

#IASLCUPDATES

Iniciativa científica de:



LUNG CANCER UPDATES

IASLC HIGHLIGHTS

7-10 DE SEPTIEMBRE 2019



Con la colaboración de:





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BARCELONA

Cirugía II

Dr. Florentino Hernando Trancho

Con la colaboración de:



#BEHOBIAMEDIOPULMON: PUTTING FACE AND RUNNING SHOES ON PATIENTS WITH LUNG CANCER

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Background

As lung cancer is one of the most lethal in Europe, it has little presence in the media and social networks. To change this dynamic, it was planned to carry out a campaign to support lung cancer patients using the hashtag #behobiamediopulmon, where the final event was the participation of patients with lung cancer in the most famous half-marathon in Spain: Behobia-San Sebastián.



Methods

Joining forces between the Spanish Association of Lung Cancer Victims (AEACAP), the organization of the Behobia-San Sebastian and the local government of Gipuzkoa; And with the support of the main scientific societies that treat this pathology (SECT: Spanish Society of Thoracic Surgery, SEPAR: Spanish Society of Pneumology and Thoracic Surgery, SEDM: Spanish Society of Medical Oncology and SEOR: Spanish Society of Radiation Therapy), it was decided to carry out a campaign of visibility to lung cancer patients.



Results

During 2018 different actions were carried out: solidary running training (300 participants), children's race (180 children), charity market, online sale of shirts, creation of a specific song (the protagonists of the videoclip were four patients), production of a documentary-film about lung cancer (presented at a round table with the participation of the daughter of Johan Cruyff). Broadcast of the videoclip in the football matches that Real Sociedad and SD Eibar played at home until the day of the race. In the Behobia-San Sebastian, 3 patients operated from lung cancer at Donostia Unversitary Hospital runned accompanied by 300 people (among them stand out soccer players like Xabi Prieto and Xabi Alonso; musicians of La Oreja de Van Gogh, the journalist Juan-Ramon Lucas or Susila Cruyff).

Impact achieved: 3 different national newscast speak about #behobiamediopulmon, 10 times in regional newscast, 18 radio interviews and 14 newspaper interviews. In YouTube 800,000 reproductions of the song "Sólo si lo hacemos juntos", 1300 reproductions of the documentary-film #datupaso, Instagram profile (@behobiamediopulmon) with 1000 followers, Prize to the charitable cause with the highest collection in the Behobia-San Sebastian 5000€, solidary training fund 6600€.

Discusión

By joining forces it is possible to perform an action that gives visibility to patients with lung cancer. Joining sport and health, we create a very positive message that reaches the newly diagnosed patients, inspiring confidence and life expectancy. The race represents the metaphor of their situation, where patients try to reach the goal, with their ups and downs along the way, accompanied by family, friends and health personnel.



Scan me



QR1: <https://youtu.be/yg2y-i9-ByE>
"Sólo si lo hacemos juntos" videoclip

Scan me



QR 2: <https://youtu.be/u2X3Ed8MnI>
#datupaso documentary-film

Scan me



QR3: https://youtu.be/k1z0_tgH8wM
Photo summary of race day



2019 World Conference
On Lung Cancer



The use of a Smartphone Application improves postoperative outcomes in patients undergoing lung cancer resection.

C. Fraile Olivero¹, L. Milla Collado¹, J. Jarabo Sarceda², E. Fernández Martín², C. Cerdán Santacruz¹, J. Calatayud Gastardi², A. Gómez Martínez², P. Aribas Manzanal², P. Santos Capa², M. Martínez Tardido², V. Alen², F. Hernando Trancho².

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Background

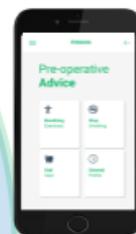
For early stages of lung cancer, complete surgical resection remains the most effective treatment; however, thoracic surgery procedures are related to postoperative pulmonary complications (PPC). This study aims to evaluate the role of a smartphone application named Fissios App® to improve pulmonary rehabilitation in a group patients scheduled for lung cancer resection.

