Research Networking Programmes

Short Visit Grant ☒ or Exchange Visit Grant ☐

(please tick the relevant box)

Scientific Report

The scientific report (WORD or PDF file – maximum of eight A4 pages) should be submitted online within one month of the event. It will be published on the ESF website.

Proposal Title: Dr. Julija Radojicic

Application Reference N°: 5455

1) Purpose of the visit

I spent my short scientific mission in Oslo, at the University Hospital, Rikshospitalet, and during the stay I visited Oslo Cleft Craniofacial team. My supervisors were orthodontist Gunvor Semb and orthodontist Elizabeth Ronning. The visit took place 16th - 21st March 2014. The visit had dual character: scientific – research and clinical. The main objective of the visit was considering possibilities for the beggining of a research project by means of which results from four of the Clinical Centres in Serbia as far as treatment of children with cleft lip and palate is concerned would be compared with those of Eurocleft study samples. The purpose of STSM was attendance at three-day postgraduate course "The challenges in the multidisciplinary management of cleft lip and palate" held by prof. Gunvor Semb, that is in a direct relation to the mentioned research project which is going to take place in Serbia. In addition, through the discussion with each member of the Cleft team, it is concluded that probably the most valuable aim of this short mission was realising the importance of multidisciplinary treatment of children with clefts.

2) Description of the work carried out during the visit

First of all, I am extremely satisfied with my short visit to the University Hospital, Rikshospitalet, and I believe that the targets determined before my trip to Oslo are completely met.
1. My visit to Oslo began with attendance at the postgraduate course "The challenges in the multidisciplinary management of cleft lip and palate", which took place at the

Institute of Clinical Dentistry, Department of Orthodontics, University of Oslo. It lasted three days (March 17-19th 2014). It was of great importance for me, because, first of all, I estimated the level of my knowledge about the entire issue in relation to the clefts, which I have acquired during my education so far. Beside the fact that I have been dealing with the problem of cleft over 14 years, that I received master's degree on the topic “The Possible Risk Factors in the Formation of Cleft Lip and Palate“, that I received my PHD degree on topic “Quantitative Three-Dimensional Analysis of Effects of Early Orthodontic Therapy Used in Various Types of Cleft Palate and Alveolar Edge in Infants“, I still was in dilemma whether my views regarding clefts were wide enough, whether there was something that I was not familiar with, is there a possibility to reach even higher level of knowledge and apply it on my patients. Undoubtedly, this three-day course gave me an assurance, determined my limits and my position in comparison with the famous world standards and it confirmed that the knowledge that I have acquired reading loads of literature about clefts is not poor, and at the same time it motivated me to continue with my specialisation.
The three-day course had a research character, as well. What I would like to accentuate at the beginning is that I had a wish to meet the members of the researh team from Oslo. I was meeting them during the course, because exactly they were the lecturers. The Oslo team is consisted of the following members: Gunvor Semb, Nina Lindberg, Michael Matzen, Marianne Lofstad, Jorunn Lemvik, Jorunn Lemvik, Ruth Hypher and Elisabeth Ronning. Except the fact that they are great professionals, they are also very pleasant, kind and unslefish people and they made wonderful impression on me, especially an orthodontist Gunvor Semb, whom I considered my host, and an orthodontist Elizabeth Ronning, who I spent most of the time with at the Rikshospitalet Clinic. The course was commenced by prof. Gunvor Semb, with the description of historical development and beginning of the cleft team. The indisputable importance that the team has for the clefts was indicated. Once more we passed through the components of cleft issues, aetiology, classification, embryology, fetal deseases, postsurgical disturbed growth, dental anomalies, hearing, speech and psychosocial problems in a very picturesque way (documented with many pictures from the clinical practice). After that, the entire problem of clefts, which was conjured up by Gunvor Semb, emphasized so much the significance of multidisciplinary team work on the cleft treatment that I am sure that the impression will follow me during my whole life. She indicated the presence of the problem within the European Clinical Network (201 cleft centres and even 194 surgical protocols), along with the question whether that is clinical freedom or clinical chaos, with the ascertainment that there is no the best or the worst protocol. There was made a look-back on the role of each member of the team (specialist nurses, cleft surgeons, speech and language therapists, psychologists, orthodontists, prosthodontist). During the course, we were progressively led into the burden of care, in a very direct and precise way presented by prof Gunvor Semb. We were given the opportunity to improve our knowledge regarding distracted and specific growth with different types of clefts, as based on rich documentation from her long-standing clinical practice. Furthermore, options of orthodontic treatment were introduced to us. The protocole of the orthodontic therapy in Oslo was of the highest importance to me. I learned l lot about orthodontic therapy, and concerning the fact that I myself am an orthodontist, knowlegde from this area is of immense value for me because I will be able to apply it on my patients. Prof. Gunvor Semb thoroughly presented to us orthodontic therapy before alveolar bone grafting, bone grafting, orthodontic therapy during the permanent dentition, retention and long term

