

Antonio D'Alessio

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● ABOUT ME

Medical Oncologist, mainly focused on hepatobiliary cancer.

PhD Program at Imperial College London - biomarker discovery in neoadjuvant immunotherapy for **hepatocellular carcinoma**

Licensed to practice in the **UK** (Medical Oncologist on the GMC Specialist Register 7894935) and **Italy** (OMCeO Naples 035304)

● WORK EXPERIENCE

12/2021 – CURRENT United Kingdom

PHD PROGRAM - BIOMARKER DISCOVERY IN NEOADJUVANT IMMUNOTHERAPY FOR HEPATOCELLULAR CARCINOMA IMPERIAL COLLEGE LONDON

Research on predictive biomarkers of response to immune checkpoint inhibitors in hepatocellular carcinoma and definition of mechanisms of T Cell Exhaustion

- Targeted and Spatial Transcriptomics
- circulating tumour DNA and TCR sequencing
- High-throughput sequencing of 16rRNA for gut microbiota characterisation
- Immune phenotyping of peripheral T cells with CyTOF
- Single cell RNA sequencing
- Multiplex Immunohistochemistry
- Data analysis (R, coding on High Performance Computer, SPSS, Medcalc, GraphPad)

Teaching experience

- Lectures on Early Phase Clinical trials and Liver cancer for the MRes Cancer Biology program, BSc Cancer Frontiers program, Foundation Program
- Talks at undergraduate students societies: The Imperial College Society of Research and Academia (SORA) and the UCL Oncology Society
- Day-to-day supervision of BSc and MRes students in their wet lab activities and data analysis

Courses and Self-improvement (2022-24)

- R Programming
- Sampling and Hypothesis Testing (R version)
- Imperial High Performance Computer (HPC)
- Introduction to Spatial Transcriptomics (Nanostring Academy)
- Masterclass on multi -omics in liver cancer (EASL)
- ECMC Junior Investigator Network Group (Leeds, 2022): 2-day workshop on trial design. The trial proposal I submitted for the meeting has received initial approval for funding by a major pharmaceutical company

01/06/2021 – CURRENT London, United Kingdom

CLINICAL RESEARCH FELLOW - EASL "ANDREW K. BURROUGHS" FELLOWSHIP IMPERIAL COLLEGE

- Clinical Research Fellow in the Imperial College **Early Phase Clinical Trials Unit**, led by Dr. David J. Pinato
- Clinical Investigator on the PRIME HCC study - Phase Ib study investigating the combination of ipilimumab plus nivolumab prior to liver resection in early-stage hepatocellular carcinoma

- **Translational research project "Integrated characterisation of anti-tumour immunity following neoadjuvant immunotherapy of hepatocellular carcinoma"**, for which I was awarded the prestigious **"Andrew K. Burroughs" Fellowship** by the European Society for the Study of the Liver (EASL)

12/2017 – 12/2022 Milan, Italy

SPECIALIST TRAINING IN MEDICAL ONCOLOGY HUMANITAS UNIVERSITY - HUMANITAS RESEARCH HOSPITAL

Awarded the title of Specialist in Medical Oncology on the 13/01/2023 with the final grade of 70/70 with honours.

Thesis "Real-world evidence on the use of atezolizumab plus bevacizumab in patients with hepatocellular carcinoma"

- Clinical training in one of the most renowned Italian Cancer Centres
- Subinvestigator in Phase 2 and 3 clinical trials for patients with biliary tract cancer and hepatocellular carcinoma (Prof L Rimassa)

