 : 1
- Razza nera > razza caucasica e asiatica
- Età 50 - 70 anni
- Frequentemente evoluzione da MGUS

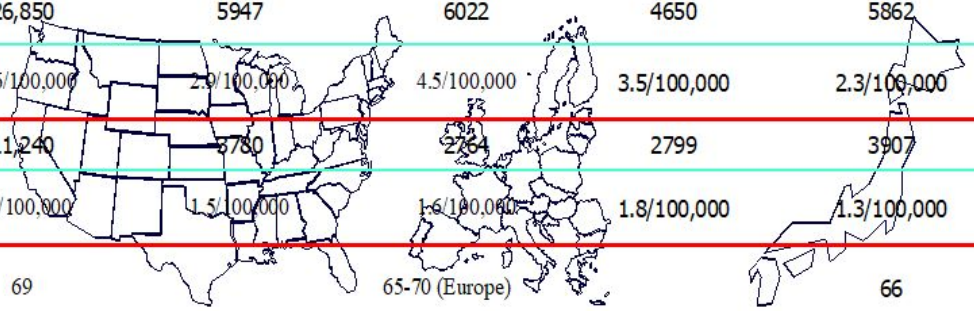
Incidence of Multiple Myeloma, macroglobulinemia, amyloidosis after recognition of M-component



Kyle R.A., Baillieres Clin Hematol, 1995

INCIDENZA del Mieloma Multiplo nel mondo

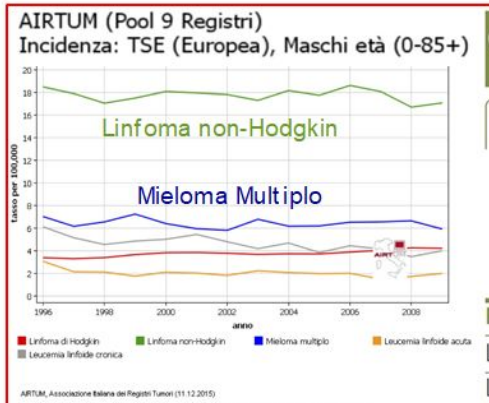
	US[1,2*]	Germany[3,4†]	France[4,5†]	UK[4,6†]	Japan[7,8‡]
New cases	26,850	5947	6022	4650	5862
Incidence rate§	6.56/100,000	2.9/100,000	4.5/100,000	3.5/100,000	2.3/100,000
Deaths	11,240	3780	2764	2799	3907
Mortality rate§	3.4/100,000	1.5/100,000	1.6/100,000	1.8/100,000	1.3/100,000
Median age of diagnosis	69		65-70 (Europe)		66

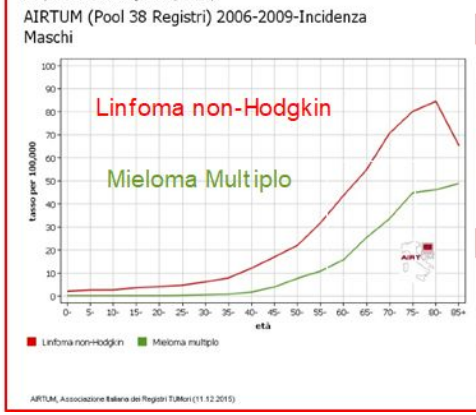


- MM is the second most common hematologic malignancy after non-Hodgkin lymphoma[9]
- In the US, incidence is higher in African Americans vs Caucasians, and 3% of all cancer-related deaths among African Americans are expected to be caused by MM[10]

*US: new cases/deaths based on 2015 estimates; incidence and mortality rates based on 2008-2012 cases and deaths. †Europe: new cases/deaths and incidence/mortality rates based on 2012 estimates. ‡Japan: new cases/incidence rates based on 2008 estimates; deaths/mortality rates based on 2012 estimates. §Age-standardized rates.
MM, multiple myeloma.
1. SEER Stat Fact Sheets: Myeloma 2015. http://seer.cancer.gov/statfacts/html/mulmy.html. 2. SEER Table 18.1: 2008-2012. http://seer.cancer.gov/csr/1975_2012/results_single/sect_18_table.01.pdf. 3. GLOBOCAN 2012: Germany. http://globocan.iarc.fr/Pages/fact_sheets_population.aspx.
4. Moreau P et al. *Ann Oncol*. 2013;24(Suppl 6):vi133-vi137. 5. GLOBOCAN 2012: France. http://globocan.iarc.fr/Pages/fact_sheets_population.aspx. 6. GLOBOCAN 2012: UK. http://globocan.iarc.fr/Pages/fact_sheets_population.aspx. 7. Cancer Statistics in Japan 2013. http://ganjoho.jp/pro/statistics/ en/backnumber/2013_en.html. 8. Shimizu K et al. *Leuk Lymphoma*. 2004;45:2465-2469. 9. Varga C et al. *Hematol Oncol Clin N Am*. 2014;28:903-925. 10. DeSantis C et al. *CA Cancer J Clin*. 2013;63:151-166.

