Psoriasis - one condition or many?
The genetic basis of this complex disease.
The aim of this newsletter is to keep you informed of dermatology news, as well as studies that you might be interested in. If you do not wish to receive this newsletter email volunteers.dermatology@manchester.ac.uk with the subject “unsubscribe” or phone 0161-206-8077.

**Features**

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The genetic basis of this complex disease.

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Foreword

Dennis Potter's acclaimed 1986 TV miniseries The Singing Detective is back!

Hailed as one of the most influential TV productions of all time, the rescreening of the British series The Singing Detective on BBC4 is of interest to more than just TV critics. The central character, Philip Marlow (played by Michael Gambon), suffers from severe psoriasis and psoriatic arthritis. Confined to his hospital bed, the boundaries between fiction and reality blur, as he mentally re-writes his early novel The Singing Detective and explores visions of his childhood. I hope that revisiting The Singing Detective will highlight the progress made in both our understanding and management of psoriasis over the last twenty five years.

In Episode 1, we see Marlow experiencing negative reactions from his fellow patients. Attitudes have changed significantly since the 1980s. Much work has been done to raise awareness of the condition (page 17) and to dispel common myths. As scientists, our understanding of the disease has also increased. This has led to the development of new treatments, such as the biologic therapies that have proved life changing for many of our patients. Further research into the genetics of psoriasis will lead to even more targeted therapies in the future (page 3). ‘Coal tar’ therapies are rarely on the menu for the 2012 psoriasis patient!

One of the highlights of last year was the 6th International Congress Psoriasis: From Gene to Clinic held in London during the first week of December. Professor Jonathan Barker and I first organised this triennial meeting in 1996, and it is superb to see it go from strength to strength. The Manchester team was an active contributor to the congress, and several research presentations were made by the team (page 8). It is a privilege to organise this forum, which provides the opportunity for psoriasis experts from around the world to plan the advances of the next twenty five years!

It was great to see the group get involved in this year’s Manchester Science Festival (page 13). We had a fabulous position at the entrance of Whitworth Hall, and were able to inspire visiting families to develop their scientific curiosity and knowledge about skin disease. This is vital for the development of the next generation of skin researchers.

And finally, it is with pleasure that I welcome Jacqueline Howe (Clinical Research Nurse) to the team. Jacqui is joining us from the Photobiology team, and will be working on a variety of psoriasis projects, including taking forward the work on genetics of the disease.

Professor Chris Griffiths
Psoriasis - one condition or many?

Psoriasis is the chronic inflammatory skin disease characterised by red, scaling patches of skin. A highly complex condition - could ‘psoriasis’ be better understood as several different conditions? Here we discuss the different types of the skin disease, and how genetic research has revealed two very distinct forms - type I and type II psoriasis.

Affecting over 1.2 million people in Britain, psoriasis is unique to each individual patient. The amount of skin involved can range from tiny patches, to extensive body coverage. Psoriasis also varies greatly in how it looks, and different forms are distinguishable based on the location on the body and appearance of the ‘lesions’ (the damage to the skin).

The most common form is chronic plaque psoriasis-believed to account for around 80% of psoriasis cases, and can occur more or less anywhere on the body. Other types include Guttate psoriasis, (which usually begins suddenly in childhood after a sore throat or tonsillitis), pustular psoriasis (where small blisters appear) and scalp psoriasis. These types can themselves be broken down into further sub-types!

Dr Elina Theos (The Dermatopharmacology Unit’s Clinical Trial Physician) is conducting her PhD research, under the supervision of Dr Warren and Professor Griffiths, to increase our understanding of the complex condition.

“ There are different types of psoriasis, each with different symptoms, severity and treatment options. I am interested in looking at the differences between these types in more detail. To do this I have created a simple questionnaire which I am completing with my volunteers. I am also taking a small piece of skin, called a skin biopsy, from some volunteers for further examination in the laboratory, using a microscope.”

Psoriasis also varies according to the age of the person when it first appeared. The condition can occur at any age- in fact, there have been cases of people over the age 100 presenting with the condition for the first time! However, there seems to be two ‘peaks’- two age ranges where psoriasis usually develops. The age a condition first presents is called ‘age of onset’ by clinicians like Dr Elina Theos. “Early onset psoriasis (type I) is most common, with around 75% of psoriasis...
sufferers developing the condition before the age of 40yrs. Late onset psoriasis (type II) occurs after the age of 40yrs- most commonly between the ages of 55 and 60. There are important differences between these two types- for instance those who develop the disease later in life (type II) tend to have a milder course of the disease.”