● EDUCATION AND TRAINING

01/10/2010 – 21/10/2016 Napoli, Italy

MEDICAL DEGREE Medicine & Surgery Faculty, Federico II University

- 2013-2014 Erasmus project (12 months) at Université Libre de Bruxelles (Belgium)
- 06-08/2016 Erasmus Traineeship in Medical Oncology at Hospital Clinico and INCLIVA Research Institute in Valencia (Spain) under the mentorship of Prof. A. Cervantes
 - July 2016 Award as Best Student of ESMO-ESO Course on Medical Oncology for Medical Students (Valencia, Spain)
- 08/2015 Traineeship in Tropical Medicine and Infectious Diseases at RSUD Dr Moewardi hospital in Surakarta (Indonesia)
- 07/2014 11th Course on Oncology for Medical Students organised by the European School of Oncology in Ioannina (Greece)
- 10-12/2012 Research project in Immunology lab (Prof. A Leonardi - Federico II University, Naples)

Final grade 110/110 summa cum laude and distinction. Average Grade: 29,6/30 |

Thesis "Efficacy and Toxicity in Classic and HIV-related Kaposi Sarcoma", awarded as best thesis of the year by the University Ethical Committee

● ADDITIONAL INFORMATION

PUBLICATIONS

Publications

Google Scholar

Citations 1505

h-index 15

i10-index 24

"Safety and preliminary efficacy of pembrolizumab following trans-arterial chemoembolization for hepatocellular carcinoma" D'Alessio A et al. *Clin Cancer Res*. In press.

"NASH limits anti-tumor surveillance in immunotherapy-treated HCC" Pfister, D. et al. *Nature*. 2021;592:450-456. <https://doi.org/10.1038/s41586-021-03362-0>

"Preliminary evidence of safety and tolerability of atezolizumab plus bevacizumab in patients with hepatocellular carcinoma and Child-Pugh A and B cirrhosis: A real-world study" D'Alessio A et al. *Hepatology*. 2022; 00:1– 13.

- Atezolizumab plus bevacizumab in real life – The authors' reply. D'Alessio A et al. *Hepatology*. 2022;76(4):E82-E83.

- Atezolizumab plus Bevacizumab in routine clinical practice – Reply to Zhang et al. D'Alessio A et al. *Hepatology*. 2022;76(4):E86.

"COSMIC-312: mounting immunotherapy enigmas for hepatocellular carcinoma" Cabibbo G, Celsa C, D'Alessio A, et al. *Lancet Oncol*. 2022;33:e441

"The price and value of therapeutic synergy in liver cancer" Pinato DJ, D'Alessio A, et al. *Lancet*. 2023;S0140-6736(23)01297-7.

"Integrated phenotyping of the anti-cancer immune response in HIV-associated hepatocellular carcinoma" D'Alessio A, Pinato DJ, Kaneko T, et al. *JHEP Reports*. 2023;5(7):100741

"Type 2 Diabetes Mellitus and Efficacy Outcomes from Immune Checkpoint Blockade in Patients with Cancer" Cortellini A, D'Alessio A, et al. *Clin Cancer Res.* 2023. Epub ahead of publication.

"Metformine exposure is not associated with clinical outcomes in overweight/obese patients with NSCLC treated with immune checkpoint inhibitors" Cortellini A, D'Alessio A, et al. *Clin Cancer Res.* 2023. Epub ahead of publication.

"Efficacy of transarterial radioembolization using Y-90 resin microspheres versus atezolizumab-bevacizumab in unresectable hepatocellular carcinoma: A matching-adjusted indirect comparison" Agirrezabal I et al. *Eur J Cancer.* 2024. 196:113427

"Characteristics and outcomes of immunotherapy-related liver injury in patients with hepatocellular carcinoma versus other advanced solid tumours" Celsa C et al. *J Hepatol.* 2023. Epub ahead of publication.

"A meta-analysis and real-world cohort study on the sex-related differences in efficacy and safety of immunotherapy for hepatocellular carcinoma" Balcar L et al. *JHEP Reports.* 2023. Epub ahead of publication.

"Immune Checkpoint Inhibitors for Child-Pugh Class B Advanced Hepatocellular Carcinoma" Xie E et al. *JAMA Oncol.* 2023. Epub ahead of publication.

"Mechanisms of Resistance to Immunotherapy in Hepatocellular Carcinoma" Manfredi G et al. *J Hepatocell Carcinoma.* 2023;10 1955-1971.