INCIDENZA del Mieloma Multiplo in Italia





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Rubriche
e&p anno 39 (3) maggio-giugno 2015
Numeri come notizie

AIRTUM E SIE INSIEME PER UNA DEFINIZIONE CONDIVISA DEI TUMORI EMOLINFOPOIETICI
AIRTUM AND SIE FOR A SHARED DEFINITION OF HAEMOLYMPHOPOIETIC CANCERS

	INCIDENZA	
	NUOVI CASI PER ANNO (2014)[1] n.	VARIAZIONE ANNUA (2000-2009)[1] %
MASCHI		
Linfoma di Hodgkin	1.300	1,6 (1,1;2,1)
Linfoma non Hodgkin	6.900	-0,2 (-0,7;0,3)
Mieloma	2.700	n.d.
Leucemia	4.400	-1,8 (-2,5;-1,0)
Totale maschi	15.300	
FEMMINE		
Linfoma di Hodgkin	1.000	1,5 (0,3;2,7)
Linfoma non Hodgkin	5.900	-0,6 (-1,1;0,0)
Mieloma	2.500	n.d.
Leucemia	3.500	-1,2 (-2,2;-0,3)
Totale femmine	12.900	
TOTALE M+F (% su tutti i tumori)	**28.200** (7,2)	

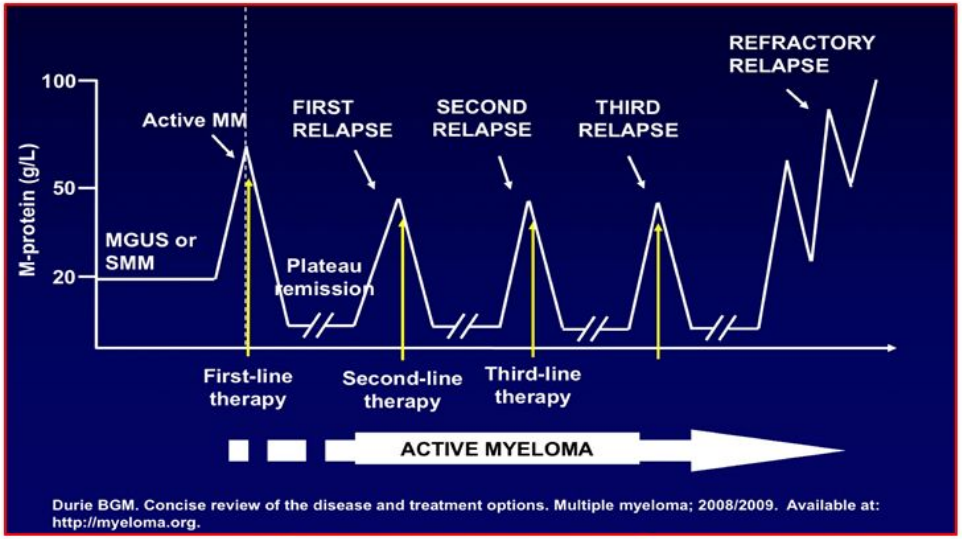
PROIEZIONE dell'INCIDENZA in USA 2010/2030

Rank	Cancer site	Incidence: 2010	Projected incidence: 2030	% of increase
1	Multiple myeloma	20,000	32,000	57%
2	Leukemia	44,000	64,000	45%
3	Non-Hodgkin lymphoma	67,000	97,000	44%
4	Hodgkin lymphoma	9000	11,000	21%

- Population projections from the US Census Bureau and SEER-based cancer incidence rates were used to project future cancer incidence through 2030
- The predicted increase in incidence of all cancer types is driven disproportionately by patients ≥65 years of age and minorities
  - Between 2010 and 2030, a 67% increase in cancer incidence is anticipated for patients ≥65 years of age, compared with only an 11% increase for those <65 years of age

SEER, Surveillance, Epidemiology, and End Results Program. 1. Smith BD et al. *J Clin Oncol*. 2009;27:2758-2765.