Professor Griffiths and his team have also demonstrated that certain skin cells, called epidermal Langerhans’ cells, act differently in early and late-onset psoriasis. These cells are a group of specialised skin cells that play an important role in the immune system. Located in the top layers of our skin, their job is to detect early ‘danger signals’ such as an infection or skin irritants, and to alert the body’s immune system. The Manchester team have shown that although type I and II psoriasis may look similar, Langerhans’ cells behave in strikingly different ways in these two forms of the disease.

Research has also shown that types I and II psoriasis are genetically distinct diseases.

Around 30% of people with psoriasis have a family history of the condition. As discussed in the last issue, considerable progress has been made in understanding the genetic architecture of the condition. Scientists believe that along with an environmental trigger (e.g. an infection), genetics play an important role in the condition’s development. Several areas of psoriasis susceptibility loci (areas of DNA inherited by people with psoriasis) have been identified, including a locus called PSORS1 located on Chromosome 6 in the Major Histocompatibility Complex (MHC). Most of these loci harbour genes that play roles in our immune system, and are already targeted by current psoriasis therapies.

According to Dr Elina Theos, genetic research has highlighted an important difference between the two sub-types of psoriasis, early and late onset; early onset has a strong genetic basis for the disease while in late onset psoriasis, genetic factors may play a secondary role. “It is likely that those who develop the condition at a young age (type I psoriasis), have inherited certain genes that predisposed them to the condition. Genetic
Professor Chris Griffiths has emphasised that early onset and late onset psoriasis are “...distinct diseases that happen to look similar clinically”. Speaking at the 2011 World Congress of Dermatology in South Korea, Professor Griffiths explained that a gene from area PSORS1, shown to be involved in the development of psoriasis, is only associated with early onset forms of the disease. According to Professor Griffiths this has been the ‘key finding’ from genetic research into psoriasis. “We know that a particular version, or ‘allele’, of this gene is found in the majority of patients with psoriasis before the age of 40 years. However, when we look at patients with late onset psoriasis, only 15-20% of these people carry this allele. That is what we would expect to see in the general population, and means that the gene is unlikely to be instrumental in the disease’s development”.

According to Dr Richard Warren, Senior Lecturer in Dermatology at The University of Manchester, that doesn’t mean that genes have no involvement in late onset psoriasis. Although the strong association between genetics and early onset psoriasis is not evident for late onset forms of the condition, it is believed that genes will still have a role to play. “Furthermore, the genetic research we have discussed has focussed on chronic plaque psoriasis. Are other types of psoriasis, such as guttate psoriasis or scalp psoriasis, genetically the same?” Scientists already know that pustular psoriasis of the palms and soles (palmoplantar pustulosis or PPP) is categorically different to other forms of the condition, and is now treated as a distinct disease by dermatologists. “Projects ongoing in Manchester, including PhD investigations, aim to further increase our understanding of the genetic basis of the disease.”

Dr Elina Theos hopes that her PhD research will help inform these investigations. “Why is psoriasis so complicated? Because it is not all psoriasis! As we have discussed, it is a highly complex disease with many different types and forms. Psoriasis should be seen as an ‘umbrella term’ for what should be more accurately described as different diseases. My research aims to better classify psoriasis, hopefully leading to better disease management”. 
Hi, I’m Mags and I work in The Dermatopharmacology Unit with a very talented team of doctors, nurses, and research staff, headed by Professor Chris Griffiths. I have been based here for the past two years, and initially my role involved coordinating and conducting academic trials for Eczema. Currently, I am focused on the unit’s commercial clinical trials for psoriasis – there are numerous pharmaceutical companies who are looking to find new or better treatments for the skin condition.

Before joining the dermatology group, I worked in the Photobiology Unit here at Salford Royal. Under the guidance of Professor Lesley Rhodes (an international leader in photobiology), I co-ordinated and conducted studies to investigate the impact of sunlight on the skin. Working with PhD students, I tested diets and creams to discover how best to protect the skin from ultraviolet rays and burning.

Prior to this I worked in the field of rheumatology, where my research included commercial and academic studies into the genetic basis of the autoimmune disease Lupus. I have held various posts within the NHS, including working on the young adult Leukaemia Unit at The Christie’s—one of Europe’s leading cancer centres.

I am always on the lookout for volunteers who have psoriasis and feel we may, as a team, be able to help them and improve their quality of life.

Mags Brownrigg, Clinical Research Sister.

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**INDIVIDUALS WITH PSORIASIS AGED 18+ REQUIRED FOR SIMPLE QUESTIONNAIRE STUDY AIMING TO DISTINGUISH THE DIFFERENT TYPES OF PSORIASIS**

For further information contact:

**DR ELINA THEOS**  tel: 0161-206-4282

email: Eleni.theodorakopoulou@manchester.ac.uk

*Version#: 20-JUL-2010  Ethics#:10/H1011/68*
Healthy volunteers required.