"Efficacy and safety of atezolizumab/bevacizumab in patients with HCC after prior systemic therapy: A global, observational study" Joerg V et al. *Hepatology Communications.* 2023;7:e0302.

Publications/2

"Artificial intelligence-based pathology as a biomarker of sensitivity to atezolizumab-bevacizumab in patients with hepatocellular carcinoma: a multicentre retrospective study" Zheng et al. *Lancet Oncol.* 2023;24:1411-1422

"PETAL protocol: a phase Ib study of pembrolizumab after transarterial chemoembolization in hepatocellular carcinoma" Fessas P, Scheiner B, D'Alessio A, et al. *Future Oncol.* 2023;19(7), 499-507

"SARS-CoV-2 omicron (B.1.1.529)-related COVID-19 sequelae in vaccinated and unvaccinated patients with cancer: results from the OnCovid registry" Cortellini A, et al. *Lancet Oncol.* 2023;24(4):335-346

"Efficacy and safety of frontline systemic therapy for advanced HCC: a network metaanalysis of landmark phase III trials" Fulgenzi CAM, et al. *JHEP Reports.* 2023;5(5):10072

"Network meta-analysis: A map to navigate the maze of treatment for advanced hepatocellular carcinoma" D'Alessio A et al. *Eur J Int Med.* 2023;111:32-34.

"Progression patterns and therapeutic sequencing following immune checkpoint inhibition for HCC: an international observational study." Talbot T, D'Alessio A, et al. *Liver Int.* 2023;43(3): 695-707

"Association between antibiotics and adverse oncological outcomes in patients receiving targeted or immune-based therapy for hepatocellular carcinoma" Pinato DJ et al. *JHEP Reports.* 2023;5:100747.

"Impact of body mass index in patients receiving atezolizumab plus bevacizumab for hepatocellular carcinoma." Vithayathil, M., D'Alessio, A., et al. *Hepatol Int.* 2023;17:904-914.

"Comparative efficacy of novel combination strategies for unresectable hepatocellular carcinoma: A network metanalysis of phase III trials." Fulgenzi CAM, D'Alessio A, et al. *Eur J Cancer.* 2022;174: 57-67

"Dissecting the tumour microenvironment to predict immunotherapy response in hepatocellular cancer" D'Alessio A, Pinato DJ. *Gastroenterology.* 2022;163(6):1712-1713.

"Neutrophil-to-Lymphocyte and Platelet-to-Lymphocyte Ratios as Prognostic Biomarkers in Unresectable Hepatocellular Carcinoma Treated with Atezolizumab plus Bevacizumab" Wu L, Fulgenzi CAM, D'Alessio A, et al. *Cancers.* 2022: 14, 5834.

"Integrated use of PD-1 inhibition and transarterial chemoembolization for hepatocellular carcinoma: evaluation of safety and efficacy in a retrospective, propensity score-matched study". Marinelli B, Kim E, D'Alessio A, et al. *J ImmunoTherapy Cancer.* 2022;10.

"Reproducible safety and efficacy of atezolizumab plus bevacizumab for HCC in clinical practice: Results of the AB-real study" Fulgenzi CAM, Cheon J, D'Alessio A, et al. *Eur J Cancer.* 2022;175:204-213

"A multicentre study of pembrolizumab time-of-day infusion patterns and clinical outcomes in NSCLC: too soon to promote morning infusions." Cortellini A et al. *Ann Oncol.* 2022;33(11):1202-1204.

"T-cell exhaustion and residency dynamics inform clinical outcomes in hepatocellular carcinoma." Barsch M et al. *J Hepatol.* 2022;77:397-409.

Publications/3

"Impact of older age in patients receiving atezolizumab and bevacizumab for hepatocellular carcinoma." Vithayathil M, D'Alessio A, et al. *Liver Int.* 2022;42(11):2538-2547

"Differential prognostic effect of systemic inflammation in patients with non-small cell lung cancer treated with immunotherapy or chemotherapy: A post hoc analysis of the phase 3 OAK trial." Cortellini A et al. *Cancer.* 2022;128: 3067-3079

"Outcome of liver cancer patients with SARS-CoV-2 infection. An International, Multicenter, Cohort Study." Munoz-Martinez S et al. *Liver Int.* 2022; 42: 1891- 1901.