Materials and methods

Fissios App® contents peri-operative medical advice and ten chest physical exercises; it was created by thoracic surgeons and physiotherapists. This is a prospective and quasi-experimental study. All patients with NSCLC scheduled for lung resection surgery were asked to participate. The intervention group (68 patients) used and interacted with Fissios App® before and after the surgery. The control group (114 patients) received classical information and patient education. The incidence of PPC, duration of chest drainage, length of hospital stay (LOS) and 30 days mortality rate were analyzed.

Conclusions

The implementation of this Smartphone Application may improve postoperative outcomes in patients undergoing lung cancer resection, decreasing the incidence of PPC and LOS.



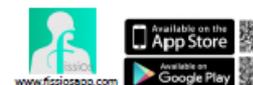
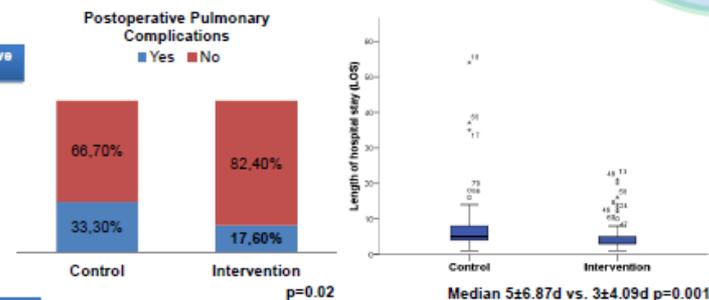
Perioperative Advice



Chest Physical Exercises

Results

The incidence of PPC decreased and LOS was shorter in the intervention group compared with control group. No differences were found in duration of chest drainage or 30 day mortality rate.



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Timing of driver mutation development and the genetic evolution of semi-solid lung nodules into early NSCLC

Gavitt A Woodard, MD; Vivianne Ding, PhD; Kirk D. Jones, MD; Gordon Chavez, BS; Greg Haro, MD; Johannes R Kratz, MD; Michael J Mann, MD;

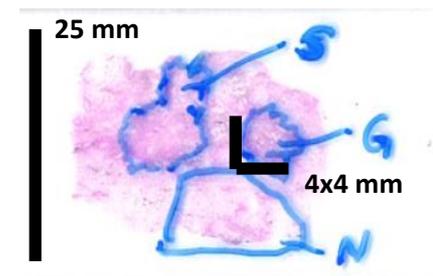
Julia Rotow, MD; Colin Blakely MD; David M Jablons, MD

University of California San Francisco, USA

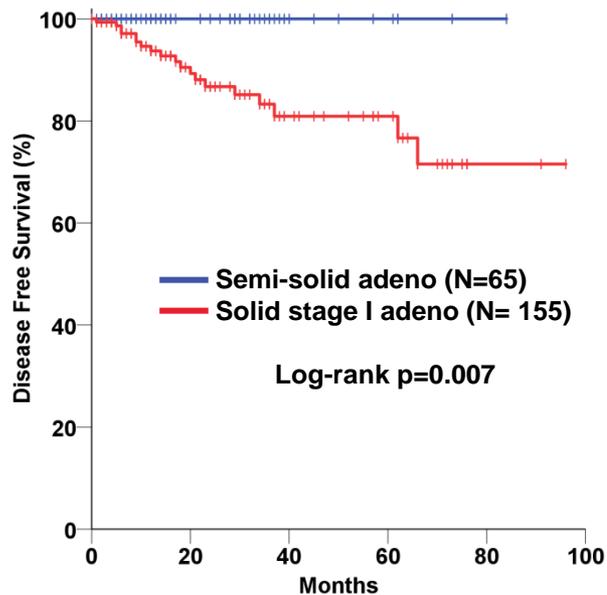
Con la colaboración de:



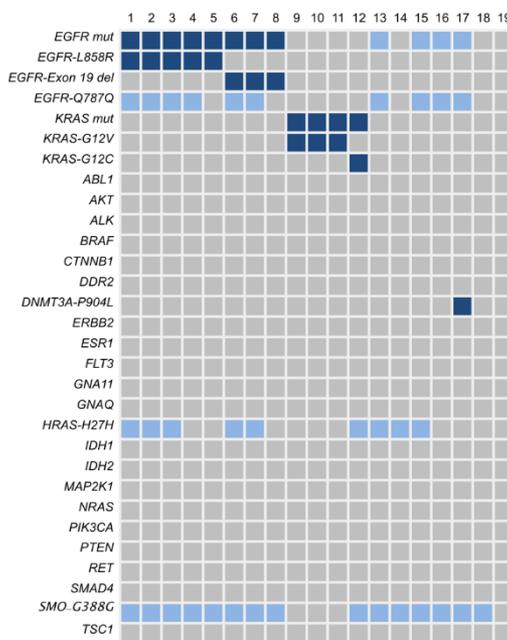
- Prospective database of all surgically resected lung adenocarcinomas (2011-2018)
 - 65 patients with semi-solid lung lesions
 - 155 patients with solid stage I lung adenocarcinoma
- Solid (S), non-solid (GG) and normal lung (NL) areas from within the same tumors microdissected and DNA/RNA extracted
- NGS lung cancer panel performed on matched samples (n=19)
ABL1, AKT1, ALK, BRAF, CTNNB1, DDR2, DNMT3A, EGFR, ERBB2, ESR1, FLT3, GNA11, GNAQ, HRAS, IDH2, KRAS, MAP2K1, NRAS, MAP2K1, PIK3CA, PTEN, RET, SMAD4, SMO, and TSC1
- Affymetrix microarray GeneChip Transcriptome Array 2.0 performed on S, GG, and NL tissue (n=8)
 - 48,000+ coding and noncoding transcripts
 - Fold changes >2.0 and ANOVA p-value <0.05 for significance



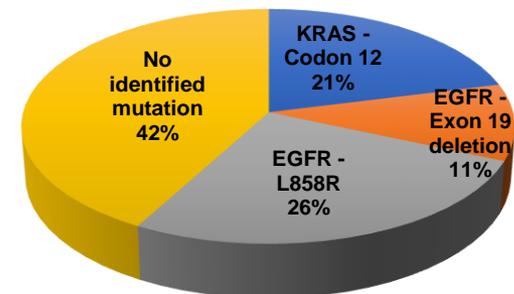
Disease Free Survival following Surgical Resection



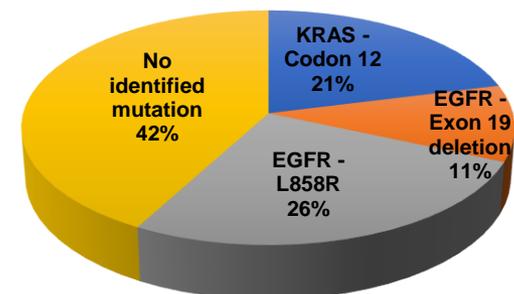
Mutation Profile of Solid Component (n=19)



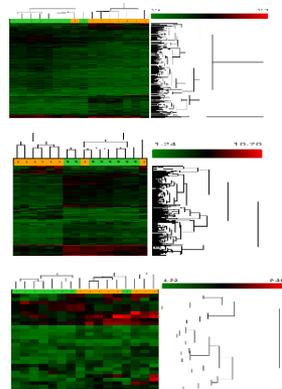
Solid Component Mutation



Non-Solid (Ground Glass) Component Mutation

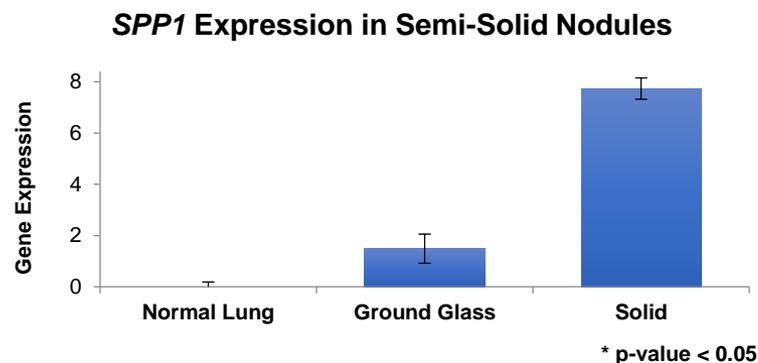


Gene Expression Profile of Semi-Solid Nodules



- Affymetrix microarray 2.0 of over 48,000 transcripts (fold change >2.0)
- There are characteristic gene expression patterns in ground glass and solid portions of semi-solid nodules
- Very close similarity of mutations and gene expression in ground glass component compared with solid component
- #1 greatest fold change seen in Secreted Phosphoprotein1 (SPP1) expression