follow-up. She focused a special attention to the so important orthodontic surgery in her final part. I am infinitely grateful for that!
The Oslo protocol was presented to us by surgeon Michael Matzen. He pointed out the importance of main specialities included in the team: plastic surgeon, orthodontist, psychologist, oral surgeon, but he also emphasized the role of co-operators: pediatrician, medical geneticist, ophthalmologist, anesthesiologist and so on. He presented a surgeric protocol with different types of cleft, and which largely depends on individual assessment. He presented us the weight of velopharyngeal incompetence and hypernasality as the main clinical problem which accompanies this type of cleft, bone grafting at unilateral cleft lip and palate, and a special reference is made on orthodontic analyses in the selection of surgical technique when using orthognathic surgery (Le fort I, Bimaxillary Osteotomy, Osteodistraction).
Prof. Elisabeth Ronning held two lectures in the three-day course, "Orthognatic surgery Cleft Lip and Palate" and "Syndroms and other congenital disorders in the head and neck". It pointed to many difficulties put in front of an orthodontist before proceeding with the therapy, from the standpoint of aesthetics, function and psychosocial standpoint. In particular, emphasis is placed on the importance of orthognatic surgery in treatment of children with cleft lip and palate, which is increasingly gaining importance and which is thoroughly perfected by the members of the cleft team. We were explained a hierarchical role, Dental Unit, which acts as a coordinator, local orthodontists who together with dental UNITA carry out orthodontic treatment, and the Department of plastic and reconstructive surgery, which exclusively carries out the surgery. Elisabeth explained orthodontic analysis in a very detailed manner, primarily cephalometric analysis that precedes orthognatic surgery and which is carried out through a variety of procedures: Le Fort I, Le Fort II, Le fort III, Sagital ramus osteotomy, Vertical ramus osteotomy i genioplasty. She also pointed out the importance of the multidisciplinary team.
The other part of the course "The challenges in the multidisciplinary management of cleft lip and palate" had a research character. Bearing in mind that my visit to Oslo was primarily aimed at the beginning of the implementation of the assessment of effectiveness of treatment provided to patients with clefts in Serbia through Goslon Yardstick index, I was especially interested in this part of course. We learned that research is very important, perhaps the most important factor within the cleft care, resulting in conclusions about possible perfected techniques of treatment, and that the results of years of research can be applied only. In addition, our attention is drawn to some of the research beliefs (bad research can be harmful, 50% chance new treatments worse than old, as well as that patients must have a say in priorities). The problem of the existence of different levels of evidence was also discussed: from expert opinions to systematic review, as well as specific challenges in clefts, such as diverse outcomes, sample size, length of follow-up, limited research funds, limited research infrastructure, operator skill and learning curve. We became familiar with the ideal conditions for single centers archive, as well as with the consistency of protocol in Oslo. I was amazed with the information concerning the consistency of patient attendance. Out of 837 patients who underwent alveolar bone grafting, only 12 (1.4%) failed to attend a four year post review.
A remarkable feature of the three-day course is that we had the opportunity to be presented with the results of a 20-year follow-up 149 patients with unilateral cleft lip and palate by prof. Gunvor Semb, and who were treated according to the Oslo protocol for the treatment. Taking into account all the specifics regarding children with clefts (regarding both the research and treatment), I think that the results are of enormous value.

