EUROPEAN UROLOGICAL SCHOLARSHIP PROGRAMME (EUSP)

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Introduction
This is the final project report for 2015, the first year of my EUSP scholarship. During this first year, the main focus was on urachal cancer. Next to that, I was also involved in other projects on bladder cancer.

I got more familiar with the existing literature for urachal cancer and realized the potential for further research. I applied for an extension of my scholarship for 2016, which was granted. I would like to discuss the last six months of 2015 and the plans for 2016 in this report.

The clinical or scientific achievement
The main focus of my current research focuses on urachal cancer. As part of the bladder cancer team at NKI, our database for urachal cancer has grown to 56 patients, comprising the largest European single-centre cohort. The database includes clinical data (therapies, symptoms, follow-up), as well as, laboratory values and histological findings next to tissues from the TUR and final resection.

While the survival of the palliative group (patients presenting with multiple distant metastases) has been stable, survival for curative patients could be improved in the last 10 years due to improvement of surgical (diagnostic laparoscopy, HIPEC) and adjuvant (radiotherapy, chemotherapy) approaches (see Abstract DUOS). A special subset of the cohort is comprised of nine patients who received HIPEC (hyperthermic intraperitoneal chemotherapy) for peritoneal carcinomatosis. We found that patients with peritoneal carcinomatosis treated with HIPEC showed a similar survival as patients with local disease only.

The data was presented at the Dutch Urology meeting in spring 2015 and at the Dutch Urologic Oncology Group Meeting (DUOS, 4.12.15, Utrecht) this year. This presentation gave national visibility to NKI, showing the current treatment options to other cancer centres and spawning potential collaborations (see attachment DUOS – Urachustumoren). It is our intention to publish the data on this subset this year (2016).

After requesting the original TUR tissue for all samples, a pathology revision including tissue sub-typisation was performed earlier this year. From all non-urothelial cancers, DNA/RNA
was extracted. The DNA was used for a library preparation, which is then used for next generation sequencing (NGS). Beginning December 2015 the prepared DNA was handed over to the genetics core facility in the NKI. We are currently in the process of performing a customised 170 gene paired end sequencing, going 300 base pairs (bp) deep, to look for mutational variants of as little as 5% in the tumour tissue. The RNA and tissue micro arrays (TMA) can be used later to evaluate and confirm significant findings. The first results from the NGS are expected in February 2016.

In order to summarise the current literature and in order to point out the important scientific questions to be answered, I was the lead author of a review on urachal cancer, which was published in November 2015 (see Publications and attachment Minerva).

With the current literature differing the comparability of adenocarcinomas of the bladder to urachal cancer, I was granted an extension proposal for 2016. As a first step, we applied for ethical approval to use data and tissue of patients referred or treated at the NKI. The Translational Research Board (TRB) approved the proposal titled “Adenocarcinomas of the lower Urinary Tract (Urachus, Urinary Bladder, Urethra) a comparative approach” as CFMPB396 (see attachment TRB CFMPB396). Next to my main research, I regularly attended the core facility meetings (held every six weeks) where all bladder-cancer-related research and laboratory work is being discussed and planned out.

Invited to join the Netherlands Comprehensive Cancer Organisation (IKNL), I had the opportunity to attend another two meetings during the last six months. This organization collects national data on cancer patients and treatments and facilitates multicentre research. The meetings gave me a better understanding of the Dutch landscape of treating urological tumours and ongoing multicentre studies.

On the 6th of September, I joined the European Society for Residents in Urology (ESRU) meeting in Prague as the Swiss National Coordinator (NCO). This meeting facilitates multinational exchange and improves the culture of training among urologic residents next to organizing the Residents Day for the upcoming EAU Congress. Insights from training and working conditions around Europe were presented and new studies and surveys were set up. Due to the connections with this organization and my current research at the NKI in the
field of bladder cancer, I was invited to join the task group of the EAU patient information workgroup. This team consists of EAU employees, urologists (specialized and in training) as well as senior reviewers, who are committed to writing the Patient Information on bladder cancer for the EAU. This project was a good opportunity to practice international collaboration while exposing me to several renowned European reviewers (see attachment PI workgroup).

To review my current knowledge of cancer treatment and to connect to other researchers, I attended an oncological workshop given by the German Society for Residents in Urology (GeSRU) from the 30th of October to 1st of November in Hamburg, Germany (see attachment Onco Ws).

Impressions of the host institution

In the second half of 2015, the cooperation with Bas van Rhijn and the urology department of the NKI remained welcoming and empowering. Through internal connections, I was able to bypass the waiting list for the genetics facility sequencing which was a nice welcome after the long tissue accumulation period.

The staff is very supportive of me learning Dutch. I also noticed a tendency to more informal work relationships when interacting in Dutch.

As a German/Swiss urologist, many colleagues and students who have questions about other medical systems and training opportunities approach me. In that sense, I am also looking forward to presenting my experience at the EAU Congress in 2016.

The NKI, with its translational approach to tumour treatment and research, remains a great stimulant; I am able to see newest technologies and techniques firsthand. Regular talks and presentations from other scholars paint a picture of the future of tumour treatment.

Motivated by my own experience, I keep on referring the NKI and the EUSP scholarship to others. In the last six months, I have been helping and coaching two colleagues to apply for the same scholarship.

For 2016, I am looking forward to more collaboration with my other teammates while
publishing more on urachal cancer and extending my research to adenocarcinomas of the urinary tract. I am confident that our results will give new insights. Bas and I have set up a goal list for 2016 which includes the culmination of my work into an international PhD. I am grateful for the learning opportunity at the NKI, for this EUSP Scholarship and look forward to the work and results in 2016.

Publications


2.) Author: Multimodality treatment with local excision, cytoreductive surgery and HIPEC can cure patients with limited peritoneal carcinomatosis from mucinous adenocarcinoma of the urachus. Abstract presented on 29.5.15 at the Annual Urology Congress of the Netherlands Urology Association (NVU).


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15th of January 2015
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