	Transcript Upregulated	Transcript Downregulated	Total Significant Transcripts
Normal Lung vs Ground Glass	105	282	387
Normal Lung vs Solid Tumor	128	319	447
Ground Glass vs Solid Tumor	21	11	32



- First study to examine genetic microenvironments of solid and ground glass areas from same tumor.
- Driver mutations are present in solid and non-solid components.
- The mutation and gene expression profile is similar between the ground glass and the solid component within the same lesion.
- SPP1 is potential biomarker in semi-solid lung lesions.



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Prognostic impact of immune cell biomarkers in surgically resectable non-small cell lung cancer

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Con la colaboración de:



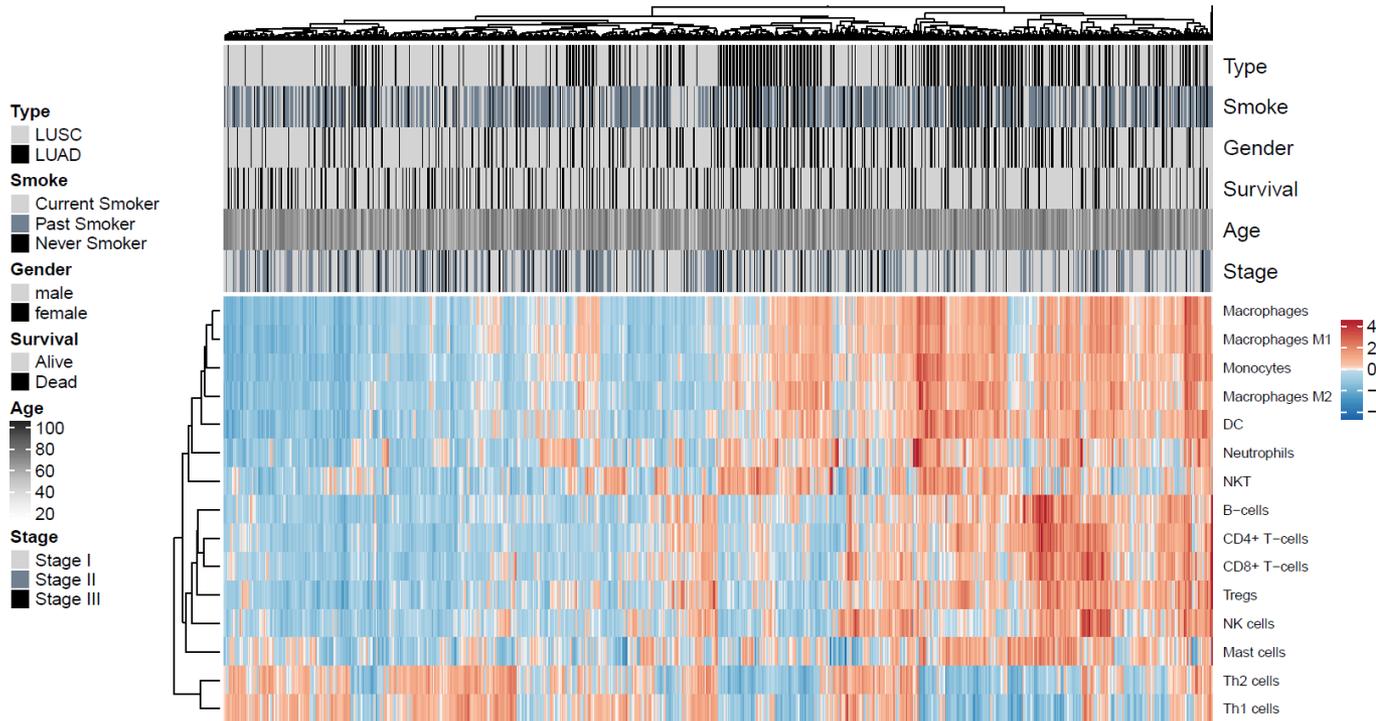
This project made use of The Cancer Genome Atlas (TCGA) Program data

