III Post-ASCO Pulmón GIDO Valencia 21 de Junio 2016



2016 ASCO ANNUAL MEETING COLLECTIVE WISDOM

#ASC 16

Qué va a cambiar ASCO 2016 en la clínica?

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Tendencias en incidencia Cáncer Broncopulmonar 1990-2013 JAMA Oncol. doi:10.1001/jamaoncol.2015.0735 Published online May 28, 2015.



En 1990 y en 2013 el cáncer broncopulmonar continua siendo la primera causa de YLLs con un incremento absoluto del 39.2% pero con una reducción del 17.9% en las tasas ajustadas por edad



Causas de muerte España 2014



Primera causa de muerte: provincia y sexo





Epidemiología del cáncer de pulmón en España

Evolución de la mortalidad por cáncer de pulmón (2003-2013). Fuente: INE



Carácterísticas de la transformacion maligna y potenciales áreas terapéuticas





MORE OPTIONS FOR CANCER CARE





En Europa seguimos esperando a NELSON y al mismo tiempo revisando criterios de caso y procedimientos diagnósticos, evaluación costes Las medidas antitabáquicas y de deshabituación deben mantenerse

Estadios iniciales



Estadios iniciales ASCO 2016

- QT citotóxica único tratamiento con eficacia demostrada. Tratamientos dirigidos y antiangiogénicos no útiles. Tto con heparina bpm sin impacto
- Expansión e implementación; cumplimiento
- Diferencias biológicas entre la enfermedad inicial y la metastática
- Aprendiendo de los estudios negativos (Silvia Novello)
- Expectativas en la IT (EE CC). Resultados en 2020.

Estadios localmente avanzados



Eberhardt WE, et al. 2nd ESMO Consensus Conference in Lung Cancer: locally advanced stage III non-small-cell lung cancer. Ann Oncol 2015; 26: 1573-88

Estadios localmente avanzados: ASCO 2016

- RT con protones?. No a nuestro alcance. Fase III en curso pero comparacion con IMRT NS.
- IMRT para todos (sería deseable). Actualizacion y planificacion tecnología. Controles de calidad?
- QT/RT concomitante como óptimo
- Selección de pacientes. Escalas de valoración geriátrica útiles
- Utilidad del seguimiento y reestadificación periódica
- Dada la heterogeneidad la información sistematizada de ASCO no podrá nunca sustituir la valoración multidisciplinaria de un Comité comprometido

Potential treatment algorithm for advanced NSCLC



Estrategia terapéutica global (CPCNP) ESTADIO IV



Hitos en el tratamiento sistémico del Cáncer de Pulmón metastático



Estadios avanzados/metastáticos sin mutaciones conductoras tratables: sobrepasando la barrera de 12 meses de supervivencia

- Combinaciones basadas en platino (histología como factor de decisión) en 1ª línea
- Adición de biológicos desde el inicio (Bevacizumab no-escamoso) (Necitumumab o ¿Veliparib? en Escamoso)
- Duración del tratamiento de mantenimiento (tiempo en tratamiento) (pemetrexed/bevacizumab/erlotinib/sunitinib)
- Tratamientos 2ª linea: citotoxicos, erlotinib, afatinib, nindetanib, ramucirumab, selumitinib, ganetespib, inmunoterapia)
- PFS vs OS como objetivos primarios. PROs?
- Tratamiento activo de soporte precoz

Estadios avanzados/metastáticos sin mutaciones conductoras tratables: ASCO 2016

- Tratamientos locales en la enfermedad oligometastática (HR 0.36) después de tratamiento QT inducción en pacientes seleccionados
- Paclitaxel semanal + Beva en 2/3 L
- Organizar tratamiento soporte y accesibilidad (via web?) (colaboración con otras especialidades y niveles asistenciales)

Tratamientos dirigidos a dianas geneticomoleculares

- Dianas tratables: EGFR, ALK, ROS1, BRAF, HER2
- Identificación, procesamiento muestra
- Mecanismos de resistencia
- Líneas sucesivas de tratamientos

Tratamientos dirigidos a dianas geneticomoleculares: ASCO 2016

- Heterogeneidad y biopsia líquida
- NGS / CGS
- EGFR:
 - Rociletinib suspendido desarrollo
 - Olmutinib
 - Osimertinib: eficacia en T790M + y en SNC
 - EC en 1ª línea (pero secuencia?)
- ALK:
 - Alectinib en 1ª linea
 - Brigatinib en 2ª línea
- Resultados en dianas adicionales: RET (Vandetanib) MET (Crizotinib) BRAF (Trametinib+Dabrafenib)

Renacimiento de la Inmunoterapia



Adapted with permission from Lesterhuis WJ, et al² and Kirkwood JM, et al. J Clin Oncol. 2008;26(20):3445-3455.

