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LETTER TO THE EDITOR

REPORT ON THE INTERNSHIP AT QUEEN ASTRID MILITARY HOSPITAL BURNS CENTRE IN BRUSSELS, BELGIUM

Between the 4th and 29th May, 2015, I was glad to have had the opportunity of accepting an internship in the Queen Astrid Military Hospital Burns Centre in Neder-Over-Heembeek, a suburb of Brussels, Belgium. This military Burns Centre has an excellent reputation all over the world for their progressive, and comprehensive treatment of burns injuries. Recently, it has been entirely renovated and equipped with the latest modern technologies. During the internship, I gained extensive experience when I took part in the daily medical activities such as working in the ICU, standard wards, operating theatres, and outpatient department.

The City of Brussels, the capital of Belgium, covers an area of 32.61 km^2. It consists of the central historic town and certain additional areas within the greater Brussels-Capital Region; namely Haren, Laeken, Avenue Louise and the Bois de la Cambre park to the south and Neder-Over-Heembeek to the north, where the Military Hospital is situated. Brussels is the seat of NATO as well as some other institutions of the European Union, and it has a total population of about 178 000 people, of whom approximately 50 000 are registered as non-Belgians. Brussels is also well known for its sights such as medieval Grand-Place Square or Maneken Pis, which visit I really enjoyed.

Thanks to the invitation of COL. Dr. Serge Jenes, Head of the Burns Centre, I had the opportunity to observe and also to take part in the process of treating severely burnt patients.

Queen Astrid Military Hospital is the only military hospital in Belgium. Compared to a general hospital it specializes in specific domains such as burns care, hyperbaric medicine, orthopedics, rehabilitation etc. It is also designed for the treatment of entitled military and civilian personnel. Mainly active military and civilian personnel of the Belgian Ministry of Defence. The Burns Centre of the hospital, being an expertise centre, is opened to civilians against cost reimbursement by health insurance companies. The Burns Centre itself makes up the main part of the hospital and it employs sixteen doctors, eighty nurses, and about thirty other medical and non-medical personnel. Most of the physicians are

Figure 1. View on the Queen Astrid Military Hospital, Neder-Over-Heembeek, a suburb of Brussels, Belgium.

anaestesiologists and intensive medicine specialists, and they manage the treatment of all admitted burnt patients. Surprisingly, there is only one fully-trained surgeon and one resident in surgery who are full-time staff. Another five surgeons work part-time, and they are present in the hospital only one or two days a week. The Burns Centre consists of High Care, Medium Care and Low Risk departments, operating theatres and outpatient department called Pinocchio.

The High Care department has capacity of 8 ICU boxes, each of which is fully equiped to care for one severely burnt patient 24 hours a day. Among the other modern equipment there is a bathtub combined with a shower and crane that is used for lifting and rebandaging patients. The thing that surprised me was that most of routine dressing changes, even including V.A.C. (Vacuum Assisted Closure) system changing, were carried out by nurses, who were much more competent than nurses in the Czech Republic. It was interesting to note that there were few female nurses compared to the vast number of male nurses. For the patients who no longer needed intensive care, and also those who were not so severely burnt, there was Medium Care department. It had a capacity of 14 single rooms from which every single one was equiped with a TV, internet connection, and a little bathroom with toilet. The third inpatient department was called Low Risk, and it was reserved for patients who were admitted for intensive rehabilitation and reconstructive surgery.

The Burns Centre had at its disposal two operating rooms, and I had the opportunity to scrub in for procedures such as necrectomy of deep burns, skin grafting, and sometimes tracheotomy or correction of scar contractures. My best experience was having access to a wide range of modern technologies such as water-jet debridement system (a device removing dead tissue by thin beam of water) and fibrin-glue. This glue is usually applied for skin graft fixation in order to prevent their movement and loss, during dressing changings and early rehabilitation. The state of the art Skin Bank in Queen Astrid Military Hospital allows the use of skin allografts, which is the skin from dead donors, as a temporary burn wound

Figure 2. Members of the Burns Centre during changing patient's dressings.

Figure 3. Skin and Keratinocyte Tissue Bank.

covering. The donors are chosen according the exclusion criteria which includes oncologic, infectious diseases, HIV, HVB, and HCV positivity. After harvesting of the skin which should not be done later than 24 hours after the death of the donor, the skin is placed into the freezer with liquid nitrogen and is kept at a temperature of minus 180º C. At this moment, the quarantine period begins until the test results are available. If the test is negative, the skin grafts can be used. Before expiration, the frozen skin grafts can be stored for up to two years, however, they are used earlier than this. The grafts which did not fit the criteria for cryopreservation can still be used for different processing, and are stored in glycerol. The disadvantage of this method is that the growth factors of the skin cells which stimulate the healing processes are washed out. In this Skin Bank, allogenous keratinocytes are also produced. They are extracted from male newborn foreskins, and they are then processed and used in the form of spray or keratinocyte sheets. When applied on a wound, the keratinocytes´ growth factors stimu-late the process of wound epitelization and closure rapidly. The surgeons at the Burns Centre use these in special cases of critically burnt patients for faster healing of skin donor sites. By using this technique they can repeatedly harvest new skin as an autograft.

Nowadays, with the extensive medical equipment avaliable, doctors can forget to treat the patient holistically. However, this was not the case with Queen Astrid Military Hospital as the doctor – patient approach was refined. I feel that it is unfortunate that Czech doctors must complete such a large quantity of paperwork as this severely limits the time that they can spend with patients. This was not the case in Belgium. It is a result of Belgian doctors not having to handle paperwork as this is usually dealt with by the secretaries, nurses, etc.

During my internship, I had the opportunity to discuss various topics concerning burns treatment, burns surgery, and intensive care with consultant Dr. Thomas Rose - Chief of the Skin and Keratinocyte Tissue Bank and Deputy Head of the Burns Centre. With great interest, we discussed the procedures and methods used in our country and our burns facility.

Three national languages are spoken in Belgium, French, Dutch and German. However, most of the staff in the hospital spoke English very well which is why there was no problem with communication. The entire stay took place in a very pleasant and friendly athmosphere. The staff in the hospital treated me well and I had no worries of anything. They had even

arranged my accomodation directly with the hospital, something which I found very useful (acute admissions during night hours e.g.).

In conclusion, I would like to thank all the staff at the Burns Centre in the Military Hospital in Brussels for their interest and helpfulness which enabled me to gain considerable knowledge, experience, and new professional contacts with excellent potential for further cooperation. I would also like to thank Associate Professor Dr. Leo Klein, who was so kind to arrange this internship for me.

Figure 4. The author with Dr. Thomas Rose (on the right), Chief of the Skin-and Keratinocyte Tissue Bank and Deputy Head of the Burns Centre.

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