During the 20-year following, 589 study models and 576 lateral cephalograms at the same age as models were taken into account.
What was followed is:
a. height of the interdental septum after alveolar bone grafting (Gergland /Abyholm scale) through the X-rays. The results showed reasonable state of implementation of alveolar bone grafting because 80% of treated children had a normal septum (score 1) and 18% of children had a score 2 (75% of normal septum). Positive effects of twenty-year following of treatment via alveolar bone grafting is a confirmation of its application, and the continuation of its implementation within the Oslo Protocol. Besides, we were presented a new scale for scoring the naso-apical aspect in relation to whether or not there is a defect, whether the defect is small or big. Twenty-year following of patients with UCLP has shown that in 97% of nasal scores from bone grafting were positive, and 3% were negative, and that the gap closure was achieved through orthodontic treatment, and only 9% through the prosthetics.
b. dentofacial development (using original and modified Goslon Yardstic, and standard cephalometric measurements). Index Goslon Yardstick for assessing dental arch relationship using study models was particularly interesting to me, because I myself will apply it in future surveys in Serbia. The meaning of Goslon yardstick used for rating models at mixed dentition and early permanent dentition which uses five-category scale was very thoroughly presented to us. All dimensions – the anteroposterior, the vertical and the transverse are rated together in one score. The 5-year Yardstick is also presented, which is a modification of the original index Goslon yardstick and it is used for rating the models at deciduous dentition. This was developed to detect good or bad surgery at an earlier stage. It was also shown that the dentofacial development of these children was followed through 18 standard cephalometric variables (14 angular and 4 linear measurements).
Moreover, Prof. Gunvor Semb within the intracentric outcome study in Oslo spoke about equally important psychosocial adjustment.
The final part of the three day course “The challenges in the multidisciplinary management of cleft lip and palate” was dedicated to international collaboration. The talk was about multicentre comparative studies, network bulding in Europe including agreement on guidelines on standards and documentation, a Europian project, as well as about randomised clinical trials (velofaringeal incompetence trial, Scandcleft trials and tops trial.
Collaboration with CLP support groups and a film: “Visible different, but strong” made by Norwegian patients born with CLP. The film made a strong impression on me, and it led me to the idea to make a similar film in my country, which would for sure provoke strong emotions among the audience, because, no matter of the geographical difference, the problem of children with cleft lip and palate is the same everywhere.

2. Visit to the University Hospital, Rikshospitalet

During the course, between 17th and 21st March 2014, I visited University Hospital, Rikshospitalet. There I had the opportunity to see everything that I have heard in the course “The challenges in the multidisciplinary management of cleft lip and palate” under the patronage of Prof. Elisabeth Ronning. First of all, I had the opportunity to see how the Oslo team for clefts functions in accordance with the Oslo protocol. I was amazed by the dedication of the doctors and nurses, their relationship to the patient, and professionalism in every aspect.

I became familiar with the rich and to the finest details ordered documentation of patients. I realized that only with the documentation ordered in that way useful research can be carried out. I visited the room where plaster models of patients are kept and which are made in accordance with their age (0-3 mths, 12 mths, 2 years, 3 years, 4 years, 5 years, 6 years, 7-9 years, 10 years and 16 years). I became familiar with the agenda of marking a box, in which plaster prints are kept in relation to the type of cleft.

I attended a control of patients made by Dr. Elisabeth Ronning and Dr. Paul. On that occasion, I noticed that there were a lot of children with clefts who were from different nations compared to their parents. On that observation I got an answer that in Norway there are a lot of children with clefts who are adopted, which is not the case in my country. Most of the time at the clinic Rikshospitale I spent studying and practicing assessment through Goslon Yardstick index on the plaster models.

3) Description of the main results obtained

1. The specific protocol in the Oslo team and difference from cleft care in Serbia. No orthodontic treatment in the decidous dentition. Fixed appliances only with definite treatment periods.
2. Detailed information about alveolar bone grafting. These techniques is the most commonly used by Oslo cleft surgeons to reconstruct the alveolar cleft in ULCLP, BLCLP and UCLA patients. The secondary alveolar bone graft is divided in "early bone graft" which is performed between the ages of 7 and 9 years when the root of the lateral incisor on the cleft side is going to erupt through the grafted site.
In Serbia, most centers do not perform bone grafting .

4) Future collaboration with host institution (if applicable)

Given that a cleft care team center does not exist in my country, all future actions will be direct towards establishing this center.
Simultaneously, forming of the protocol is planned.

Research section will be focused towards comparison of the dental arch relationships of Serbian patients with complete unilateral cleft lip and palate (UCLP) and the results reported for participants in the Eurocleft study. Study models of patients with UCLP from 4 clinical centers in Serbia will be evaluated. The study will include children with (UCLP) aged 8-11. The examiners will rate the three-dimensional models using the GOSLON Yardstick.

5) Projected publications / articles resulting or to result from the grant *(ESF must be acknowledged in publications resulting from the grantee's work in relation with the grant)*

The specific protocol in the Oslo team and difference from cleft care in Serbia.

6) Other comments (if any)

I will keep the trip to Oslo in nice memory. I hope it is the beginning of our cooperation and that with the involvement in Eurocleft Net Research I will have the opportunity to contribute not only the field of research, but also the field of treatment of children with cleft lip and palate.