"Hepatocellular carcinoma as the Rose of Jericho: from the desert of sorafenib, to the blossoming of

immunotherapy" D'Alessio A, Rimassa L. *HBSN*. 2022;11(3):2304-389X

"Efficacy and safety of immune checkpoint inhibitor rechallenge in individuals with hepatocellular carcinoma" Scheiner B et al. *JHEP Reports*. 2022;5(1):100620.

"New Frontiers in the Medical Therapy of Hepatocellular Carcinoma" Fulgenzi CAM, D'Alessio A, et al. *Chemotherapy* 2022;67:164-172.

"The role of cabozantinib as a therapeutic option for hepatocellular carcinoma: current landscape and future challenges", D'Alessio A et al. *J Hepatocell Carcinoma*. 2021;8:177-191.

"PD-1 Blockade for Hepatocellular Carcinoma: Current Research and Future Prospects", D'Alessio A et al., *J Hepatocell Carcinoma*, 2021;8,887-897. <https://doi.org/10.2147/JHC.S284440>

"Treatment-related toxicity and improved outcome from immunotherapy in hepatocellular cancer: evidence from an FDA pooled analysis of landmark clinical trials with validation from routine practice." Cortellini A et al. *Eur J Cancer*. 2021;157:140-152.

"COVID-19 and liver cancer clinical trials: not everything is lost" D'Alessio A et al., *Liver Int*. 2020;40:1541-1544, DOI:10.1111/liv.14532

"Predictive biomarkers of response to immune checkpoint inhibitors in hepatocellular carcinoma" Muhammed A, D'Alessio A, et al. *Exp Rev Mol Diag*. 2022;22:3, 253-264

"Back to the basics: how the preclinical rationale shapes the immunotherapy landscape for hepatocellular carcinoma", D'Alessio A, Rimassa L. *Liver Cancer International*. 2021; 2: 5- 6. <https://doi.org/10.1002/lci2.24>.

"The evolving treatment paradigm of advanced hepatocellular carcinoma: putting all the pieces back together", D'Alessio A et al., *Curr Opin Oncol*. 2021;33(4):386-394. doi: 10.1097/CCO.0000000000000744

"Systemic treatment of HCC - novel options for older patients", Cammarota A, D'Alessio A et al., *Drugs and Aging*, 2021;38,579-591.

"The ALBI grade: evidence for an improved model for liver functional estimation in patients with hepatocellular carcinoma", Demirtas CO, D'Alessio A et al., *JHEP Reports*. 2021;3(5):100347

Publications/4

"Treating patients with advanced hepatocellular carcinoma and impaired liver function: Broadening the reach of anti-cancer therapy". D'Alessio A et al. *Liver Cancer International*. 2021;2:31-32

"The Systemic Inflammatory Response Identifies Patients with Adverse Clinical Outcome from Immunotherapy in Hepatocellular Carcinoma". Muhammed A et al. *Cancers*. 2022;14:186.

"Implementing Pre-Therapeutic UGT1A1 Genotyping in Clinical Practice: A Real-Life Study." Personeni N et al. *J Pers. Med*. 2022;12:204.

"Determinants of Treatment Benefit and Post-Treatment Survival for Patients with Hepatocellular Carcinoma Enrolled in Second-Line Trials after the Failure of Sorafenib Treatment." Personeni N et al. *J Pers Med*. 2022, 12, 1726.

"Atezolizumab plus bevacizumab versus lenvatinib or sorafenib in non-viral unresectable hepatocellular carcinoma: an international propensity score matching analysis" Rimini M et al. *ESMO Open*. 2022;7(6):100591.