Andamento clinico del MM (cronicizzazione)



Mieloma multiplo (MM)

2° concetto

Necessità di migliorare le misure di prevenzione primaria

Mieloma multiplo (MM)
Fattori di rischio/eziologici e Prevenzione

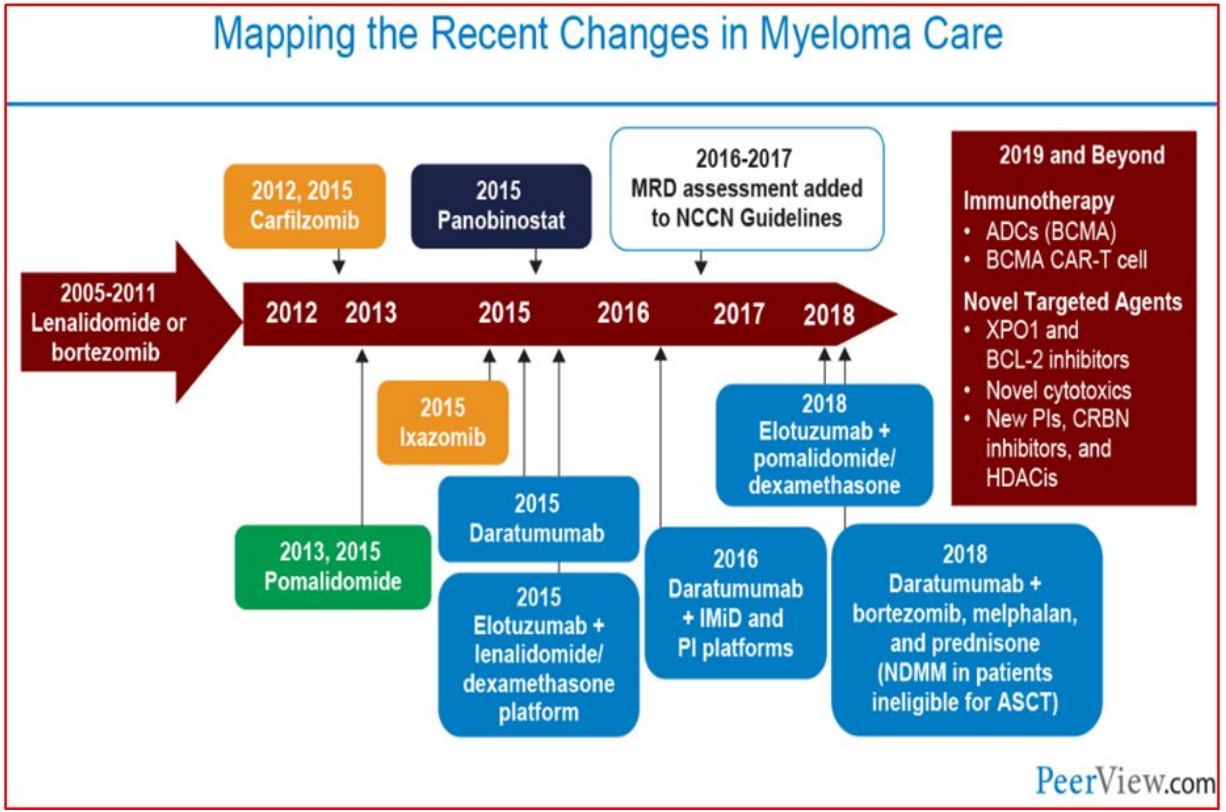
- Eziologia sconosciuta non ereditaria
- Fattori genetici familiari, alterazioni cromosomiche
- Fattori ambientali (pesticidi, derivati petrolio, radiazioni ionizzanti, fumo)
- Agenti virali (HIV, HPV, EBV, CMV, HBV)

Mieloma multiplo (MM)

