

EBJIS 2019 Fellowship Report

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First of all we would like to express our gratitude to the EBJIS Executive Committee for giving us the opportunity to visit three European centers specialized in the treatment of Bone and Joints infections. We also would like to thank to all the centers for their hospitality.

The Fellowship started at the 38th annual EBJIS meeting in Antwerp, Belgium. During the meeting we were introduced to our future hosts and to Elenida Shkarpa, who took care of all the organization; we really thank her for her efforts. Due to personal problems the third fellow had to cancel, so this year we were only two fellows.

The first center that we visited was **Valdoltra Orthopedic Hospital** and our host was Pr. Rihard Trebse. In this center they receive septic patients from all over Slovenia, they perform around 90-100 septic surgeries per year. The septic patients are admitted to a dedicated ward with specific-trained personnel (approximately 16 beds). In their practice they use Pro-Implant foundation diagnostic criteria and treatment algorithm. On the first day we attended the morning rounds with Pr. Trebse (orthopedic surgeon and chief of the unit), a clinical pharmacologist who is the referent on antibiotherapy and a physiotherapist. We talked about various cases including the two septic surgeries scheduled the next day and about the antibiotic protocol that they follow. We also talked about the diagnostic value of joint aspiration and scintigraphy.

Afterwards we visited the laboratory getting a deep insight about the diagnostic value of synovial fluid cytology, since they use it in joint aspiration and as an intraoperative assessment. In this center there is a low rate of drug resistant bacteria. We also met Pr. Andrej Cor, anatomopathologist, who showed us a plethora of histology samples, from infection to other differential diagnosis (metallosis, CPP crystals, PPE crystals etc) and explained to us the importance of a close collaboration between the clinicians and the pathologist.

The next day we scrubbed in for two septic surgeries: the first one was the first stage in a two stage revision for a knee PJI with insertion of a custom made antibiotic loaded cement spacer and the second one was a one stage exchange of a chronic knee PJI. We appreciate the accuracy of the debridement, done with visual guidance obtained by a methylene-blue injection. On the last day we scrubbed in for non-septic surgeries and attended rounds with Pr. Trebse.

Our next center was **CHUV Lausanne** and our host was Pr. Olivier Borens, head of the orthopedic septic unit. All ortho-septic patients are hospitalized in a dedicated ward. Similarly to the Valdoltra Hospital they receive septic patient from different hospitals (private or public) and they perform 80-90 septic surgeries

per year. They have a full dedicated team, with an ID specialist that is in charge of antibiotherapy and assists to morning rounds with orthopedic surgeons.

On the first day we attended morning rounds with Pr. Borens, the ID specialist, the residents, the nurses and the physiotherapist. This allowed us to see the local algorithm for diagnosis and treatment of PJ and Fracture Related infections. They developed their own guidelines and they have a low rate of drug resistant bacteria. After the rounds we discussed with Pr. Borens a complex case of PJI, next we visited the outpatient clinic where we assisted at 4 consults (MSSA infected shoulder prosthesis, diabetic foot, chronic osteomyelitis). In the afternoon we discussed with the orthopedic team the latest and ongoing research projects. In the evening Pr. Borens generously invited us to dinner to a traditional Swiss restaurant. Over a cheese fondue and a glass of "eau de vie" we had a lot of great conversations.

The next day we scrubbed in for two surgeries and assisted two others septic surgeries. The first one was the second stage of two stage revision (reimplantation of prosthesis) without drug holiday. The second one was quite complex: the first stage of a two stage revision for pseudotumor hip prosthesis infected with *Streptococcus oralis*. They use custom made antibiotic loaded cement spacers and Pr. Borens showed us how to make one with a very interesting and reproducible technique. We assisted to two other surgeries: one debridement for pubic symphysis osteomyelitis, and a one-stage nail exchange for a septic non-union of a diaphyseal femur fracture where Pr. Borens showed us some tip and tricks of hardware removal.

We had the weekend off and we visited Montreux and some museums in Lausanne. We had an unexpected encounter at the Musee de l'Elysee: Elenida! What a wonderful surprise.

The final center was **Hospital Clinic de Barcelona** and our host was Pr. Alex Soriano. Their work is more focused on PJI; the patients are held in the hip-replacement ward or knee-replacement ward accordingly to their pathology. Since they had a huge research activity, during years they developed their own prophylaxis, diagnostic and treatment algorithm that they kindly shared and explained to us during our nice days in their facility.

The first day started with morning rounds, a discussion about complex PJI cases (*Listeria* PJ infection, *Salmonella* and MRSA co-infection) with the orthopedic team (Dr. Ernesto Munoz and Dr. Martinez) and Pr. Soriano. They have a higher rate of drug resistant bacteria (MRSA, ESBL and CoN) so their protocols are adapted accordingly. They use a 6 weeks regimen, drug holiday before reimplantation and prioritize the one stage revision over the two stage. In the afternoon Pr. Soriano presented us their recent research projects, the new EBJIS diagnosis criteria, their protocol on preoperative prophylaxis, new biomarkers and a lot of other interesting subjects. The discussion we had was great, very informative and allowed us to note the impressive scientific activity of the center. On the second day, even though it was a bank holiday, Pr. Soriano kindly spent the morning with us doing the morning rounds. We also talked about a few cases and recent papers.

On the last day, the orthopedic specialist fellow scrubbed in for a septic surgery (DAIR for a knee joint prosthesis infected with *Streptococcus dysgalactiae* in a morbid obese patient) and the ID fellow did the

morning rounds with Dr. Laura Morata, ID specialist. In the afternoon Dr. Morata presented us the newest antibiotics against gram positive cocci and gram negative bacteria and their effectiveness in PJI treatment.

It was an honor and a privilege to be an EBJIS Fellow. It was a great experience that allowed us to meet some extraordinary people and gave us the motivation to continue the research in this field. Also it was a great idea to pair fellows from different specialties, in our case ID and orthopedic, it granted us an insight into each other specialty and a better understanding of the complex nature of Bone and Joint infections letting us grow from each other experience.

Sincerely,

Camelia Gubavu

Daniele De Meo