See Article page 490.

Commentary: Organ selection and your financial advisor... more in common than you might think

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Are you risk averse? Is *speculation* a nasty word in your lexicon? Do you educate yourself to the hilt before making that definitive selection? Alternatively, are you a go-by-your-gut guy or gal? When it comes to financial investing, there are myriad variables and instruments that any sophisticated investor will point you toward. Of course, you can look at the share price, but there is also earnings per share, price per earnings, dividend yield, the beta, market cap, and on and on and on.

The truth is, as human beings we are wired to minimize risk. To do so we incorporate more and more complexity into decision making. Who amongst us in our busy professional and personal lives has time to develop true financial acumen? Instead, we often delegate such responsibility to our financial advisors, individuals who emanate such surfeit confidence that we breathe a sigh of relief and return to our unopened e-mail messages and unfinished charts. Oooh, look: Another message in my inbox from the documentation team!

Kanou and colleagues present an article emblematic of where we are clearly heading in the field of lung transplant and specifically donor selection.¹ Ten years ago we had cold storage and standard donor criteria. We all know that there are only so many donors out there aged between 25 and 40 years with a P/F ratio >350, no smoking history, and a clear chest radiograph and bronchoscopy. Ultimately, our ability to expand the field of lung transplant to more patients necessitated that the busiest centers assume more risk: older donors, donors with smoking history, donors from a longer distance, donation after circulatory death donors.

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CENTRAL MESSAGE

Enhanced organ assessment adds to the complex decision making around organ selection and may lead to increased reliance on industry expertise.

Logically, it only stood to reason that we would attempt to mitigate our risk through enhanced assessment of these nonideal organs. Enter ex vivo lung perfusion, which allows us to extend the length of time we investigate marginal organs. From these systems and the data they produce, we get even more information to factor into our decision: pulmonary artery pressures, compliance, mixed venous oxygen saturation, oxygen saturation, and the like. What this article heralds is that we have entered the next phase in this era of organ assessment. Soon, as the authors demonstrate, we will measure in real-time cell-free DNA and other molecular by-products that we will then be forced interpret within the context of our more traditional variables.

In my opinion, the field of organ assessment and procurement is moving in the same direction as financial services. Companies like TransMedics (Andover, Mass) and Lung Bioengineering (Silver Spring, Md) are keenly aware that the ex vivo lung perfusion, with enhanced organ assessment, is labor intensive and increasingly complex. For busy surgeons with myriad responsibilities, the ability to outsource this aspect of transplant has instant appeal. Let someone else place the organ on ex vivo lung perfusion, generate an abundance of data, collate and summarize those data, and offer their expert opinion. Sound familiar? It should because it is the future and the future is now.

Reference

1. Kanou T, Nakahira K, Choi AM, Yeung JC, Cypel M, Liu M, et al. Cell-Free DNA in human ex vivo lung perfusate as a potential biomarker to predict the risk of primary graft dysfunction in lung transplantation. *J Thorac Cardiovasc Surg*. 2021;162:490-9.e2.