A Vision of Academic Dermato-Venereology in Örebro, Sweden

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The history of Örebro as a town goes back at least to the 12th century. The hospital in Örebro also has a history going back several hundred years. The department of dermatology-venereology was founded around 1950 and serves the county and region of Örebro. Approximately 15 years ago the hospital changed its name to Örebro University Hospital indicating an increased focus on education and research.

As a university city, however, Örebro is young. The university was established as recently as 1999. At that time there was no medical school. Medicine (including dermatology) as an academic subject functioned as a medical faculty (set up in 2001) within the framework of the School of Health and Medicine. After 3 applications by the university, in 2010 the government granted permission for a medical school to be set up and students to be examined for the medical degree. The first medical students were admitted in 2011.

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During the first 5 years, the focus of the programme was on building and consolidating the structure and quality of teaching at the medical school, rather than on research. Today the medical school is part of the School of Medical Sciences, which was formed 2 years ago (1). This has led to stronger integration of education and research, and a more academic approach.

From its inception, the programme for the School of Medicine was adapted to the Bologna model, with one scientific project during semester 5–6 with a focus on the Bachelor's degree, and one during semester 10 with a focus on the Master's degree. The programme outline comprises 6 themes and 4 stages. There are no specific disciplines; these are incorporated into one of the 6 themes, with a mix of pre-clinical and clinical disciplines (Fig. 1). The programme includes more biochemistry at the start, more clinical studies later on, and professional development throughout. Dermatology-venereology is part of theme "Defence", together with inflammation, immunology, microbiology, basic tumour biology, infectious diseases, rheumatology, immune-mediated diseases, and relevant pharmacology. The theme Defence is represented across all 4 stages. This entails contact with the students throughout their whole study period (11 terms), and implies close collaboration between the disciplines in teaching, increasing the possibility of research collaboration within the School of Medical Sciences.

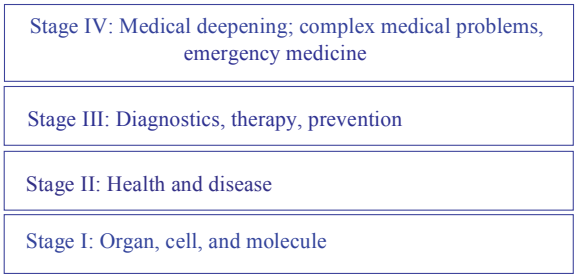

Fig. 1. Outline of the stages in the medical programme. All 6 themes are involved in all stages (Respiration and circulation; Neurology and locomotion; Nutrition, metabolism and elimination; Defense; Reproduction and development and Sense and mind).

High-quality academic work in the field of venereology has been performed previously in the dermatology department. This has resulted in 2 PhD thesis in dermatology-venereology, the first by Harald Moi, now Professor Emeritus in Oslo, in 1990 (2), and the second by Lars Falk, now Associate Professor in Linköping, in 2004 (3). However, they were PhD registrars in Uppsala and Linköping Universities, respectively, at the time. The first PhD thesis presented in dermatology-venereology from Örebro University was performed by Anna Josefson, senior consultant at the dermatology department, in 2010 (4). The main tutor was engaged part-time at the university especially for this thesis. The work was a continuation and follow-up of hand eczema and nickel allergy studies that had begun in 1980 by Birgitta Stymne and Lena Widström, both senior consultants at the clinic at that time. In 2013. senior consultant Maria Palmetun Ekbäck presented her thesis on aspects of quality of life in hirsutism (5). This was the first thesis for which the main tutor was active at the clinic.

The concept of academic dermato-venereology in Örebro in a wider sense can be said to have begun in 2007, when the

first academic position was established at the clinic; an adjunct professor in dermatology (Magnus Lindberg), who held a part-time senior consultant position. When the Medical School programme started a teaching position, Professor in Dermatology, was created at the university in 2012. Professor Magnus Lindberg still holds that position. (To date, this is the only paid academic position in dermatology-venereology in Örebro.) Colleges at the department of dermatology-venereology are engaged in teaching, with both clinical training and giving lectures as a part of their clinical positions. Currently, there are 3 dermatologists at the clinic who have a PhD, but only the Professor has a higher academic degree.

