

International Scholar Award from the
International Liver Transplantation Society (ILTS)
2016

International Travel Scholar Award (ILTS) - Written report

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BARCELONA

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With a great pleasure I come through this *International Travel Scholar Award* written report document to demonstrate my productive stay in Spain at Liver Transplant Unit, Department of Surgery, Hospital Clínic, Barcelona. This wonderful International Travel Scholar Award helps me to promote my career supported by the International Liver Transplantation Society (ILTS).

Firstly, in this period I managed to finish important steps in my professional career:

1. **Post-doctoral clinical and research fellow** at Hospital Clínic, Liver Transplant Unit, Department of Surgery (Prof. Dr. Constantino Fondevila and Prof. Dr. Juan Carlos Garcia-Valdecasas);

2. **Master in Translational Medicine** - Universitat de Barcelona (UB) – Hepatocellular regeneration after major hepatic resection in a porcine model - Student supervisor: Prof. Dr. Constantino Fondevila and Master coordinator: Prof. Dr. Joseph Llovet; (Figure 1)

3. Visiting **Fellow** at Hospital Clinic of Barcelona in the Hepatobiliopancreatic and General Surgery, Liver Transplant Unit, Department of Surgery. Ministry of Health, Social Services and Equality – Spain (Prof. Dr. Faust Feu and Prof. Francesca Pons Pons);



Figure 1. Defense of Master in Translational Medicine thesis at Universitat de Barcelona (UB).

Second, the two primary focuses of my grant period were as follows:

Part A: Clinical aspects of liver transplantation. At the Hospital Clínic, approximately 2.000 liver transplants have been performed (Figure 2). While most have been done using grafts arising through donation after brain death (DBD), a number have also been performed using LDLT, uncontrolled DCD, and most recently controlled DCD organs. Overall, results in terms of graft and patient survival at the Hospital Clínic have been excellent. These excellent results have depended on several key elements, which, once replicated, could potentially improve liver transplant outcomes in my home country, as well:



Figure 2. I was present in the surgical team that performed the liver transplantation number 2.000 at H. Clinic Barcelona.

1) Number of donors: An important factor that influences post-transplant outcomes is the number of donor livers available to transplant. The so-called Spanish model is world-renowned and has led to the highest rate of donors anywhere in the world (35.5 pmp). Though Brazil is a much larger country, the rates of donation are considerably more modest (estimated 50 potential donors but only 14.5 effective donors pmp). I contacted directly with transplant coordinators and observed first-hand the Spanish system; then I identify some differences with Brazil and potential areas for improvement to increase organ donation rates in Sao Paolo and beyond.

2) Protocols: The Hospital Clínic has established evidenced-based protocols that govern all aspects of the liver transplant process, covering everything from patient evaluation and listing to pre- and intraoperative management to postoperative care and handling of potential complications. Such guidelines are rare in my center and in Brazil in general but could have a very positive impact on outcomes. Furthermore, my personal exposure to a more evidence-based work ethic will improve my own practice habits and approach to patient care.

Part B: Experimental liver transplantation. The Barcelona Group has over a decade's experience performing porcine OLT without veno-venous bypass and has successfully completed over one hundred procedures, including in both partial liver transplant and DCD models. I actively participated and learned how to perform these procedures by myself, as well as to learn about critical aspects of perioperative care and sample processing and analysis.



Figure 3. Participation in experimental porcine OLT without veno-venous bypass models.

Finally, I was able to participate in the development of scientific manuscripts. Which they have been submitted or in the final stage for submission:

- Giant symptomatic malignant pancreatic cyst mimicking a tumor - accepted for publication in the Spanish Journal of Gastroenterology (REED) - tutor Dr. Joana Ferrer;
- Challenges diagnosis and therapy of xanthogranulomatous cholecystitis mimicking and aggressive carcinoma - ongoing - tutor Dr. Constantino Fondevila;
- Clinically significant Portal hypertension after post-major hepatectomy for cholangiocarcinoma - ongoing - tutor Dr. Victor Molina;
- Long-term analysis in pancreas transplantation arterial anastomosis using splenomesenteric: 15 Years with 334 Patients - ongoing - tutor Dr. Joana Ferrer.
- Surgical treatment of acute liver failure - in progress - Dr. Constantino Fondevila tutor;
- Spanish experience in the surgical treatment of acute hepatitis or fulminant hepatic failure (HF) - multicentric proyecto - ongoing - tutor Dr. Constantino Fondevila;

Furthermore, I had the opportunity to attend courses and conferences during this period:

- Curso de Cirurgia Hepática Avançada. (Carga horária: 48h). Hospital Clínic de Barcelona, CLÍNIC, España;

- Rechazo Humoral- Nuevas Perspectivas. Sociedade Española de Transplante, SET, España.

- Bases de La Cirugía Hepática Moderna - Cáceres CCM. (Carga horária: 72h). Universidad Complutense de Madrid, UCM, España.

- International Meeting on Living Donor Liver Transplantation. Barcelona, Catalunya, España.

- International Meeting on Therapy in Liver Diseases. Barcelona, Catalunya, España.

In conclusion, this present award written report demonstrate this important ILTS suport that will influenciate the future of the Liver Transplant centers around the wourld. I had taken essential skills back to Brazil in order to initiate my own experimental protocols and lines of research.

Acknowledgments

Firstly, I would like to thank the Alves de Queiroz Family Fund for Scientific Research and “Centro de Estudos e Desenvolvimento da Gastroenterologia e Hepatologia” – FMUSP, Sao Paulo - Brazil. Also, I would like to acknowledge the support provided by Prof. Dr. Flair José Carrilho and Prof. Dr. Luiz Carneiro D’Albuquerque from the Gastroenterology Departmannt – FMUSP, Sao Paulo - Brazil.

Mainly, I would like to thank the Prof. Dr. Constantino Fondevila for his assistance and the opportunity to learn and be part of this project.

Finally, I would also like to acknowledge the work and support of all members of the group.