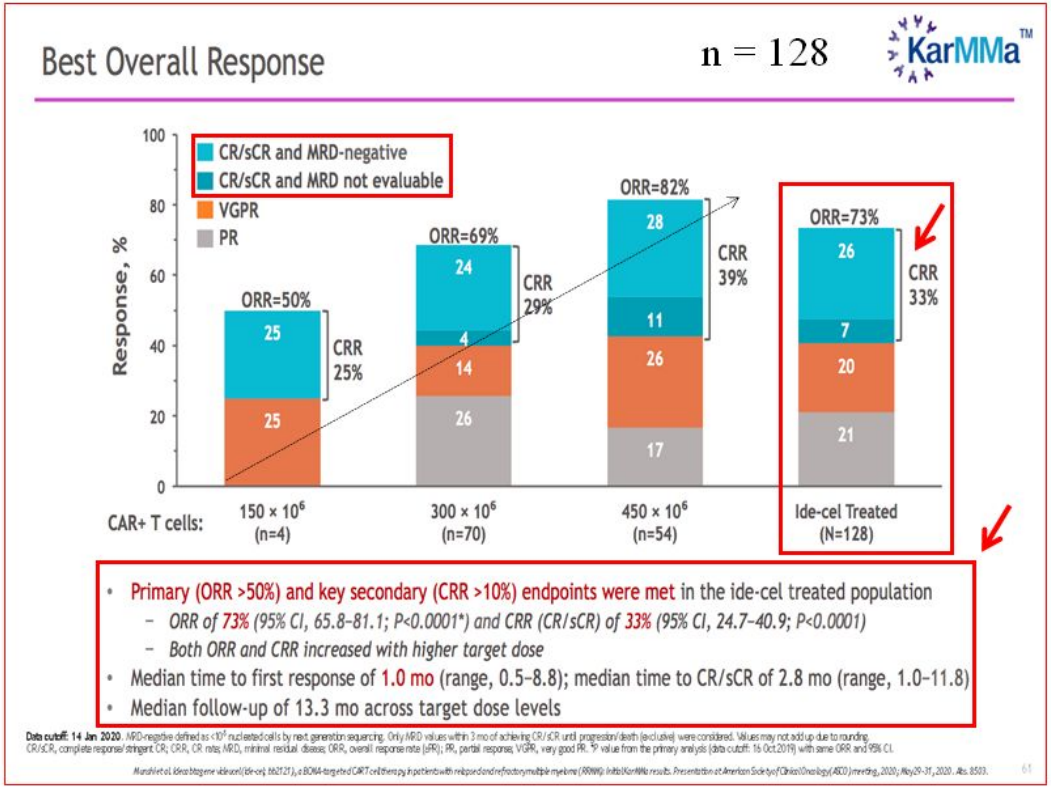
3° concetto

Abbondanza (ridondanza?) di farmaci e strategie terapeutiche (ad alto costo)