BCG, Bacille Calmette-Guerin; mABs, monoclonal antibodies; CA, cancer; IFN-α, interferon alpha; IL-2, interleukin-2

- 1. Kirkwood JM, Ferrone S, et al. CA Cancer J Clin. 2012;62(5):309-335.
- 2. Lesterhuis WJ, Punt CJ, et al. Nat Rev Drug Discov. 2011;10(8):591-600.

- 3. Krummel MF, Allison JP. J Exp Med. 1995;182(2):459-465.
- 4. Lotze M. In: Cancer: Principles & Practice of Oncology. 9th ed. 2011.
- 5. Leget GA, Czuczman MS. Curr Opin Oncol. 1998;10(6):548-551.

Escape from immune control is a hallmark of cancer

Elimination

Cancer immunosurveillance

- Effective antigen
 processing/presentation
- Effective activation and function of effector cells
 - e.g. T cell activation without co-inhibitory signals

Equilibrium

Cancer dormancy

- Genetic instability
- Tumour heterogeneity
- Immune selection

Escape

Cancer progression

- Tumours avoid elimination through the outgrowth of tumour cells that can suppress, disrupt or 'escape' the immune system
- Reduced immunogenicity



NK = natural killer; Treg = regulatory T cells. Vesely M and Schreiber R. *Ann N Y Acad Sci.* 2013;1284:1–5. Paradigm shift with immuno-stimulatory Ab

Historical Paradigm: Targeting Tumor Cells

New Paradigm: Targeting Immune Cells



Lymphocyte



Stimulatory and Inhibitory Molecules During Immune Tumor Surveillance

Chen DS, et al. Immunity. 2013;39:1-10.

General Approaches for Cancer Immunotherapy

Theoretical survival with different treatment approaches

Phase 3 anti-PD1/-PD-L1 combination trials in 1st-line advanced NSCLC (>10,000 patients)

Inmunoterapia combinación

COMBINATORIAL EXPLOSION

Ipilimumab, the first approved checkpoint inhibitor, has been tested in dozens of clinical trials since 2001. And like many other drugs in its class, it is increasingly being tested in combination with other therapies.

Inmunoterapia: ASCO 2016

- Nuevos fármacos anti-PD-1 y anti-PD-L1
- Combinaciones Anti-CTL-4 y Anti-PD1/L1
- Marcadores predictivos:
 - Expresión PD-L1
 - Carga mutacional (TMB)
 - TIL
 - Immunoscore
- Combinaciones con otros tratamientos: IT/RT/QT?
- Criterios de valoración específicos
- Tratamiento post-progresión?

Carcinoma microcítico

- Limitaciones de los tratamientos actuales
- Expectativas de tratamientos 2ª línea no confirmadas
- Expansión del beneficio y de la indicación del tratamiento con RT
- Tratamientos biológicos dirigidos no eficaces
- Tratamientos inmunoterapia específica en investigación

Carcinoma microcítico ASCO 2016

- RT: continua siendo relevante en estadios iniciales
- BD no superior to OD. Dosis biologicas equivalentes?
- 66 Gy en BD mejor cumplimiento
- Combinación Ipilimumab + Nivolumab
- ADC frente a DLL3 (Rovalpituzumab Tesirina).
 DLL3 expresion > 50% factor predictivo (en curso de validación)

Mesotelioma

- Incidencia todavía creciente
- Controversias en la extensión de la cirugía (experiencia)
- Tratamiento QT con Platino+Inh TS
- Posibilidad mejoria con antiangiogénicos
- 2/3 L únicamente investigación

Mesotelioma ASCO 2016

- Expectativas en IT no confirmadas:
 - Avelumab?
 - Tremelimumab no eficacia en 2/3 L

Baja carga mutacional MPM?

