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Comment on: Synchronous multiple non-small cell lung cancers in an allograft lung recipient

Letter to the editor,

We have read with great interest the case report by Pujol et al entitled *Synchronous multiple non-small cell lung cancers in an allograft lung recipient* [1], about a young cystic fibrosis lung transplant recipient who developed metastatic lung cancer. We would like to comment on this 'rare' long-term complication post lung transplantation. Recent registry data from the International Society of Heart and Lung Transplantation showed that the overall incidence of *a* malignancy post lung transplantation at 1, 5 and 10 years is 5.3%, 19.6% and 31.7% respectively [2] In observational studies the incidence of lung cancer in the transplanted lungs is approximately 2% [3,4] and the median time between lung transplantation and diagnosis is 1074 days. Post transplantation lung cancer is more prevalent among the older white male lung transplant recipients, with a seronegative status to Epstein-Barr virus, and induction immunosupression therapy [3]. In addition, according to risk models for the prediction of lung cancer, the annual risk to develop lung cancer would be 0.4% in this female donor [5].

The patient discussed by Pujol et al. is a young female with cystic fibrosis, delta F508 positive mutation. She was listed for lung transplantation because of progressive decline of lung function. She received a bilateral lung transplantation at the age of thirty-seven. The donor was a 57 year old female with a smoking history of 30 pack years. Ideally, a potential lung donor is younger than 45 years, good gas exchange with a PO2/FIO2 > 350 mmHg (40 kPa), has never smoked, a negative bacterial culture, and clear appearance on bronchoscopy and normal chest-x-ray [6]. A smoking history of > 20 pack years has excluded organ donors from lung procurement traditionally. However due to donor shortage lung transplant physicians and surgeons phase the fact that there is no such thing as an ideal donor. Therefore liberalization of tobacco exposure history as an exclusion to lung donation has occurred to increase donor organ availability. Standard criteria of donor age < 55 years, smoking history of < 20 pack years have been stretched to an extended 'marginal' donor [6]. A retrospective study showed that the cumulative dose (pack years) affected early outcome measures, but had no effect on three-year mortality and the incidence of bronchiolitis obliterans syndrome: i.e. chronic rejection [7]. In our own clinical practice, and other lung transplant centers around the world, the urge to push the boundaries of donor criteria is mainly driven by the *urgency* of the patients' respiratory clinical condition. Under certain conditions, like progressive respiratory failure, donors with > 20 years of smoking history might and should be considered. Nevertheless, we would like to emphasize that accepting an organ of a potential donor with a smoking history of 30 pack years for a young recipient is not routine in daily clinical transplant practice and agree with the authors that accepting organs of a donor who was an active smoker or recent quitter should be considered with caution.

Conflict of interest

None.

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