MIELOMA MULTIPLO: EVOLUZIONE della TERAPIA

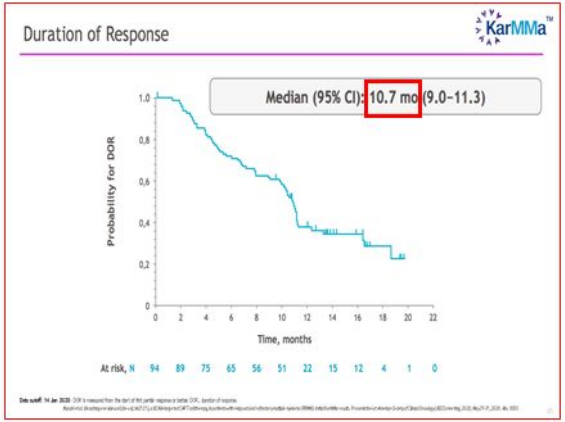


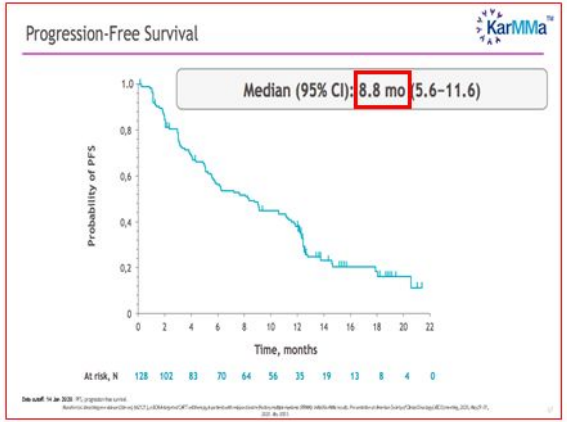
CAR T cells in MM

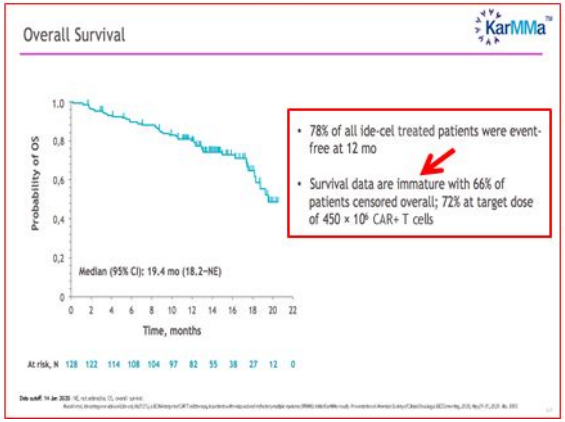


Kindly by Jesus San-Miguel

CAR T cells in MM







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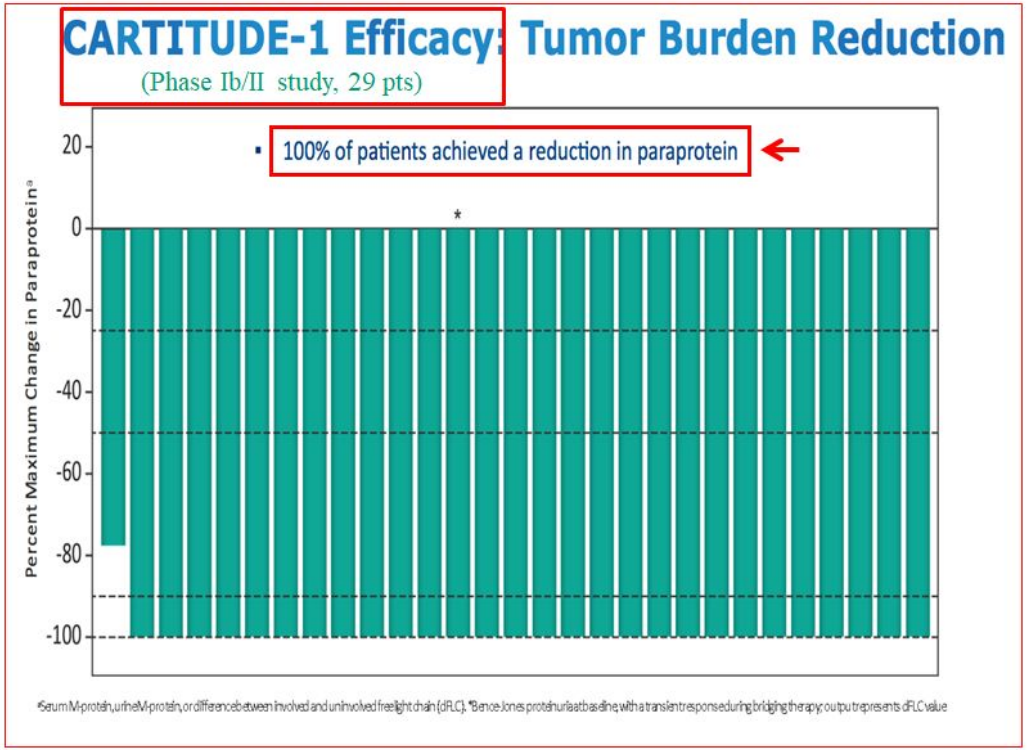
CAR T cells in MM



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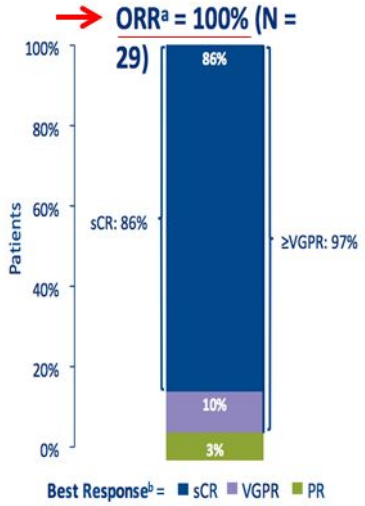
CAR T cells in MM

