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Differences in Donor and Recipient Selection Between Cardiac and Non-Cardiac Thoracic Surgeons in Lung Transplantation

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1. Abstract

Lung transplantation procedures in North America are carried out by both cardiovascular (CV) surgeons and non-cardiac thoracic surgeons (TS). Apart from differences in surgical specialization, there are also recognized variations in institutional transplant volumes. Informal observations have suggested that surgeons from these different backgrounds may vary in how they select suitable donors and recipients for lung transplantation. This study aimed to investigate how surgical specialty and transplant center volume influence these selection decisions.

A web-based survey was distributed to CV and TS surgeons associated with North American training institutions. The survey gathered information about surgical practice type and transplant center volume, and responses were compared accordingly.

A total of 854 surveys were sent, and 45 responses were received, corresponding to a response rate of 5.3%. In most aspects of clinical practice, CV and TS surgeons demonstrated similar preferences. However, notable differences were observed in donor and recipient selection. Cardiovascular surgeons were more willing to consider older recipients and also showed a tendency to accept older donor organs. In addition, high-volume transplant centers were more likely than low-volume centers to perform transplants involving older recipients, older donors, and cases involving longer cold ischemic times.

Understanding the factors that influence donor and recipient selection is essential for improving organ allocation and maximizing the effective use of available donor organs.

2. Keywords: Lung transplantation; Elderly recipients; Physician bias; Frailty index

3. Introduction

As global life expectancy continues to increase, the age at which surgical interventions are offered is gradually rising. In the field of lung transplantation, this shift is evident. Since the introduction of the Lung Allocation Score system, the number of lung transplants performed in patients over the age of 70 has grown significantly. Importantly, survival outcomes in these patients have been found to be comparable to those of recipients aged 60 to 69.

This increase in transplantation among older recipients has occurred despite a trend toward older donor age and a greater prevalence of comorbid conditions among donors in recent years. Research has also shown that the use of extended donor criteria, including organs from donors older than 60 years, does not negatively affect recipient survival when compared with standard donor criteria.

Despite these developments, elderly individuals in the United States are still less likely to receive lung transplants compared with other patient groups. This observation raises questions about the factors that influence donor and recipient selection among transplant surgeons.

Institutional transplant volume is frequently used as a measure of quality and experience in transplantation programs. However, studies in heart transplantation suggest that other factors may also significantly influence outcomes and clinical decision-making. Lung transplantation may be particularly variable in this regard because the procedure is performed by two distinct surgical specialties in the United States: cardiovascular surgeons and non-cardiac thoracic surgeons.

Informal observations have suggested that these two groups of surgeons may differ in how they evaluate transplant candidates and donor organs. This study was therefore designed to investigate how surgical specialty and transplant center volume may influence decision-making in lung transplantation.

4. Methods

A web-based survey was conducted among surgeons who identified themselves as either cardiovascular surgeons or thoracic surgeons and who were affiliated with North American training institutions. The study protocol received approval from the institutional review board.

The survey was distributed via email and provided as a link to an online form hosted through Google Documents. Responses were collected anonymously in order to maintain confidentiality. The survey instrument is provided separately as an appendix.

The questionnaire included items related to recipient selection criteria, donor characteristics, operative preferences, surgeon practice type, and institutional transplant volume. Recipient

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factors included age limits and body mass index thresholds, while donor factors included measures such as arterial oxygenation levels and acceptable ischemic time.

Transplant centers performing more than 20 lung transplants per year were categorized as high-volume centers, while those performing fewer procedures were classified as low-volume centers.

Statistical analyses were conducted using JMP version 9 software. Continuous variables were analyzed using independent sample t-tests, while ordinal and categorical variables were analyzed using chi-square tests. Results are reported as mean values with associated statistical significance. A p-value of 0.05 or less was considered statistically significant.

5. Results

Out of the 854 surveys distributed, 45 responses were received, resulting in a response rate of 5.3%. Overall, cardiovascular surgeons and thoracic surgeons demonstrated similar clinical preferences in several aspects of lung transplantation. These included choices regarding single versus double lung transplantation, the possibility of performing retransplantation, and acceptable limits for recipient body mass index.

However, differences were observed in attitudes toward donor and recipient age. Cardiovascular surgeons were more willing to accept older recipients for lung transplantation. They also showed a tendency toward accepting older donor organs compared with thoracic surgeons.

Interestingly, when respondents were asked about controversial issues in transplantation, neither group identified donor age as the most significant concern in heart transplantation.

Among the cardiovascular surgeons who responded to the survey, the majority practiced at high-volume transplant centers. A slightly smaller proportion of thoracic surgeons reported working at such centers. Despite these differences, the distribution of cardiovascular and thoracic surgeons between high- and low-volume institutions was relatively similar.

Institutional volume also appeared to influence clinical decision-making. Surgeons working at high-volume transplant centers were more likely to perform transplants in older recipients and to accept donor lungs from older individuals. In addition, these centers were more likely to transplant lungs that had experienced longer cold ischemic times compared with lower-volume institutions.

6. Discussion

The findings of this survey suggest that meaningful differences exist in how surgeons determine acceptable age limits for both lung transplant recipients and donors. Consistent with previous research, transplant center volume appears to influence these decisions. High-volume centers may have greater experience and more comprehensive multidisciplinary teams, which can increase physician confidence when performing complex procedures that may be considered higher risk in smaller programs.