Aged 18-30 or 70 and over for skin ageing research. Up to 3 hospital visits required. Reimbursement is given for the time and inconvenience involved.

For further information contact:
Gill Aarons - Dermatology research nurse
tel: 0161-206-1043
email: faisal.ali@manchester.ac.uk

Ethics #11/NW/0186

THE DERMATOLOGY CENTRE, THE UNIVERSITY OF MANCHESTER
SALFORD ROYAL NHS FOUNDATION TRUST

Version 1: 17/02/2011
Psoriasis: From Gene to Clinic

1st-3rd December 2011

The 6th International Congress of Psoriasis: From Gene to Clinic was held in London this December. Held every three years since 1996, the prestigious congress is chaired by Professor Jonathan Barker (Kings College, London) and Manchester's Professor Chris Griffiths. Attended by clinicians, scientists, and members of the biotechnology and pharmaceutical industries, the congress is a forum for experts around the world to present and discuss cutting issues.

Members of our unit joined the congress, held over three days at The Queen Elizabeth II Conference centre in the heart of London.
Congress in progress at Queen Elizabeth II Conference Centre, London
The programme consisted of four sessions, each dedicated to a key issue relating to psoriasis at both scientific and clinical levels:

- Genetics
- Immunology and immunity
- Co-morbidities and outcome measures
- Targeted therapeutics

Invited speakers from around the world discussed ‘cutting edge’ research in their field - including Manchester’s Dr Elise Kleyn, who spoke about her research on the Brain-Skin axis. Other members of the group (including Beth Shackleton, Dr Phil Laws and Dr Elina Theos) were given the opportunity to present posters of their research.

Key note speakers included: Professor J Elder (Michigan, USA) ‘Completing the genetic map of psoriasis and its future implications’, Professor Van de Kerkhof (Nijmegen, The Netherlands), ‘The changing landscape of psoriasis therapy’, and Professor Chris Griffiths whose keynote lecture was titled ‘The discovery-care continuum for psoriasis’. Professor Griffiths gave an overview of the work being conducted here in Manchester, and emphasised the importance of translating scientific discoveries into improvements in patient care - how research can be taken from ‘bench to bedside’.
The IMPACT programme of research (Identification and Management of Psoriasis Associated Comorbidity) is based in Manchester and led by Principle Investigator Professor Chris Griffiths. Awarded a £2 million National Institute of Health Research grant, the project will last five years and aims to improve the care of people with psoriasis. Alison Littlewood (IMPACT Programme Manager) has been in touch to keep us updated...
Since our last update two more team members have joined the IMPACT study, Sue Bailey as part-time Administrator and Karen Kane as Research Assistant. The IMPACT office is now officially full!

Karen Kane & Sue Bailey

There has been great deal of progress across the IMPACT study over the past 12 months. The team has completed a literature review investigating the current prevalence and incidence of psoriasis in the UK population. This review is currently being written up into a report which will be submitted to a scientific journal over the next few months. A review of literature into the economic cost of psoriasis care in the UK is also currently underway, which will also be submitted later this year.

The team is currently starting two new projects within the IMPACT study. The first project will investigate the degree to which mild, moderate and severe psoriasis can contribute to the risk of cardiovascular disease (heart attack and stroke). This part of the IMPACT study will be carried out within GP practices in the East Lancashire and Ashton, Leigh and Wigan area. The second project will be exploring the barriers faced by health professionals in providing useful lifestyle advice for patients with psoriasis; information will be collected through semi-structured interviews with a range of practitioners.

In August 2011 Pauline Nelson completed interviewing for the IMPACT ‘Coping with psoriasis’ study. The response to advertising in the community and via the Psoriasis Association was overwhelming, making it clear how pertinent this part of the IMPACT study was. Pauline recruited a total of 29 people with different levels of psoriasis severity and through detailed interviews gathered information about: how psoriasis affects people’s lives; how they understand psoriasis and how they get information about the condition; how they cope with it including self-care strategies; how they view their relationships with health care professionals and services. Pauline has reported her findings to those interviewed, and over the next few months will be presenting her research to psoriasis patient groups and publishing the findings in scientific journals.

The IMPACT team raised £600 for the British Skin Foundation in October 2011. The team completed the Dufton round 10 mile trek, classed as a ‘challenging circular walk’ in just under 6 hours. The weather was wild to say the least, and although the view from Knock Old Man was obscured by cloud, the team kept their spirits up with the thought of homebaked lemon drizzle cake and a drink in the village pub!

