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.Radost Velikova

Application Reference N°: 6319

1) Purpose of the visit

The main aim of the visit was to share experience about the multidisciplinary protocol used by Oslo cleft team, orthodontic treatment principles and to compare the differences. This funding will help to increase the level of multidisciplinary cleft care.. The activities that are planning for this trip were: to be introduced to the team members, to visit and have discussions with all team members, visit clinics and surgeries, and to attend the Teams course for the postgraduate orthodontic students from 17-19 March 2014.

2) Description of the work carried out during the visit

My visit starts with a 3 days (17-19 march, 9-15.30) course for postgraduates students, named "The challenges in the management of cleft lip and palate: Clinic and research: Brief introduction to other craniofacial anomalies." The seminars were held at the Dental Hospital, auditorium II and were organised by prof.Gunvor semb
Every cleft team specialists gave a lecture about his role in the team work, according to Oslo protocol. The specialists were: Gunvor Semb-orthodontist, Ruth Hypher-psychologist, Jorunn Lemvik-speech therapist, Nina Lindberg- specilised cleft nurse, Marianne Lofstad-prostodontist, Michael Matzen-plastic and maxillofacial surgeon, Elisabeth Rønning-orthodontist-Head of Dental Unit,Cleft lip and palate craniofacial disorders, Department of Plastic and Reconstuctive surgery, Oslo University Hospital Rikshospitalet,Norway.

Its quite common in Norway -1/500 cleft lip/palate. If we take a global view of cleft lip and palate, its said that they are 1/600.

The topics of disscusion in the course:

- History of CLP in Norway
- Classification of cleft type and the challenges that they give us
- Components of the problem
- Why cleft patients need teamwork
- Multidisciplinary principles
- How these children develop and grow
- Research about CLP, how we measure outcome
- Goslon Yardstick index for dental arch relationship
- Intercenter studies-controls
- How we choose the right orthodontic treatment

Oslo cleft lip and palate team treats about 2/3 of the CLP individuals in Norway. The center gets 80-100 new patients per year, included some few percent with other craniofacial disorders. Abbreviations:CP-cleft palate, CL-cleft lip,CLA-cleft lip alveolus, UCLP-unilateral cleft lip palate, BCLP-bilateral cleft lip palate

The team is situated in Rikshospitalet (plastic surgeons, special nurses,secretary) and in Bredvet competence center (speech therapist, psychologist,orthodontist, ENT specialist, dental nurse,secretary). The Dental Unit keeps a large database consists of standard records: oextra and intraoral photos, impressions for study models, OPG,Ceph,occlusal x-ray (standardized).

In Tuesday afternoon i visited so called 16 year joint clinic in the Hospital. This means that all of the 16 years old cleft patients were visiting the Rikshospitalet for the follow up according to the Oslo protocol.

Oslo protocol

1).Before primary surgery of all cleft types, the parents meet all the specialists in the team and the orthodontist has 15 minutes oral presentation.

2). 4 year examination of all types cleft except CP, The patients are seen by plastic surgeon,speech therapist, ENT specialist. The orthodontist make extra and intraoral photos only, examination of oral hygiene, standart of dental care, tooth position and occlusion. Oral information to the parents about future plans.Standard letter with individual information to the local dental clinic with copy to the parents.

3). 6 year examination of all cleft types by the orthodontist and speech therapist.Standard records-impressions, OPG,Ceph, occlusal x-ray,photos.Oral information to the parents about x-ray discoveries andfuture plans;bone grafting and orthodontic treatment.

4) .8 year examination by the orthodontist of UCLP,BCLP,CLA. Planning early treatment for functional and/or esthetic reason or functional reasons if necessary. ULCLP,BLCLP,CLA-frontal expansion,correction of rotation,tipping of upper central incisors; transverse expansion to prepare for early bone grafting. For BCLP-stabilizing of the mobile premaxilla in connection with early bone grafting.

