

# Assoc. Prof. Lin Fung—more work needs to be done in transfusion medicine

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## Expert's introduction

Lin Fung, PhD, is the Associate Professor in Medical Laboratory Science at the University of the Sunshine Coast. Her research interests include blood management in orthopedic and cardiac surgery, impacts of SCI treatment on patient quality of life and health economics, impact and efficacy of transfusions of older adults, transfusion-related acute lung injury (TRALI), and neutrophil immunobiology.

She has over 60 publications and has presented at multiple international conferences. She maintains an active international profile through her role as the International Society of Blood Transfusion's (ISBT) Regional Director of West Pacific. She also holds adjunct positions with the Sunshine Coast Hospital & Health Service, The Prince Charles Hospital, Griffith University, Bond University and North Central Blood Services of American Red Cross in Minnesota. Lin welcomes new collaboration on blood related projects.

## Editor's note

Organized by Chinese Society of Blood Transfusion and co-organized by Guangzhou Blood Center, the 28th Regional Congress of the International Society of Blood Transfusion was successfully held in Guangzhou from November 25th to 28th. This 4-day meeting attracted experts from different countries and regions in the field of blood transfusion. Breakthroughs were shared and difficulties discussed. Communication and brainstorming made this meeting a feast for all participants. In the meeting, Assoc. Prof. Fung, from the University of the Sunshine Coast, presented on the topic "How Different Animal Models Help Us Understand TRALI?" (Figure 1). We were honored to invite her for an interview.

TRALI is a serious transfusion complication



**Figure 1** Snapshot of Assoc. Prof. Fung's presentation.

characterized by the acute onset of non-cardiogenic pulmonary edema following transfusion of blood products. Though we have known about TRALI for a long time and have put efforts into decreasing the incidence, unfortunately deaths caused by TRALI still occur. Lin Fung has spent many years studying TRALI and has published many papers on it. We were honored to have a face-to-face talk with Lin Fung to gather more information on TRALI as well as on her experience in transfusion field.

## Interview questions & responses

**AME:** *Would you briefly introduce yourself, including your affiliation?*

**A/Prof. Fung:** Most people know me as Lin Fung, my surname or family name is Fung and my full Chinese name is Fung Yoke Lin. I was born in Malaysia, but Australia is now my home. I am the Associate Professor in Medical Laboratory Science at the University of the Sunshine Coast. I have just completed my term as the Chairperson of ISBT Working Party on Granulocyte Immunobiology, and am the present ISBT Regional Director of West Pacific.

**AME:** *We know that you are interested in TRALI. What's the current situation of TRALI? What will be the research focus in the next few years?*

**A/Prof. Fung:** I did my PhD in TRALI, and since then we have introduced some strategies to reduce the risk of TRALI. Sadly, if you look at the FDA data, you still can find deaths caused by TRALI. One important strategy is the use of male plasma instead of female plasma. As female plasma has a higher probability of containing leucocyte antibodies, by using male plasma this reduces the risk of antibody mediated TRALI. However, the reality is that some countries in the world are unable to use this strategy.

One of the most important responses with any TRALI event, is to try to determine if antibodies are involved and then to define the specificity of the antibody. Along with this we need to determine which donor had the antibody. This is needed to ensure that blood products from the TRALI implicated donor are not used for therapeutic purposes as they could precipitate another TRALI event. This can be a sensitive issue as blood services often do not want to decline blood donors. One possible solution is to continue to collecting samples from this donor but to use their products for research, or as control plasma. Basically, each country will need to develop a strategy to minimize TRALI that fits with their blood banking practice.

As we have not eliminated TRALI there are still a lot of work to be done. Some TRALI research teams around the world, are using animal models to work out the mechanism for the pathogenesis of TRALI, as I have detailed my presentation. In conjunction with my lecture at this ISBT congress there will be a paper in the next issue of the ISBT Science Series. This is a review paper and contains all the references for the animal TRALI models I spoke about which may be useful for readers.

**AME:** *Do you have other transfusion research interests?*

**A/Prof. Fung:** My research interest is still very transfusion focused but is getting broader. I am looking at patient blood management in cardiac and orthopedic surgery. Another topic is transfusions in older adult patients, as they use a very large proportion of blood resource. Around the world, the trend is to use restrictive transfusion practices for adults. However, in our recent meta-analysis of randomized controlled trials in recipients aged 65 years or older, we found that restrictive transfusion practice was associated

with higher 30-day and 90-day-mortality. So I think we need to study transfusion of older patients more carefully.

**AME:** *In the "Transfusion Medicine Education" session, we learn more about the importance of transfusion medicine education, for students and medical workers in this field. What you do think are the challenges in transfusion education? And how do you see the future of transfusion medicine education?*

**A/Prof. Fung:** A gap in transfusion education or something that is not appreciated is the value of personal contact and exchange. Traditionally we gather information from textbooks, papers and the internet. However, there are somethings that are not written down or cannot be captured in these formats. For me participation in conferences allows me to meet other people, talk to them, and learn from them. Face to face communication is very valuable especially for motivation. The problem is that, it's expensive to attend conferences sometimes. Hence, the challenge is how we can help local blood transfusion services and junior members participate in conferences. Can we locate the conferences closer, or make them more affordable or bring international speakers to local meetings? I am happy to say that the ISBT can be a resource to help support strategies, and as the Regional Director for West Pacific I hope to facilitate this.

As for the future transfusion medicine education, I think we are on the right track but we can always do more and do it better. And to achieve it is important that we meet and talk to understand what the local needs are, and then work out how to meet those needs.

**AME:** *Do you have any words for students who are going to further study in transfusion medicine?*

**A/Prof. Fung:** I think research is a good way and there are many different types of research. I am very impressed by the research conducted in China. From a personal point of view, I think the most important thing in pursuing a higher degree is to find the right supervisor who will also mentor you. I have been very fortunate as my mentor Dr. Robyn Minchinton not only imparted knowledge, but she also taught me how to build and nurture collaborations and this is how we train better transfusion scientists, nurses, clinicians, researchers etc. and improve transfusion practice around the world.

*AME: Thank you for sharing!*

**A/Prof. Fung:** Thank you.

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