"Cabozantinib plus atezolizumab for the treatment of advanced hepatocellular carcinoma: shedding light on the preclinical rationale and clinical trials" Cammarota A, Zanuso V, D'Alessio A et al. *Exp Opin Investig Drugs*. 2022;31:4, 401-413.

"Current options and future directions of systemic therapy for advanced biliary tract cancer" Prete MG, Cammarota A, D'Alessio A, Zanuso V, Rimassa L. *Exploration of Targeted Anti-tumor Therapy*. 2021;2:416-33.

"Hepatotoxicity in Patients with Hepatocellular Carcinoma on Treatment with Immune Checkpoint Inhibitors". Personeni N, Pressiani T, D'Alessio A, et al. *Cancers*. 2021;13:5665.

"Is there an oligometastatic state also in pancreatic cancer? Practical clinical considerations raise the question" Franceschini D, Scorsetti M, Comito T, Franzese C, Prete MG, D'Alessio A, et al. *Br J Radiol*. 2020;93:1106

Books

- "Rationale for new and upcoming immunotherapy combination strategies in unresectable HCC", Personeni N, D'Alessio A, Rimassa L; chapter of the book "Immunotherapy combination strategies in unresectable HCC", 2022, Edizioni Minerva Medica. ISBN 978-88-5532-114-3
 - "Le neoplasie epato-bilio-pancreatiche", Bozzarelli S, Smiroldo V, Prete MG, D'Alessio A, Rimassa L; chapter of the book "Guariti e Cronici: Manuale di Oncologia Clinica", Edisciences, 2021, ISBN 978-88-946075-0-5
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Peer Review

- I have been peer reviewer for high-impact journals: among others, Nature Communications, Hepatology, Journal of Hepatology, Journal of ImmunoTherapy of Cancer, Liver International
 - I am part of the Editorial Reviewer Board of Therapeutic Advances in Medical Oncology since 2022
 - I have acted as peer reviewer of grant applications for the Swiss National Science Foundation, the most important funding agency in Switzerland
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NETWORKS AND MEMBERSHIPS

Memberships ILCA (International Liver Cancer Association) since 2020. Member of the Young ILCA Committee since 2023. Member of the Organising Committee for the 2024 General Meeting.

ESMO (European Society of Medical Oncology) since 2016. ESMO Ambassador 2018-2023.

AIOM (Associazione Italiana di Oncologia Medica) since 2019

EASL (European Association for the Study of the Liver) since 2020

ASCO (American Society of Clinical Oncology) since 2020

BACR (British Association for Cancer Research) since 2021

EACR (European Association for Cancer Research) since 2023

Emergency (NGO providing free, high-quality medical and surgical care to victims of war, landmines and poverty) since 2015

HONOURS AND AWARDS

03/2022

CRUK Predoctoral Research Grant – Cancer Research UK

- I have successfully attracted independent funding to conduct translational research on the use of neoadjuvant immunotherapy in hepatocellular carcinoma at Imperial College London (£24.000)

ASCO Merit Award 2022, 2023, 2024 – American Society of Clinical Oncology

- I have received the prestigious Merit Award for three subsequent years for my translational work on neoadjuvant immunotherapy for HCC within the PRIME-HCC study (**ASCO 2022 and 2023**) and for my work on the qualification of major pathological response after neoadjuvant immunotherapy in early-stage HCC (**ASCO GI 2024**)
- My award has received extensive media coverage (among others, [The Huffington Post](#), the major Italian newspaper [La Repubblica](#))

05/2021

EASL "Andrew K Burroughs Fellowship"

Travel Awards

- British Association for Cancer Research (BACR) Student Award 2023
- Current Oncology Travel Award 2023

ABSTRACTS

Selected Abstracts

ASCO 2022. MERIT AWARD. Preliminary results from a phase Ib study of neoadjuvant ipilimumab plus nivolumab prior to liver resection for hepatocellular carcinoma: The PRIME-HCC trial. Abstract #371770.