One of the most notable findings of this study was the presence of statistically significant differences between cardiovascular surgeons and thoracic surgeons in recipient selection practices. Although the sample size was insufficient to perform a detailed regression analysis, the similar distribution of these surgeons across high- and low-volume centers suggests that these differences are not solely explained by institutional factors.

Specifically, cardiovascular surgeons appeared more willing to consider transplant candidates who were older than 70 years. This finding is particularly interesting because current literature does not necessarily support the use of age greater than 70 as an absolute contraindication for lung transplantation.

Several factors may contribute to this difference in perspective. One possible explanation involves the clinical experiences of surgeons within their respective specialties. Cardiovascular surgeons frequently perform cardiac procedures on elderly patients and may therefore have more positive experiences with surgical outcomes in older populations. Previous research has demonstrated that cardiac surgery in patients over the age of 80 can lead to substantial improvements in both survival and quality of life.

In contrast, thoracic surgeons often treat patients with lung cancer, a disease in which recurrence rates remain relatively high even after curative surgery. Since the average age of lung cancer diagnosis is approximately 71 years, these experiences may influence thoracic surgeons to adopt a more cautious approach when considering lung transplantation in elderly patients.

These differing clinical experiences may contribute to subconscious biases that shape physicians' attitudes toward transplant eligibility. Such biases are often formed through repeated exposure to particular patient populations and treatment outcomes.

7. Study Limitations

Several limitations should be considered when interpreting the results of this study. First, the survey response rate was relatively low. In addition, the survey was distributed broadly to all attending cardiovascular and thoracic surgeons affiliated with training programs in the United States and Canada, rather than exclusively to surgeons actively performing lung transplants.

Although respondents reported that they performed lung transplantation procedures, the anonymous nature of the survey prevented verification of this information.

Another limitation is that individual responses may have been influenced by the transplant center with which each surgeon was affiliated. While cardiovascular and thoracic surgeons were similarly distributed between high- and low-volume centers, these institutional factors could still have affected decision-making

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patterns.

Ideally, a pair-matched study design in which each cardiovascular surgeon is matched with a thoracic surgeon practicing at a similar transplant center would help eliminate potential confounding effects. However, such a design was not feasible due to the voluntary nature of survey participation.

Finally, the results may not fully represent the attitudes and clinical preferences of all lung transplant surgeons practicing in North America.

8. Conclusion

Clinical decision-making in lung transplantation is influenced not only by established medical criteria but also by the experiences and perspectives of physicians. As the general population continues to age, understanding the factors that influence donor and recipient selection becomes increasingly important.

Recognizing the potential role of physician bias and ensuring adherence to standardized criteria are essential steps toward improving fairness and efficiency in organ allocation. Further research is needed to better understand how surgeons determine transplant eligibility and how these decisions can be optimized to ensure that suitable donors and recipients are appropriately matched.

References

1. Kilic A, Merlo CA, Conte JV, Shah AS. Lung transplantation in patients 70 years old or older: have outcomes changed after implementation of the lung allocation score? J Thorac Cardiovasc Surg.
2. Carrier M, Lize JF; Québec-Transplant Programs. Impact of expandedcriteria donors on patient survival after heart, lung, liver and combined organ transplantation. Transplant Proc. 2012; 44: 2231-2234.
3. Abecassis M, Bridges ND, Clancy CJ, Dew MA, Eldadah B, Englesbe MJ, et al. Solid-organ transplantation in older adults: current status and future research. Am J Transplant. 2012; 12: 2608-2622.
4. Kilic A, Weiss ES, Uh DD, Shah AS, Cameron DE, Baumgartner WA, et al. Institutional factors beyond procedural volume significantly impact center variability in outcomes after orthotopic heart transplantations. Ann Surg. 2012; 256: 616-23.
5. Kilic A, George TJ, Beaty CA, Merlo CA, Conte JV, Shah AS. The effect of center volume on the incidence of postoperative complications and their impact on survival after lung transplantation. J Thorac Cardiovasc Surg. 2012; 144: 1502-1508.
6. Krane M, Voss B, Hiebinger A, Deutsch MA, Wottke M, Hapfelmeier A, et al. Twenty years of cardiac surgery in patients aged 80 years and older: risks and benefits. Ann Thorac Surg. 2011; 91: 506-513.
7. Rodriguez KA, Guitron J, Hanseman DJ, Williams V, Starnes SL. Adjuvant and age-related biases in non-small cell lung cancer. Ann Thorac Surg. 2012; 94: 1810-1814.
8. Secunda K, Gordon EJ, Sohn MW, Shinkunas LA, Kaldjian LC, Voigt MD, et al. National survey of provider opinions on controversial characteristics of liver transplant candidates. Liver Transpl. 2013; 19: 395-403.
9. Lasithiotakis K, Petrakis J, Venianaki M, Georgiades G, Koutsomanolis D, Andreou A, et al. Frailty predicts outcome of elective laparoscopic cholecystectomy in geriatric patients. Surg Endosc. 2013; 27: 1144-1150.
10. Muffly LS, Boulukos M, Swanson K, Kocherginsky M, Cerro PD, Schroeder L, et al. Pilot study of comprehensive geriatric assessment (CGA) in allogenic transplant: CGA captures a high prevalence of vulnerabilities in older transplant recipients. Biol Blood Marrow Transplant. Epub ahead of print. 2012.