Componentes del valor en Oncología

The Financial Toxicity of Cancer Treatment: A Pilot Study Assessing Out-of-Pocket Expenses and the Insured Cancer Patient's Experience

S. Yousuf Zafar, ^a Jeffrey M. Peppercorn, ^a Deborah Schrag, ^b Donald H. Taylor, ^c Amy M. Goetzinger, ^d Xiaoyin Zhong, ^a Amy P. Abernethy^a

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JOURNAL OF CLINICAL ONCOLOGY

Can Money Really Be No Object When Cancer Care Is the Subject?

Leonard B. Saltz, Memorial Sloan Kettering Cancer Center, New York, NY

JOURNAL OF CLINICAL ONCOLOGY

COMMENTS AND CONTROVERSIES

The Value of Considering Cost, and the Cost of Not Considering Value

Leonard B. Saltz, Memorial Sloan Kettering Cancer Center, New York, NY

High Cancer Drug Prices in the United States: Reasons and Proposed Solutions

By Hagop Kantarjian, MD, David Steensma, MD, Judit Rius Sanjuan, Adam Elshaug, MPH, PhD, and Donald Light, PhD

Rising drug prices drive US manufacturers' revenues analysis finds **Discussion** | Cancer drug prices are rising faster than the prices in other sectors of health care, drawing concern from patients, physicians, and policy researchers.^{5,6} We found little difference in the median wholesale price of 21 novel drugs and 30 next-in-class drugs approved over a 5-year period (next-inclass drugs, \$119 765; novel drugs, \$116 100; P = .42). Our results suggest that the price of cancer drugs is independent of novelty. Additionally, we found little difference in price among drugs approved based on time-to-event end points and drugs approved on the basis of RR. Our results suggest that current pricing models are not rational but simply reflect what the market will bear.

Perspective

Measuring the Value of Prescription Drugs Peter J. Neumann, Sc.D., and Joshua T. Cohen, Ph.D.

New Math on Drug Cost-Effectiveness

Peter B. Bach, M.D., M.A.P.P.

Journal of Economic Perspectives-Volume 29, Number 1-Winter 2015-Pages 139-162

Pricing in the Market for Anticancer $\mathbf{Drugs}^{\scriptscriptstyle \dagger}$

David H. Howard, Peter B. Bach, Ernst R. Berndt, and Rena M. Conti

A standardised, generic, validated approach to stratify the magnitude of clinical benefit that can be anticipated from anti-cancer therapies: the European Society for Medical Oncology Magnitude of Clinical Benefit Scale (ESMO-MCBS)

N. I. Cherny^{1*}, R. Sullivan², U. Dafni³, J. M. Kerst⁴, A. Sobrero⁵, C. Zielinski⁶, E. G. E. de Vries⁷ & M. J. Piccart^{8,9}

Michael McCarthy

thebmi

Approaching Patient's Outcomes and cost-effectivenes and cost-utility in research: the future, the needs

Achieving health equity via ACA. IOM NAP 2015

A Call for Value in Cancer Research

JAMA Oncology January 2016 Volume 2, Number 1

A focus on both the empirical study and actual practice of value-driven research will accelerate efforts to lower research costs and increase the body

of knowledge derived from scarce research funding

A standardised, generic, validated approach to stratify the magnitude of clinical benefit that can be anticipated from anti-cancer therapies: the European Society for Medical Oncology Magnitude of Clinical Benefit Scale (ESMO-MCBS)

N. I. Cherny^{1*}, R. Sullivan², U. Dafni³, J. M. Kerst⁴, A. Sobrero⁵, C. Zielinski⁶, E. G. E. de Vries⁷ & M. J. Piccart^{8,9}

Table 2. Maximal preliminary scores

Treatments with curative intent (form 1)

>5% improvement of survival at ≥3-year follow-up Improvements in DFS alone HR <0.60 (primary end point) in studies without mature survival data

Treatments with non-curative intent (form 2)

Primary outcome OS (form 2a)

Control ≤ 12 months

HR $\leq 0.65 \text{ AND}$ gain ≥ 3 months OR Increase *in* 2-year survival alone $\geq 10\%$

Control >12 months

HR \leq 0.70 *AND* gain \geq 5 months *OR* Increase *in* 3-year survival alone \geq 10%

