Peer Review File

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Reviewer 1

Comments to the authors:

1. The Hong Kong lung transplant group has achieved a great outcome of lung transplantation, although with a low volume. The short- and long-term survival is better than the data of ISHLT. The authors should have a little comment about it. Shorter cold ischemic time because of short donor transport time? Younger patients? Or other reasons.

   Reply: We believe it was related to very careful recipient and donor selection and meticulous post-transplant care, especially in the early years when the number of lung transplants were very small (12 cases in the first 12 years) ref: Respirology 2008: 13: 903-7.

2. There were 77 patients who had received lung transplants (6 single and 71 double) in Hong Kong from 1995 to 2019. The mortality of wait-list is 37.4% in Hong Kong. I have a question whether two recipients can share one donor in some case. It maybe improves the waitlist outcome.

   Reply: Two single lung transplants from one donor is an option to increase the transplant number. However, this has not been performed because of three reasons: 1. Manpower and capacity of the cardiothoracic surgical and anesthetist team especially in the early years. They usually need to cover for heart transplant. Three simultaneous transplant surgery could not be coped with by the surgical and anesthetist team in the early years; 2. it was not easy to find a pair of recipients who could match and share the donor lung organ; 3. As far as possible, we preferred to have double lung transplant for younger recipients for a potential bigger lung reserve and better outcome. With the current development of our transplant team, when there are suitable recipients, this option would surely be considered.

Reviewer 2

Comments to the authors:

I'd congratulate the authors for their extensive efforts and excellent outcomes in spite of many challenges in their country in particular due to significant donor shortage.

I have a few questions:

1. If the donor shortage remains significant, why don't they prioritize an option for single lung transplant to share the opportunities with more patients unless there are any specific medical reasons? From technical standpoints, as a single lung transplant is less complicated than double lung transplant, it may also help the surgeons feel more comfortable with the cases.

   Reply: Two single lung transplants from one donor is an option to increase the transplant number.

However, this has not been performed because of three reasons: 1. Manpower and capacity of the cardiothoracic surgical and anesthetist team especially in the early years. They usually need to cover for heart transplant. Three simultaneous transplant surgery could not be coped with by the surgical and anesthetist team in the early years; 2. it was not easy to find a pair of recipients who could match and share the donor lung organ; 3. As far as possible, we preferred to have double lung transplant for younger recipients for a potential bigger lung reserve and better outcome. With the current development of our transplant team, when there are suitable recipients, this option would surely be considered.

2. Whereas their 1-year survival of 84% is lower than the ISHLT report, the 5-year survival of 64% is higher by 10%. It would be interesting to the readers to add their speculation regarding the backgrounds of these unique trends.

   Reply: In fact, for the first 12 years, the number of transplants was very small (average 1 case per year) and with very few high risk cases (1 case of pulmonary hypertension), the 1 and 5 - year survival was 100% and 73% respectively. In the subsequent 12 years, we were performing more cases (average 5+ cases per year) and more high risk cases (15% being those with pulmonary HT and a few of them in a very advanced disease and on very advanced life support.) The transplant outcome for these high risk cases were poor and this explained the not that good 1 - year survival (Among those 10 cases of pulmonary hypertension, almost all had very stormy early post-Transplant course and only 5 survive more than a year.)

3. Some reported in kidney transplantation that the suboptimal long-term survival in USA was associated with their patients' financial issues leading to loss of insurance and eventually loss of long-term close follow-up. In line with their cultural backgrounds for the donor shortage issues in Hong Kong, this long-term follow-up/management with medical adherence should be encouraged to be involved in the discussion.

   Reply: No such issue in HK as all the transplant medical care were public funded.

Overall the manuscript is interesting as an updated report based on the national lung transplant database from Hong Kong.

Reviewer 3

Comments to the authors:

This manuscript presents a relevant contribution regarding the practices of Lung Transplantation in the only Lung Transplant Center in Hong Kong. The authors have overall presented their work clearly, I have some comments that I believe will clarify some aspects of their practice,

Minor Comments

1. The manuscript will benefit from Grammar and Spelling Checking. Also Abstract is duplicate,

lines 41-52 are repetitive.

Reply: Thanks for comment. The abstract has been inadvertently duplicated and would be amended

Major Comments

1. Line 113- Antibiotic Prophylaxis, is this titrated to recipient or donor cultures?

   Reply: The antimicrobials were given as per protocol and adjusted according the recipient and donor culture results when available.

2. Line 129- I don't believe the readership is aware of the legal aspects of donation in Hong Kong. This is a good section to expand on it.

   Reply: Shall mention that in the revised manuscript as suggested.

3. Line 174- Rejection, how does your center monitor for Acute rejection. PFTs or Transbronchial Biopsies?

   Reply: We did routine FOB and transbronchial lung biopsies at 1, 3, 6 and 12 - months post-transplant, and whenever there was unexplained drop in FEV1 on routine monitoring or as clinically indicated.

4. How do you diagnose Chronic allograft dysfunction?

   Reply: Chronic rejection was diagnosed according to the ISHLT criteria based on spirometry

5. Line 193- How do you see ex vivo lung perfusion increasing your number of transplants? Do you have DCD or Living Donors?

   Reply: EVLP are surely potential means to increase the lung transplant number by converting a borderline donor lung into transplantable donor lung. We are introducing this technique in our programme and hopefully would see its impact on transplant numbers in the future. a
   We are currently not performing DCD or living donor lung transplant in Hong Kong though we are working towards them.