

Documents

Cortellini, A.^{a, b}, Ricciuti, B.^c, Facchinetti, F.^d, Alessi, J.V.M.^c, Venkatraman, D.^c, Dall'Olio, F.G.^e, Cravero, P.^c, Vaz, V.R.^c, Ottaviani, D.^f, Majem, M.^g, Piedra, A.^g, Sullivan, I.^g, Lee, K.A.^{h, i}, Lamberti, G.^j, Hussain, N.^b, Clark, J.^b, Bolina, A.^b, Barba, A.^g, Benitez, J.C.^e, Gorria, T.^k, Mezquita, L.^k, Hoton, D.^l, Aboubakar Nana, F.^m, Besse, B.^{e, n}, Awad, M.M.^c, Pinato, D.J.^{b, o}

Antibiotic-exposed patients with non-small-cell lung cancer preserve efficacy outcomes following first-line chemo-immunotherapy

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^a Department of Biotechnology and Applied Clinical Sciences, University of L'Aquila, L'Aquila, Italy

^b Division of Cancer, Department of Surgery and Cancer, Imperial College London, Hammersmith Hospital, London, United Kingdom

^c Lowe Center for Thoracic Oncology, Dana-Farber Cancer Institute, Harvard Medical School, Boston, United States

^d Université Paris-Saclay, Institut Gustave Roussy, Inserm, Biomarqueurs Prédictifs et Nouvelles Stratégies Thérapeutiques en Oncologie, Villejuif, France

^e Cancer Medicine Department, Gustave Roussy, Villejuif, France

^f Cancer Division, University College London Hospitals, London, United Kingdom

^g Medical Oncology Department, Hospital de la Santa Creu I Sant Pau, Barcelona, Spain

^h Department of Medical Oncology, Royal Marsden Hospital, London, United Kingdom

ⁱ Department of Twin Research and Genetic Epidemiology, St Thomas's Hospital, King's College London, London, United Kingdom

^j Department of Experimental, Diagnostic and Specialty Medicine, S. Orsola-Malpighi University Hospital, Alma Mater Studiorum University of Bologna, Bologna, Italy

^k Department of Medical Oncology, Hospital Clinic, Barcelona, Spain

^l Department of Pathology, Cliniques universitaires Saint-Luc, Brussels, Belgium

^m Institut de Recherche Expérimentale et Clinique (IREC), Pôle de Pneumologie, ORL et Dermatologie (PNEU), Université catholique de Louvain (UCLouvain), Brussels, Belgium

ⁿ University Paris-Saclay, School of Medicine, Villejuif, France

^o Division of Oncology, Department of Translational Medicine, University of Piemonte Orientale, Novara, Italy

Abstract

Background: Prior antibiotic therapy (pATB) is known to impair efficacy of single-agent immune checkpoint inhibitors (ICIs), potentially through the induction of gut dysbiosis. Whether ATB also affects outcomes to chemo-immunotherapy combinations is still unknown. Patients and methods: In this international multicentre study, we evaluated the association between pATB, concurrent ATB (cATB) and overall survival (OS), progression-free survival (PFS) and objective response rate (ORR) in patients with non-small-cell lung cancer (NSCLC) treated with first-line chemo-immunotherapy at eight referral institutions. Results: Among 302 patients with stage IV NSCLC, 216 (71.5%) and 61 (20.2%) patients were former and current smokers, respectively. Programmed death-ligand 1 tumour expression in assessable patients (274, 90.7%) was $\geq 50\%$ in 76 (25.2%), 1%-49% in 84 (27.9%) and $< 1\%$ in 113 (37.5%). Multivariable analysis showed pATB-exposed patients to have similar OS [hazard ratio (HR) = 1.42 [95% confidence interval (CI): 0.91-2.22]; $P = 0.1207$] and PFS [HR = 1.12 (95% CI: 0.76-1.63); $P = 0.5552$], compared to unexposed patients, regardless of performance status. Similarly, no difference with respect to ORR was found across pATB exposure groups (42.6% versus 57.4%, $P = 0.1794$). No differential effect was found depending on pATB exposure duration (≥ 7 versus < 7 days) and route of administration (intravenous versus oral). Similarly, cATB was not associated with OS [HR = 1.29 (95% CI: 0.91-1.84); $P = 0.149$] and PFS [HR = 1.20 (95% CI: 0.89-1.63); $P = 0.222$] when evaluated as time-varying covariate in multivariable analysis. Conclusions: In contrast to what has been reported in patients receiving single-agent ICIs, pATB does not impair clinical outcomes to first-line chemo-immunotherapy of patients with NSCLC. pATB status should integrate currently available clinico-pathologic factors for guiding first-line treatment decisions, whilst there should be no concern in offering cATB during chemo-immunotherapy when needed. © 2021 European Society for Medical Oncology

Author Keywords

antibiotics; chemotherapy; immune checkpoint inhibitors; non-small-cell lung cancer; pembrolizumab; predictive factors

Correspondence Address

Cortellini A.; Imperial College London, Du Cane Road, United Kingdom; email: a.cortellini@imperial.ac.uk

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