Primary outcome PFS (form 2b)

Control ≤ 6 months

HR \leq 0.65 *AND* gain \geq 1.5 months

Control >6 months

HR \leq 0.65 AND gain \geq 3 months

Curative-Evaluation form 1: for new approaches to adjuvant therapy or new potentially curative therapies

Non-curative-Evaluation forms 2a, b or c: for therapies that are not likely to be curative

ASCO Value Framework Updated

Step 1: Determine the regimen's CLINICAL BENEFIT			Chan 2: Datamaina Barra Daire	· · · · · · · · · · · · · · · · · · ·			
1.A. Is hazard ratio (HR) YES. Assign an HR Score for death by subtracting the HR from 1, and then HR Score		HR Score					
for death reported?	multiplying the result by 100. Write this number in the box labeled "HR Score (death)." Proceed to 1.F.	(death)	3.A. TAIL OF THE CURVE. Identify the time point on the survival curve that is 2X	YES . If yes, award 20 points if the improvement is in OS, and 16 points (0.8 x 20) if the improvement is in PES, and place this number in the box labeled "Tail of the	if Tail of the Curve Bonus Points		
	No. Proceed to 1B.			Curve Bonus Points." Proceed to Step 3.B.			
1.B. If HR for death is no reported, is median over survival (OS) reported?	YES. Assign an <u>OS Score</u> by calculating the percentage (ie, fractional) difference in median overall survival between the two regimens and multiply the result by 100. Write this number in the box labeled "OS Score." Proceed to 1.F.	OS Score	the median OS (or PFS) of the comparator regimen. Is there a 50% or greater improvement in proportion	NO. No bonus points are awarded. Proceed to Step 3.B.			
	NO. Proceed to 1.C.		regimen at this time point				
1.C. If OS data are not reported, is hazard ratio (HR) for disease progression reported?	YES. Assign an <u>HR Score for disease progression</u> by subtracting the HR from 1, multiplying the result by 100, and then multiplying this number by 0.8. Write this number in the box labeled "HR Score (progression)." Proceed to 1.F.	HR Score (progression)	(assuming ≥ 20% surviving with standard)?				
	NO. Proceed to 1.D.						
1.D. If HR for disease progression is not reported, is median progression-free surviva (PES) reported?	YES. Assign a <u>PFS Score</u> by calculating the percentage (ie, fractional) difference in median progression-free survival between the two regimens and multiply the result by 100. Multiply this number by 0.8. Write this number in the box labeled "PFS Score." Proceed to 1.F.	PFS Score	3.B. PALLIATION BONUS. Is an improvement in cancer- related symptoms reported?	YES. If a statistically significant improvement in cancer-related symptoms is reported for the regimen being evaluated, award 10 points, and place this number in the box labeled "Palliation Bonus." Proceed to Step 3.C.	Palliation Bonus		
	NO. Proceed to 1.E.			NO. No bonus points are awarded. Proceed to Step 3.C.			
1.E. If median PFS is not	YES. Assign an <u>RR Score</u> by adding the complete response (CR) and partial response (PR) rates, multiply by 100, then multiply this number by 0.7. Write this number in the box labeled "RR Score." Proceed to 1.F.	RR Score					
reported, is response rat (RR) reported?			3.C. QoL BONUS. Is an	YES. If a statistically significant improvement in QoL is reported for the regimen being evaluated, award 10 points, and place this number in the box labeled "QoL Ponue" Freeged to Etma 2.0			
1.F. Calculate the Clinica Benefit Score	Insert the score for HR death, HR PFS, median OS, or median PFS.	Clinical Benefit Score	improvement in QoL reported?		QoL Bonus		
	Write the total in the box labeled "Clinical Benefit Score." Proceed to Step 2.			NO. No bonus points are awarded. Proceed to Step 3.D.			
Step 2: Determine the regimen's TOXICITY			3.D. TREATMENT-FREE	YES. If a statistically significant improvement in treatment-free interval is reported	d Treatment-		
			INTERVAL BONUS. Are data	for the regimen being evaluated, multiply the percentage improvement by 20 and award points. Proceed to 3 E	Free Interval		
Does the new F regimen represent an r improvement in t	or each of the regimens being assessed, compare the number and frequency of clinically levant toxicities, and assign a <u>Toxicity Score</u>) as shown below. Each clinically meaningful wicht (i.e. acylude laboratory results only) is assigned a score between 0.5 and 2.0.	Ioxicity Score	interval reported?	award points. Frobeed to s.e.	Bonus		
toxicity over the	has do n grade and frequency: For every grade 1 or 2 toxicity with a frequency < 10%, pared 0 b projects for every grade 1 or 2 toxicity with a frequency < 10%, pared 0 b points. For every grade 1 or 2 toxicity with a frequency > 10%, pared 1 or points.			NO. No bonus points are awarded. Proceed to Step 3.E.			
comparator? F	To every grade 3 or 4 toxicity with a frequency \ge 5%, record 2.0 points. or 4 toxicity with a frequency \ge 5%, record 2.0 points.		3.E. Calculate Total Bonus Points	Add the Palliation Bonus Points (Step 3.A), the Treatment-Free Interval Bonus Points (Step 3.B), and the QoL Bonus Points (Step 3.C.). Write this number in the box labeled "Total Bonus Points." The maximum points available for Bonus Points is 60. Proceed to Step 4 .	Total Bonus Points		
Calculate the total number of toxicity points for each regimen. Calculate the percentage difference in total toxicity points between the two regimens, then multiply by 20 to obtain a toxicity score. If the regimen being evaluated is more toxic than the comparator, subtract the toxicity score of the regimen from the clinical benefit score. If the regimen is less toxic than the comparator, add the toxicity score of the regiment to the clinical benefit score. If there are unresolved symptomatic treatment-related toxicities at 1 year after completion of treatment, subtract 5 additional points from the clinical benefit score. The maximum points that can be awarded is 20. Proceed to Step 3.							