CARTITUDE-1: Overall Response Rate

(Phase Ib/II study, 29 pts)



- 86% patients achieved sCR
- ORR and depth of response were independent of BCMA expression on myeloma cells at baseline
- Median time to first response = 1 mo (1 – 3)
- Median time to CR = 3 mo (1 – 13)

- Of 16 patients in CR or better who were evaluable for MRD assessment at the time CRb was adjudicated:
  - ✓ 81% (n=13) MRD negative at 10^{-5} or 10^{-6}
  - ✓ 69% (n=11) MRD negative at 10^{-6}

[a]PR or better; Independent Review Committee assessed. [b]No patient had complete response, stable disease, or progressive disease as best response. CR=complete response; ORR=overall response rate; PR=partial response; sCR=stringent complete response; VGPR=very good partial response

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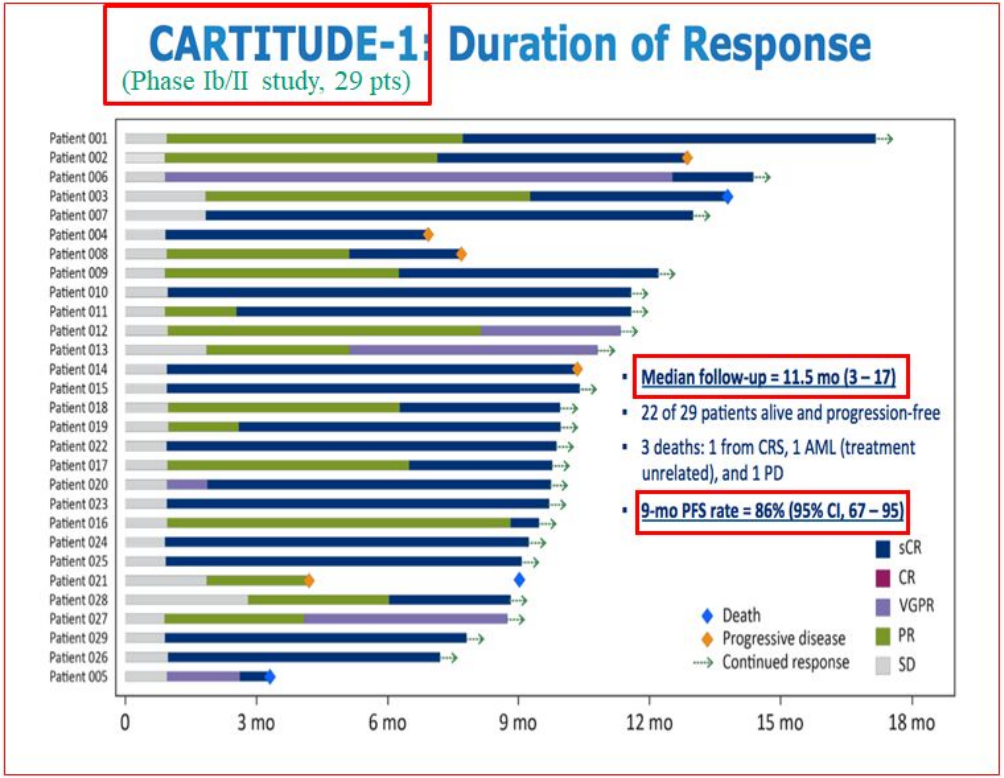
CAR T cells in MM



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CAR T cells in MM – CONCLUSIONS

- approccio terapeutico promettente per MM recidivato o refrattario
- tossicità ed eventi avversi accettabili e gestibili
- durata della risposta, PFS e OS sono da migliorare
- il momento più opportuno per le CAR T cells è da identificare
- l'ottimizzazione della dose di CAR T cell è ancora da definire
- è necessario aspettare i risultati dei trial di fase III
- COSTI

Mieloma multiplo (MM)

Riduzione dell'incidenza
(prevenzione primaria)

Controllo
dell'aumento
dei costi di
trattamento

Terapie eradicanti
vs. cronicizzanti

Concertazione sul
prezzo dei farmaci