The goal during recent years has been to transform the dermatology clinic into a clinic with a more academic way of thinking and to interest younger colleagues and students to start research in the field of dermatology-venereology. The new medical school is essential in this, as teaching students in the clinic helps in implementing the idea of academic work. Secondly the exposure of students to dermatology-venereology helps recruit students for both Bachelor's and Master's degree projects. Having students at the clinic also increases awareness of education among the staff. In addition, the structure of the medical school programme facilitates the establishment of collaboration between disciplines. Within the School of Medical Sciences, we have expertise in most research areas, from genetics, cellular biology, inflammation, and immunology to epidemiology. As we meet on daily or weekly basis (at least for coffee) the opportunities to establish collaborations are good. Besides the research groups, the county (Region Örebro) provides laboratory facilities that can be used for research at the hospital clinics.

In practice

The clinic can provide clinical material and clinically relevant questions. Being a small unit starting from a low level of activity, we continuously strive to initiate basic research projects. Such projects, however, must be realistic, possible to perform with small resources and/or in collaboration with others, and could be the starting point for further research. The main research interests, from the clinical point of view, have been aspects of hand eczema, quality of life in skin diseases, contact allergy, and non-melanoma skin cancer (basal cell cancer). Based on our concept of implementing academy at the dermatology clinic we have performed several minor

Table I. *Type of project and methods used/available during 2010–2017. Research by senior researchers excluded*

Educational level	Number of projects	Methods	Publications
Bachelor's degree	10 (1 ongoing)	Clinical follow-up of treatment Compiling clinical data concerning skin cancers Systematic literature reviews Evaluation of different QoL instruments Microbiological methods Histology; immunohistochemistry	(6–8)
Master's degree	7 (1 ongoing)	Patch-testing Compiling and evaluation of population-based questionnaires QoL instruments	3 manuscripts in process
PhD (2 completed in 2010 and 2013)	4 in progress (2 with main tutors in other research groups)	Clinical follow-up Patch-testing Compilation of clinical data Compilation of register data Meta-analysis Questionnaires Qualitative analysis of narratives Epidemiology QoL instruments Skin exposure measurements Skin penetration Cell cultures and toxicological evaluation of exposure to harmful stimuli PCR Analysis of skin inflammation markers	(9–11) Publication for thesis defended in 2010 and 2013, not included here
Work included in doctors' specialist medical training for dermatology-venereology	5	Patch-test register registration (EpiReg) Compilation of results from the patch-test register QoL instruments Microbiological methods and clinical follow-up (STI) Histochemistry, molecular techniques, PCR, clinical evaluations	(8, 12–14)

QoL: quality of life; EpiReg: national register for patch-test results; STI: sexually-transmitted infections.

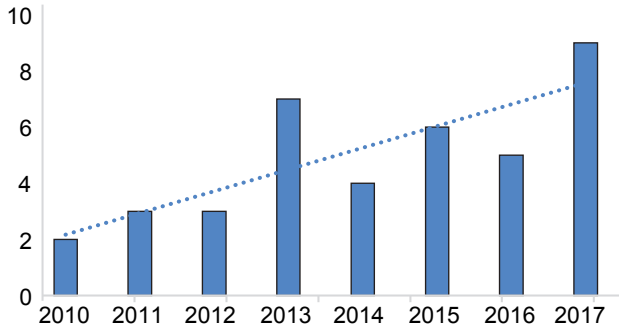

Fig. 2. Number of publications in peer-reviewed journals. Dotted line: trend.

student projects and projects for MDs, as part of their specialization in dermatology-venereology. At present there are 2 students studying for PhDs at the clinic (an MD working on hand eczema and risk factors/prognosis; and an MD working with transport proteins in basal cell carcinoma). Student projects often involve compiling already collected, but not yet analysed, data. Table I summarizes the types of projects and methodology used since 2010. We have chosen to make dermatology-venereology one research group, with a focus on the areas mentioned previously. There has been a steady, although slow, flow of publications in peer-reviewed journals from this research group (Fig. 2).

Pros and cons of academic dermatology in Örebro

Pros

- High level of activity and involvement in the medical programme.
- An interest in research and education at the dermatology department.
- Close collaboration and contacts with other disciplines at the School of Medical Sciences, e.g. about methodological aspects.
- Facilities for most type of project available.
- Several small local funds for smaller and basic projects available.

Cons

- Few dermatological colleagues with higher academic degrees (none at present).
- No co-workers at the department other than dermatologists with master or PhD degrees in dermatology.
- A high (and increasing) load of clinical work at the dermatology department, decreasing possibility to allocate time for research work.
- Difficulty obtaining major funding for research work in our field of interest.

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