

## Prof. Anita S. Chong: focused research in transplantation tolerance



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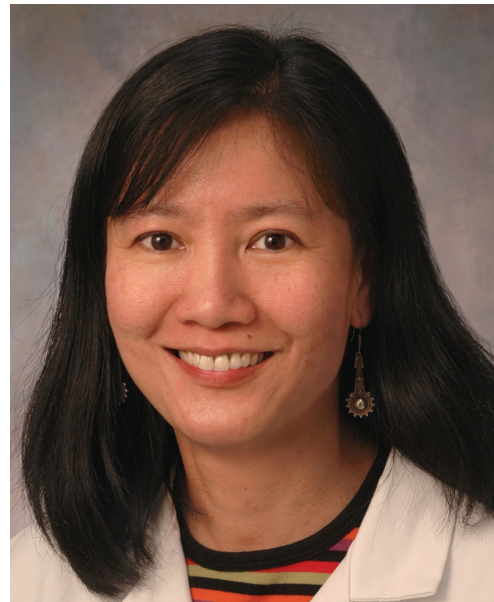
*Anita S. Chong (Figure 1), Professor in Department of Surgery, University of Chicago, is a Co-chair of the Basic Science committee at the Transplantation Society. Her research interests cover Transplantation Tolerance, Mechanisms of Rejection, and the Regulation of T and B Cell Responses to Allografts. During the 4th Biennial Congress of the Asian-Pacific Hepato-Pancreato-Biliary Association (A-PHPBA), the HBSN editor had the opportunity to interview Prof. Chong regarding the current and future development of transplantation immunology and the achievements of her research group. Prof. Chong also introduces the potential of Xenotransplantation in this interview and shares with us her story of role as the Co-chair in Basic Science committee at the Transplantation Society.*

**HBSN:** *Can you give a general picture of the development of transplantation immunology?*

**Prof. Chong:** I think that there are a lot of interests and development in transplantation tolerance including studies of inducing tolerance in patients and also weaning patients off immunosuppression. There is also a lot of research in experimental models looking for new drugs that can induce tolerance and understanding the mechanism of tolerance, with the goal of translating this information into the clinic. So I think that's a very important area in transplant immunology.

**HBSN:** *What do you and your team have achieved in the field?*

**Prof. Chong:** We have been working for the last 5 or 6 years on how inflammation and infections affect the tolerance. If the patient has bacterial infections or inflammation caused by injury, it's very hard to induce tolerance. If you are tolerant and then you get infections, sometimes you can lose the tolerance so the graft will reject. That's an important problem we've identified. So we're trying to figure out ways to be able to predict which infections that threaten the tolerance. We have found that during a state of established tolerance, where there



**Figure 1** Anita S. Chong.

are no immunosuppressive drugs and when the organ is functioning very well, an infection can sometimes cause organ graft rejection. In this infection, we know that it is the production of these inflammatory cytokines, for instance, IL6, interferon-beta, promote T cell activation and ultimately graft rejection.

**HBSN:** *How can you employ your research in the clinic?*

**Prof. Chong:** We do research in tolerance and rejection in mouse models. We hope it can be translated to humans. Right now, we are trying to find some diagnostic markers for infections that cause the loss of tolerance. We're developing new approaches to understand how cells that recognize the allograft behave during tolerance and the loss of tolerance, and also looking for genes in the blood or in the graft that can tell us if the infections are causing the injury to the graft.

Another important area of our research is to understand

B cell and antibody responses and how they affect graft rejection. We are developing new techniques so that we can understand how B cell behave when they see a transplanted organ, with the long-term goal of identifying new agents and can control these responses.

**HBSN: What would you share with us about the future development tendency of transplantation?**

**Prof. Chong:** I think the tolerance is important, but finding new sources of organs is also important. Because I think the field is limited by the number of organs available for transplantation. In many countries, including the US and European countries, organ supply is a very big problem.

Possible solutions to the organ supply problem include xenotransplantation, for example the use of genetically modified pig organs for humans. Also another promising area is stem cell research and bioartificial organs. It is possible that both will contribute in the future to more organs becoming available for transplantation.

**HBSN: As the Co-chair of the Basic Science committee at the Transplantation Society, what would be considered your most impressive contribution?**

**Prof. Chong:** About three years ago, we initiated a funding program called “Mentee-Mentor Scholarship Award”

which is a new concept. Americans and Europeans always traditionally given support to young investigators, but when I become the chair, I had also an Eastern Asian’s view of respecting the teacher (the elders), I proposed the “Mentee-Mentor Scholarship Award” program which is actually a western and eastern combination where both the mentor and mentee is acknowledged. The mentee needs support and encouragement to enter and remain in the field, and be the future of transplantation science and medicine, however, the field cannot progress if there is no teacher. We had the award the first time to support junior investigators and their mentors to the Transplantation Society Congress in Vancouver three years ago. Because of the success of this program, the Basic Science Committee of the Transplantation Society has partnered with many regional and national any transplant societies to sponsor up to 25 mentee-mentor pairs to attend either the Basic Science Meeting or the International Congress of the Transplantation Society over the past three years.

**HBSN: Thank you very much for the interview!**

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