- limited to patients with stage I-IIIa NSCLC (n= 910)
- 438 ADC | 472 SCC

We computed sample-specific scores for different immune cells using **xCell**, a new model for estimating different immune cell types from RNAseq data

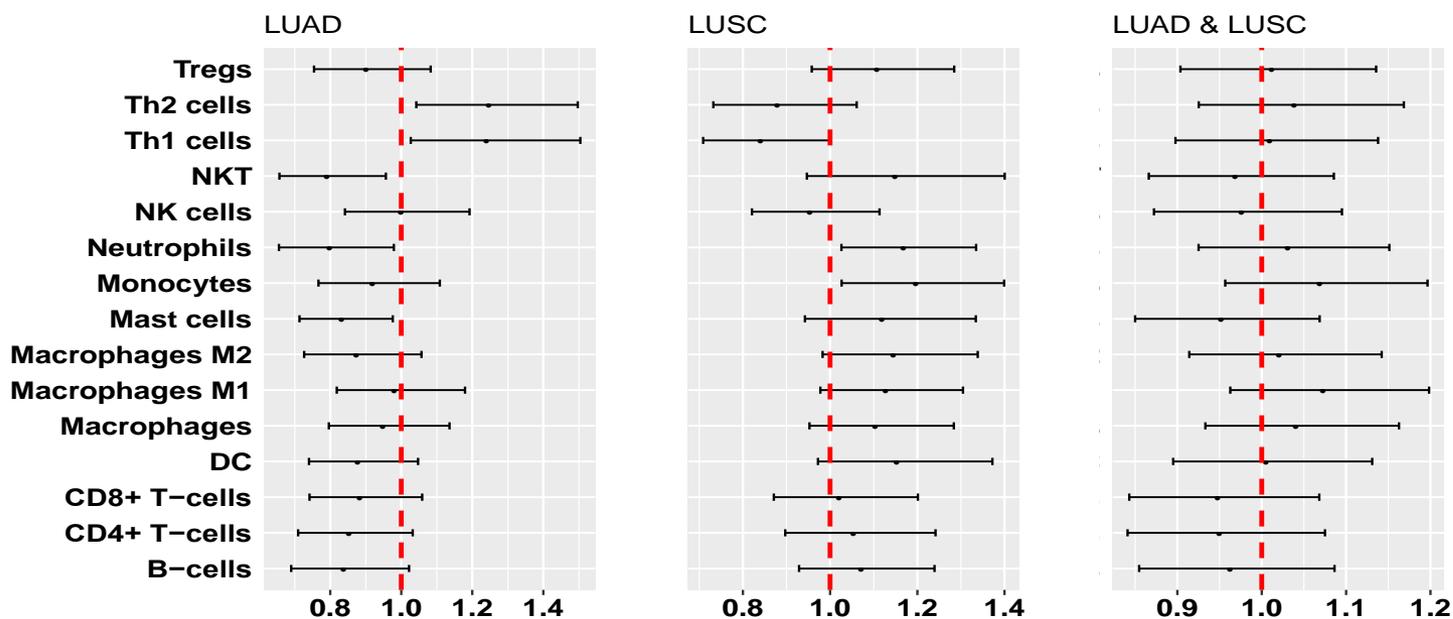
We assessed the association between each cell type and survival with Cox Regression, while adjusting for important clinical variables (i.e., stage, age, gender, smoking status). We stratified the analysis according to histological subtype.

Results



Immune cell infiltrate appeared to differ according to histology, gender, smoking status, and stage

Adjusted Survival According to Estimated Immune Cell Infiltration



*** Adjusted for stage, gender, age and smoking status**

Higher levels of natural **killer cells**, **neutrophils**, and **mast cells** within tumors were associated with significantly improved survival in ADC patients, whereas no immune cell type was associated with survival for SCC patients

Conclusion:

The role of individual immune cells may vary according to histological subtype

Adjustment for clinical covariates is important when evaluating the prognostic value of immune cells in early-stage NSCLC