ASCO 2023. MERIT AWARD. Neoadjuvant immunotherapy with ipilimumab plus nivolumab leads to radiologically and pathologically quantifiable responses through modulation of the tumour microenvironment in resectable hepatocellular carcinoma. Abstract #420260.

ASCO GI 2024. MERIT AWARD. Qualification of major pathological response as a surrogate endpoint for relapse-free survival following neoadjuvant immunotherapy for hepatocellular carcinoma. Abstract #506.

Awards for best abstract

- **EASL Liver Cancer Summit 2023.** Estoril, 20-22 April.

"The ALBI grade refines prognostic prediction in advanced HCC and enables risk stratification for bleeding events following Atezolizumab plus Bevacizumab" **Young Investigator Bursary**

- **International Liver Cancer Association (ILCA) 2022.** Madrid, 1-4 September.

"Treatment related adverse events and improved survival with atezolizumab plus bevacizumab: a global, real world study." **Top Scored Poster**

- **EASL International Liver Congress (ILC) 2022.** 22-26 June London (UK). Oral Presentation.

"PRIME-HCC: Phase Ib study of neoadjuvant ipilimumab and Nivolumab prior to liver resection for hepatocellular carcinoma."

- **HCC-TAG 2022.** Park City, Utah, US, 11-12 February – Oral Presentation

"Preliminary evidence of safety and tolerability of atezolizumab plus bevacizumab in patients with hepatocellular carcinoma and Child Pugh A and B cirrhosis: a real world study"

• **EASL Liver Cancer Summit 2020**. Prague, 6-8 February.

"Hepatotoxicity during treatment with immune checkpoint inhibitors: what happens to the liver with tumor infiltration?" **Young Investigator Bursary**

CONGRESSES

Invited Speaker

- **2024 ILTS–ILCA Consensus Conference** (Valencia, Spain 1-2/02/2024)
 - I have been appointed as Working Lead in charge of coordinating a group of world-leading experts in liver cancer and writing the recommendations to be voted at the Consensus Conference of the International Liver Transplant Society
- **Arab African International Cancer Congress** (Cairo, Egypt 28-30/09/2023)
 - Invited international speaker with two talks on recent advances in HCC and cholangiocarcinoma
- **National Conference of Romanian Young Oncologists** (Sibiu, Romania 19/05/2023)
 - Invited international speaker to discuss about novel treatment for HCC
- **Institute of Hepatology** (London, 25/04/2023)
 - Invited speaker to the Seminar Series to talk about immunotherapy in early-stage HCC
- Imperial College Society of Research and Academia (**SORA**) - Course on Statistical Skills (16/02/2023)
- **EASL-ILC 2020 - London**: Invited speaker "Expect the unexpected: radiological response during immunotherapy" - Session cancelled due to COVID-19
- **ESMO Conference 2016 - Copenhagen**: Invited speaker "ESMO Focus Talk: Your career in oncology with ESMO by your side"

Oral Presentations

- **ILCA 2023**, 7-9 September, Amsterdam (Netherlands). Predictors of response to neoadjuvant immunotherapy in resectable hepatocellular carcinoma: preliminary clinical and translational analyses from the PRIME-HCC study. ILCA Junior Investigator Awards 2023 - Best Oral Presentation (Clinical)
- **EASL - International Liver Congress 2022**. 22-26 June London (UK). PRIME-HCC: Phase Ib study of neoadjuvant ipilimumab and Nivolumab prior to liver resection for hepatocellular carcinoma.
- **HCC-TAG 2022**, 11-12 February - Park City, Utah, US: Preliminary evidence of safety and tolerability of atezolizumab plus bevacizumab in patients with hepatocellular carcinoma and Child Pugh A and B cirrhosis: a real world study. **Best Abstract Award**

LANGUAGE SKILLS

Language Skills

English C1 (Occupational English Test, 09.01.2021)

French C1 (DALF C1, Institut Français de Naples, 15.12.2015)

Spanish B2 (Online Linguistic Support, Erasmus+, 29.5.2016)

Italian - native speaker