

Dermatological Research in Norway: Getting Better ...

PETTER GJERSVIK^{1,2}, JAN-ØIVIND HOLM², ANNE OLAUG OLSEN², INGEBOG M. BACHMANN³, SUSANNE KROON⁴, KRISTIN RYGGEN⁵ AND DAGFINN MOSENG⁶

¹Country Editor, Norway, ²Oslo University Hospital, Oslo, Norway, ³Haukeland University Hospital, Bergen, ⁴Stavanger University Hospital, Stavanger, ⁵St Olav's Hospital, Trondheim, ⁶University Hospital of Northern Norway, Tromsø, Norway. E-mail: petter.gjersvik@medisin.uio.no

Norwegian dermatology is not as strong as dermatology in the other Nordic countries, but it is improving. An overview of on-going research projects in dermatology in Norway is set out here.

Although, historically, Norwegian physicians have made important contributions to dermatology, dermatological research in Norway has been less than satisfactory for many decades, as reported previously in *Forum for Nordic Dermato-Venereology* (1). Scientific activity in dermatology is much lower in Norway than in Denmark, Sweden or Finland. This is documented in a bibliometric study published recently in the *International Journal of Dermatology* (2). It has proved difficult to recruit and retain dermatologists with research experience at the university hospital departments, partly due to more attractive working conditions in private practice (1). A complete list of doctoral dissertations by Norwegian dermatologists published since 2000 is given in Table I.

There is, however, a desire to improve and there are now many signs of improvements (3, 4). In a recent evaluation of Norwegian research by an international expert panel, the dermatological research activity at Oslo University Hospital was graded as "weak, but with chances of improvement" (5). Since 2000 the department in Oslo has produced seven doctoral theses, which is more than two-thirds of all the doctoral theses in dermatology published in that period in Norway. The other departments of dermatology were not included in the evaluation.

There are 4 medical schools in Norway: Oslo, Bergen, Trondheim and Tromsø. Most dermatological research is performed by PhD candidates, with their main supervisors from other specialities and with dermatologists as co-supervisors. An overview of academic staff and on-going research projects in dermatology in Norway is given on the following pages.

References

1. Gjersvik P. The sad state of academic dermatology in Norway. *Forum Nordic Derm Venereol* 2009; 14: 7–9.

Table I. Doctoral dissertations by dermatologists in Norway 2000–2011

-
- IgG-receptors and cytokines in skin and serum from healthy individuals and patients with psoriasis (Maja Tigalónova).
 - Dermatological complications from immunosuppression in kidney and heart transplant recipients (Petter Jensen Gjersvik).
 - Relevance of the major histocompatibility complex for the genetics of psoriasis (Marcus Schmitt-Egenolf).
 - Photodynamic therapy of basal cell carcinoma (Anna Soler).
 - Erythromelalgia: studies on pathogenesis and therapy (Cato Mørk).
 - Skin morbidity in the community: prevalence and associations with sociodemographic and psychosocial factors among adults in Oslo (Florence Dalgard).
 - Epidermolysis bullosa due to plectin mutations (Dörte Koss-Harnes).
 - Biological markers in cutaneous melanoma. A study with special focus on cell cycle regulation, cell adhesions proteins and tumour necrosis (Ingeborg Bachmann).
 - Genital herpes simplex virus infections. Clinical and epidemiological aspects (Arvid Nilsen).
 - Acne and psychosocial problems. Cross-sectional epidemiological studies among adolescents (Jon Anders Halvorsen).
-

2. Gjersvik P, Nylenna M, Jemec GBE, Haraldstad A-M. Dermatological research in the Nordic countries – a bibliometrical study. *Int J Dermatol* 2010; 49: 1276–1281.
3. Lüztow-Holm C. Selv i en ørken finnes vakre blomster. [Even in a desert there are beautiful flowers.] *Best Practice* 2010; 3: 10–1 (in Norwegian).
4. Gjersvik P. Forskningsløft for et lite fag. [Research efforts for a small discipline] *Tidsskr Nor Legeforen* 2010; 130: 1022 (in Norwegian).
5. Evaluation of biology, medicine and health research in Norway (2011). Clinical Research. Panel 4B. Oslo: The Research Council of Norway, 2011. http://www.forskingsradet.no/no/Artikkel/Evaluering_av_biologisk_medisinsk_og_helsefaglig_forskning_i_2011/1253954269442.

Oslo University Hospital

Department of Dermatology

The Department of Dermatology at Oslo University Hospital is a merger between separate departments at the former Rikshospitalet and Ullevål Hospital. The academic staff consists of one part-time professor (vacant until 2012), three part-time associate professors, and two full-time clinical research fellows. In addition, several clinical consultants and residents are carrying out research.

Most of the research projects are on inflammatory skin disease, skin cancer and microcirculation. There are currently several on-going PhD projects, as follows, some of which will be completed in the near future:

- Large-scale protein analysis of primary human skin keratinocytes from skin punch biopsies by microsphere-based affinity proteomics (Daniel de la Rosa Carrillo).
- Psoriasis and cardiovascular risk factors – atherosclerosis activity, carotid plaque instability, platelet hyperaggregation and blood viscosity (Ellen Slevolden).
- Skin barrier dysfunction and development of atopic disease in pre-school children (Teresa Løvold Berents).
- Photodynamic therapy in genital erosive lichen planus (Anne Lise Ording Helgesen).
- Malignant melanoma – identification and characterization of micrometastatic cells (Ragnar Solberg Faye).
- Genetic risk factors in cutaneous malignant melanoma (Per Helsing).
- Folliculotropic mycosis fungoides (Patty Mantaka).
- Erythromelalgia – pathogenesis, clinical features and therapy (Ole Magne Kalgaaard, Mari Kvernebo).

