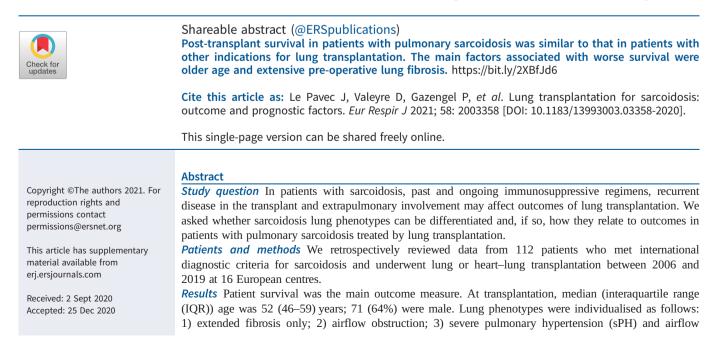


Long transplantation for sarcoidosis: outcome and prognostic

Jérôme Le Pavec^{1,2,3}, Dominique Valeyre^{4,5,26}, Pierre Gazengel^{1,2,3,26}, Are M. Holm^{6,27}, Hans Henrik Schultz ^{07,27}, Michael Perch⁷, Aurélie Le Borgne⁸, Martine Reynaud-Gaubert⁹, Christiane Knoop¹⁰, Laurent Godinas¹¹, Sandrine Hirschi¹², Vincent Bunel¹³, Rosalia Laporta¹⁴, Sergio Harari ⁰¹⁵, Elodie Blanchard¹⁶, Jesper M. Magnusson¹⁷, Adrien Tissot¹⁸, Jean-François Mornex^{19,20}, Clément Picard²¹, Laurent Savale ^{02,3,22}, Jean-François Bernaudin²³, Pierre-Yves Brillet²⁴, Hilario Nunes⁴, Marc Humbert ^{02,3,22}, Elie Fadel ^{01,2,3} and Jens Gottlieb ⁰²⁵

¹Service de Chirurgie Thoracique, Vasculaire et Transplantation Cardio-pulmonaire, Hôpital Marie-Lannelongue, Le Plessis-Robinson, France. ²Université Paris-Sud, Faculté de Médecine, Université Paris-Saclay, Le Kremlin Bicêtre, France. ³UMR_S 999, Université Paris-Sud, INSERM, Hôpital Marie Lannelongue, Le Plessis Robinson, France. ⁴ÍNSERM UMR 1272, Université Sorbonne Paris Nord, AP-HP, Hôpital Avicenne Service de Pneumologie, Bobigny, France. ⁵Groupe Hospitalier Paris Saint Joseph, Paris, France. ⁶Dept of Respiratory Medicine, Oslo University Hospital and Institute for Clinical Medicine University of Oslo, Oslo, Norway. ⁷Dept of Cardiology, Section for Lung Transplantation, Copenhagen University Hospital, Rigshospitalet, Copenhagen, Denmark. ⁸Pôle des voies respiratoires-Hôpital Larrey, Centre Hopitalo-Universitaire, Toulouse, France. ⁹Service de Pneumologie et Equipe de Transplantation Pulmonaire, Centre Hospitalo-Universitaire Nord, Assistance Publique-Hôpitaux de Marseille, Aix-Marseille Université, Marseille, France. ¹⁰Brussels Lung Transplant Program, Dept of Chest Medicine, Erasme University, Brussels, Belgium, ¹¹Dept of Respiratory Diseases, University Hospitals Leuven, Leuven, Belgium. ¹²Service de Pneumologie, Groupe de Transplantation Pulmonaire, Hopitaux Universitaires de Strasbourg, Strasbourg, France. ¹³AP-HP, Service de Pneumologie, Hôpital Bichat, Paris, France. ¹⁴Pneumology Dept, Hospital Strasbourg, Strasbourg, France. AP-HP, Service de Pneumologie, Hopital Bichat, Paris, France. Pneumology Dept, Hospital Universitario Puerta de Hierro, Madrid, Spain. ¹⁵Dept of Medical Sciences San Giuseppe Hospital MultiMedica IRCCS and Dept of Clinical Sciences and Community Health, Università degli Studi di Milano, Milan, Italy. ¹⁶Dept of Respiratory Medicine, Haut-Lévèque Hospital, Bordeaux University, Pessac, France. ¹⁷Dept of Internal Medicine/Respiratory Medicine and Allergology, Institute of Medicine, University of Gothenburg, Gothenburg, Sweden. ¹⁸Service de Pneumologie, L'institut du thorax, Centre hospitalo-universitaire de Nantes, Nantes, France. ¹⁹Université de Lyon, INRA, IVPC, Lyon, France. ²⁰Hospices Civils de Lyon, Lyon, France. ²¹Service de Pneumologie, Hôpital Foch, Suresnes, France. ²²AP-HP, Service de Pneumologie, Hôpital Kremlin Bicêtre, Kremlin Bicêtre, Kremlen Beriger, Kremelen Beriger, Kremlen Beriger, Kremlen Beriger, K ²³INSERM UMR 1272, Université Sorbonne Paris Nord, Bobigny and Sorbonne Université Paris, Paris, France. ²⁴INSERM U1272, Université Paris Sorbonne Nord, AP-HP, Service de Radiologie, Hôpital Avicenne, Bobigny, France. ²⁵Dept of Respiratory Medicine, Hannover Medical School, Hanover, Germany. ²⁶These authors contributed equally to this work. ²⁷These authors contributed equally to this work.

Corresponding author: Jérôme Le Pavec (lepavec@gmail.com)



obstruction; 4) sPH, airflow obstruction and fibrosis; 5) sPH and fibrosis; 6) airflow obstruction and fibrosis; 7) sPH; and 8) none of these criteria, in 17%, 16%, 17%, 14%, 11%, 9%, 5% and 11% of patients, respectively. Post-transplant survival rates after 1, 3, and 5 years were 86%, 76% and 69%, respectively. During follow-up (median (IQR) 46 (16–89) months), 31% of patients developed chronic lung allograft dysfunction. Age and extended lung fibrosis were associated with increased mortality. Pulmonary fibrosis predominating peripherally was associated with short-term complications.

Answer to the study question Post-transplant survival in patients with pulmonary sarcoidosis was similar to that in patients with other indications for lung transplantation. The main factors associated with worse survival were older age and extensive pre-operative lung fibrosis.