5). 10 year examination-CL,CLA,standard records with succesful bone grafting and no serious scar. Send to local orthodontist or planning late bone grafting

6).12-13 year examination for orthodontist-standard records for CLA,UCLP,BCLP for early permanent dentition. Planning and performing orthodontic treatment

7). 16 year examination-multidisciplinary all cleft types-standard records CP,CL-after orthodontic treatment; UCLP,BCLP-planning orthognatic surgery,girls when necessary.

8). 18,19 or 21-last examination -records planning for orthognatic surgery,boys if necessary
Between the standard examinations they follow tooth eruption and prebone grafting at individual intervals.
After bone grafting control by occlusal x-ray 6 weeks, 6 months and 12 months.
After orthognatic surgery-control and standard records 6 months,12 months and 36 months
Another topic of discussion was orthognatic surgery for cleft lip and palate. The orthodontist's consideration are mentioned:1) functional-occlusion,chewing pattern,lip closure,mouth function,position of the jaws,facial type 2)esthetic-soft tissue profile,dental shaw,general facial esthetics. 3)psychosocial.What kind of information is needed-records discussingwith the maxillofacial surgeon in the team.Referral to the speech therapist,ENT doctor and psychologist. In Oslo a slightly higher percentage (10%) in the last decade than in the first decade (8.4 %) had had orthognatic surgery for UCLP an BCLP born durin the perid 1973-1995.The different procedures were: Le Fort I , II, III, sagittal ramus osteotomy,vertical ramus osteotomy, genioplasty.
Syndromes and other congenital disorders in the head and neck were also another field of discussion. The treatment protocol includes three stages:stage 1 infants-life saving basic functions:stage 2 children-function and stage 3 after growth-functon and esthetics.
Craniosynostosis is seen in 0,4-1 per 1000 living newborn. 90% a simple synostosis with early closin of one or more sutures.10% are complex craniofacial syndromes with affection of the middle face. Syndromal craniosynostoses are Crouzon, Apert, Pfeifer, Saethre-Chotzen, Muenke.

3) Description of the main results obtained

1. The specific protocol in the Oslo team and difference from the protocol in Bulgaria. 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 Bulgaria secondary bone grafting is done at two stages from 5-6 years old or from 8-9 years old children.
Early orthodontic treatment before bone graft 4-6 months active treatment.
3. The appropriate time to start orthodontic treatment on patients of cleft lip and palate by Oslo team is mixed dentition. A special attention is made of secondary bone grafting at ULCLP,BCLP and cleft lip and alveolus.
4.The occlusal x-ray used for pre and post bone grafting can be introduced in Bulgaria
5. Training and callibration of using Goslon –Yardsick and 5 category scale for mixed dentition and 5 year primary dentition for assessing dental arch relationships using study models

4) Future collaboration with host institution (if applicable)

I can send an email and contact Dr Elisabeth Ronning or prof.Gunvor Semb when i have some cleft cases and want to share an experience.

We discuss the differences in the two protocols in Oslo and Bulgaria and decided to make a comparative study of 20 study models at 5 and 10 years old ULCLP patients. In Bulgaria we start the orthodontic treatment early at 5 and prepare the cases for bone graft which is done at 6-7 years. Follow up at 10 years old cleft children and compare the dental arches relationships. In Oslo follow up and save records for the 4 and 6 years old patients and start the treatment in mixed dentition and prepare for bone graft.

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)*

Comparison of the protocol of care born with cleft lip and palate in Oslo, Norway and Plovdiv, Bulgaria

6) Other comments (if any)

This short visit grant was very useful for me.I managed to see how the clef team work can be organised and how important is for the different specialist to work in close contact. I saw a great collection of database from plastic models that were collected for many years. This is the way the specialist can see the results of the multidisciplinary care and can compare the results with other centers.

All of this work is possible because the government covers all of the treatment of cleft patients and travelling expenses to visit joint clinics and the possibility to do this database.