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Letter to the Editor

Comment on Respiratory Complications Among Living Liver Donors: A Single-Center Retrospective Observational Study

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Dear Editor;

We read with great interest the recent article "Respiratory Complications Among Living Liver Donors: A Single-Center Retrospective Observational Study" published by Elbeialy and colleagues.[1] The authors stated that despite the low incidence of significant respiratory complications among their living liver donor cohort, close monitoring and early management are essential to achieve better prognosis, especially in donors older than 35 years or those with previous surgery. We would like to draw attention to a few points.

Authors state that they routinely use conventional angiography to evaluate the suitability of the living liver donor candidates. In the earlier times of living donor liver transplantation, the imaging techniques had an insufficient quality and conventional angiography was routinely used to avoid unnecessary laparotomy. However, in the last decade, there is a great number of advancements in the accuracy and quality of the non-invasive imaging techniques that resulted in the abandonment of the conventional angiography for the evaluation of the living liver donors.[2] Currently, conventional angiography is only used for the evaluation of vascular anatomy under certain exceptional conditions. In our institute, we use conventional angiography in less than 0.1 % of living liver donor candidates. Similarly, if preoperative ultrasonography, dynamic computerized tomography, and dynamic magnetic resonance imaging are performed appropriately, the fibrosis and hepatosteatosis can be evaluated accurately and occasionally there will be nor need for preoperative liver biopsy. In recent years, transient elastography (Fibroscan) can help determine the texture and steatosis of the liver, and together with using a specific formula, steatosis rates can be determined which is comparable with the histopathological evaluation.[3,4]

The authors have stated that they have used PASS software to calculate the sample size of 124 patients. In our opinion, there is no need for sample size and power analysis calculation in the present study because the authors have included all living liver donors' in the designated period which makes alpha value to be 0.05 at the minimum and the power would be 100%. If the authors were to use a statistical method, they should have performed propensity score matching analysis on the 10 patients with complications by choosing a 1:2 matched control group with similar demographic and clinical characteristics. This approach would

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have reduced bias significantly in the present study.[5]

In the statistical methods section, the authors should clarify the criteria they have used to include the parameters to the logistic regression model, the accepted p values to include the variables to the analysis, the type of logistic regression model that is used (enter, backward, forward, etc.). In Table 1, the authors have expressed the age variable as mean±SD and have stated that there was no statistically significant difference between the groups in terms of the donors' age. However, in the logistic regression model, the authors have used age cut off value of 35 years. The authors should clarify the method of calculation of this cut off value (ROC etc.) and should express the sensitivity and specificity for this cut off value. Another method is to use the cut off values found in other studies that require referring to the specific studies. The authors should clarify the reason why they have not used this cut off value in Table 1.

There is not enough evidence in the literature regarding the relationship between the postoperative pulmonary complications and the right donor hepatectomies. Besides, the authors could not show such a correlation in their study. Nevertheless, our experience including 2250 donor hepatectomies and the review of the literature shows that pulmonary complications are more frequently encountered after the right lobectomies. In our opinion, the main reason for this is the dissection plane between the right lobe and the diaphragm which may lead to diaphragmatic paralysis and may lead to increased diffusion of ascites fluid to the pleural cavity. We have used the data provided by Dondero and colleagues[6] in their study, the risk of pulmonary complications was 47-fold higher in patients undergoing right lobectomy when compared to patients undergoing left lobectomy (OR=47; p=0.008). We have also analyzed the data provided in the study by Iwasaki and colleagues[7] the risk of pleural effusion following right lobectomy was 7.87-fold higher and the p-value was very close to being significant (p=0.051). We also reanalyzed the data of Ulubay and colleagues[8] and we found that the risk of overall pulmonary complications following right lobectomy was 1.4-fold higher but this did not reach statistical significance. Similarly, a re-analysis of the data of Ates and colleagues[9] has shown that overall complication risk was 1.31-fold higher but it did not reach statistical significance. Associating all these results with our experience, during the right lobectomy, we suggest that the dissection should be held close to the liver and far away from the diaphragm as much as possible to reduce the postoperative pulmonary complications that related with surgical procedure.

Disclosures

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

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