Other research projects on the following subjects may also result in PhD theses:

- Heliotherapy in psoriasis (several studies led by Anne Lene Krogstad).
- Immunological effects of smoking in patients with psoriasis.
- Contact allergy in patients with chronic leg ulcers.
- Prognostic risk factors for metastasis in cutaneous squamous cell carcinoma.
- Vitamin D levels in organ transplant recipients.
- Microcirculation in systemic sclerosis.
- Hereditary angiooedema.
- Psychosocial aspects of skin disease.
- Penetration of nanoparticles from sun protection ointments through normal and sun-burned skin.

The Department of Dermatology is now part of a greater Department of Rheumatology, Dermatology and Infectious Diseases. In addition, the department works closely with other departments at the hospital. We regard this as a great opportunity for increased research activity and cooperation. Several clinical studies are on-going or are being planned.

Research related to dermatology is also performed at other departments of the University of Oslo, including a multicentre study on psychosocial aspects of skin disease (led by Florence Dalgard).

Olafia Clinic

The Olafia Clinic is a separate department for sexually transmitted diseases, located in down-town Oslo. One part-time professor (Harald Moi) has for many years been involved in international research and is a member of the editorial committee for European guidelines in sexually transmitted diseases. On-going research projects include studies on:

- Non-gonococcal urethritis.
- Mycoplasma genitalium.
- Vaccines against human papilloma virus.

A National Competence Centre for Sexually Transmitted Infections will be established at the clinic in the near future. This represents a great opportunity for more clinical research in venereology.

Rikshospitalet, Oslo



University of Bergen

Haukeland University Hospital, Bergen

The academic staff consists of one part-time professor (Svein Helland), one full-time professor (Arvid Nilsen) and three part-time university lecturers. Several research projects are on-going, two of which will be completed in the near future:

- Prognostic biomarkers in nodular malignant melanoma (Rita Grude Ladstein).
- Density, phenotype and function of dendritic cells in blood and skin samples from kidney transplant recipients



Prof Harald Moi, Dept of Rheumatology, Dermatology and Infectious Diseases, Olafia Clinic, Oslo..



Prof Svein Helland, Department of Dermato-Venereology, Haukeland Hospital, Bergen.

with and without squamous cell carcinoma (Lene Sandvik).

- Gene sequencing in herpes simplex virus-2 in primary and recurrent genital herpes.
- Cellular models for the study of invasive growth in malignant melanoma: organ-specific metastasis-promoting genes and microRNA, BRAF inhibitor treatment, mechanisms for treatment resistance, and new treatment modalities for cerebral metastases.



Prof. Arvid Nilsen, Dept of Dermato-Venereology, Haukeland Hospital, Bergen.

Haukeland University Hospital, Bergen



Stavanger University Hospital, Stavanger

Several research projects are on-going or being planned, with the main supervisors from Stavanger, Bergen or Oslo:

- Effects of omega-3 and vitamin D on inflammatory activity in psoriasis (Katarina Zak Stangeland, Ellen Cathrine Pritzler).
- Chronic fatigue in patients with psoriasis (Mila Lilleeng, Inger Marie Skoie).
- Porphyria cutanea tarda – trace elements and plasma porphyrins (Sheila Fevang).
- Anxiety, depression and quality of life in patients with common skin diseases (Flora Balieva).

Trondheim

St Olav's Hospital in Trondheim has recently appointed a part-time professor in dermatology working in private practice (Cato Mørk). Five part-time university lecturers are responsible for teaching medical students. Six PhD projects are presently on-going, four of which will be completed by 2012:

- Characterization of innate inflammatory responses in acute and chronic wounds (Brita Pukstad).
- Basal cell carcinoma and photodynamic therapy (Eidi Christensen).
- Eczema in children and adolescents – epidemiological studies in Trondheim and Nord-Trøndelag (Marit Saunes).

- Innate inflammatory responses in skin models mediated by Toll-like receptor 3 (Øystein Grimstad).
- Imiquimod and photodynamic therapy in actinic cheilitis (Kjetil Guldbakke).
- Psoriasis and co-morbidity in Nord-Trøndelag County, Norway (Ingrid Snekvik, Ellen Modalsli).



Prof. Cato Mørk, Department of Dermato-Venereology, St Olav's Hospital, Trondheim.

The department will continue research in these fields in cooperation with various departments at the Norwegian University of Science and Technology.

St Olav's Hospital, Trondheim



Tromsø

The Department of Dermatology at the University Hospital of Northern Norway in Tromsø has recently appointed a part-time associate professor working in private practice, in addition to one full-time associate professor and two part-time university lecturers. Three research projects have been set up:

- Psoriasis and metabolic disease
- Hidradenitis suppurativa
- *Staphylococcus aureus* and atopic dermatitis

In addition, a PhD project on telemedicine and atopic dermatitis is on-going at the National Centre for Telemedicine in Tromsø (Thomas Schopf).

University Hospital of Northern Norway, Tromsø