Step 4: Determine the regimen's NET HEALTH BENEFIT									
Calculate the <u>Net Health</u> <u>Benefit</u>	Add the Clinica (Step 3). This y labeled "Net He	Net Health Benefit							
Step 5: Determine the regimen's COST									
Insert the drug acquisition cost (DAC) and patient co-pay based on how much the treatment regimen costs per month. Cost (per m DAC: Patient Pay									
Step 6: Summary Assessment: Advanced Disease Framework									
Clinical Benefit	Toxicity	Bonus Points	Net Health Benefit		Cost (per month)				
				DAC: _ Patien	t Payment: _				

	AUS	СНІ	IND	SA	UK	US
Median generic monthly prices (US\$)	226	532	159	120	458	654
Median patented monthly prices (US\$)	2,741	3,173	1,515	1,708	2,587	8,694
GDPcap (US\$)	46,550	13,324	5,808	13,094	39,826	54,370
Generic Median monthly price as % of GDPcap	3	48	33	11	14	14
Patented Median monthly price as % of GDPcap	71	288	313	157	78	192

DHCC in each country in Euros (€) per capita adjusted for purchasing power parity (PPP) in 2014.

< 100 €/ capita	100-200 €/ capita	>200 €/ capita		
Bulgaria / 66	Cyprus / 105	Austria / 266		
Croatia / 81	Denmark / 163	Belgium / 227		
Czech Republic / 91	Finland / 125	France / 212		
Estonia / 69	Greece / 127	Germany / 265		
Latvia / 62	Hungary / 105	Luxembourg / 323		
Lithuania / 79	Ireland / 164	Netherlands / 264		
Poland / 81	Italy / 161	Sweden / 223		
Portugal / 81	Malta / 134			
Romania / 55	Slovakia / 107			
	Slovenia / 139			
	Spain / 129			
United Kingdom / 136				

Coste-utilidad: Spain Post-ASCO 2016

Bartomeu Massuti @bmassutis · Jun 18 View translation El umbral de coste-efectividad español está entre 20.000 y 25.000 euros diariofarma.com/2016/06/16/el-... Coneste umbral C/E Txs oncologicos no caben

El umbral de coste-efectividad español está entre 20.000 y 25.000 eur...

El umbral de coste-efectividad en España no se había determinado hasta ahora, pero un estudio coordinado por la experta en Economía de la Salu... diariofarma.com

No basta saber, se debe también aplicar... No es suficiente querer, se debe también hacer...

W. Goethe

Ben agraït Muchas gracias

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