Alison Littlewood

The IMPACT team are now on Twitter: @impactpsoriasis. Follow us to keep up-to-date with all IMPACT news! We can also be contacted via our website www.impactpsoriasis.org.uk. If you have any thoughts for website improvement or even if you just have a question you’d like to ask please use the ‘contact us’ form.
More than 2,000 adults and children enjoyed a Science Spectacular at Whitworth Hall and The Manchester Museum in October, marking the end of the Manchester Science Festival 2011.

Manchester Skin Research was represented at the family fun day, which showcased some of the most fascinating research by University scientists and engineers. Guests learnt about drunken fruit flies, extracted their own grapheme using Scotch Tape and saw inside the live signals of the Lovell Telescope!

Our ‘Secrets of the Skin’ stall invited visitors to find out about common skin conditions and to learn how research is leading to better treatments. We demonstrated how the sun can cause wrinkles, and even brought along our special VISIA imagine booth so people could see how their skin is ageing!
The Manchester team, including Mr Jean Bastrilles and Dr Elise Kleyn, were busy chatting to visitors throughout the day.

Festival goers were eager to try our VISIA skin ageing booth!
Psoriasis?
Over 18 yrs?
INTERESTED IN TAKING PART IN A NEW RESEARCH STUDY?

Call the Dermatology Research Nurse's on 0161 206 4282 / 8526 for more information.
Members of the dermatology group at our ‘secrets of the skin’ stall

Young visitors to the spectacular were invited to become a ‘Science Star’ by completing different activities!
National Psoriasis Awareness Week was held during November. The Psoriasis Association used the opportunity to launch ‘Psoteen’—their new website specifically targeted for teenagers and young people.

We marked the week with awareness stalls at both the Manchester Science Festival (page 13) and at Salford Royal NHS Foundation Trust. Members of the team were on hand to discuss the condition with patients, and to distribute informational/supportive materials provided by The Psoriasis Association and Janssen pharmaceuticals. We were also keen to chat to visitors who knew little about the condition, as there are many misconceptions concerning psoriasis (for example, psoriasis is not contagious).

We were assisted by special ‘psoriasis jackets’ which we hope gave people some idea of the physical discomfort experienced by those living with the condition. Our aim for the week was to raise public awareness of psoriasis, and to create a better understanding of the disease and the far reaching impact it has on the lives of people who suffer from it.
Visitors to the stall were given the opportunity to visit www.psoriasis360.com, Janssen’s comprehensive online source of information on psoriasis- including treatment options and practical advice.

Dr Amy Foulkes and Pat Bowker (Salford Representative for The Psoriasis Association) at our psoriasis awareness stall at Salford Royal NHS Foundation Trust.

For further information please visit:
www.psoteen.org.uk
www.psoriasis-association.org.uk
www.psoriasis360.com
Stress & the skin

a study aimed at understanding the critical role of stress in psoriasis

PARTICIPANTS REQUIRED

Volunteers with psoriasis or no history of skin disease required. Participants will need to provide skin biopsies, a blood test and saliva samples.

For further information contact:
Dr. Hamish Hunter or Dr. Elise Kleyn
tel: 0161-206-4282
Hamish.Hunter@manchester.ac.uk

THE DERMATOLOGY CENTRE, THE UNIVERSITY OF MANCHESTER
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Version 1: 01/08/2011
DO YOU SUFFER FROM SCALP PSORIASIS?

Are you aged 12-17 years and interested in participating in a research study with a treatment for scalp psoriasis at Salford Royal Hospital?

If you are interested, please contact Jean Bastrilles on 0161 2064282 or email us at: jean.bastrilles@manchester.ac.uk

and a member of the study team will check whether this study is suitable.

Reasonable travel expenses will be reimbursed.

If you are under 16 years of age, your parent/legal guardian must also consent to you taking part.

Site code: UK072
Study sponsored by LEO Pharma A/S

MBL0412INT UK NCTM Master Advert/Poster Version 2.0 14 Sep 2011
(Based on MBL0412INT Advert/Poster UK ICTM Master Version 2.0 13-Sep-2011)
News in brief

Dr Stephanie Ogden (Clinical Research Fellow) has been explaining her research to pupils in local schools.

In addition to presenting to sixth form students at Bury Grammar School, Dr Ogden also represented the unit at Manchester High School for Girls before the Christmas break. As part of their life skills programme, the school was eager to include a session on the dangers/risks associated with sun exposure, aimed at their Year 10 pupils.

Dr Ogden said, “I think it is vital to educate young people about safety in the sun particularly since we know that sun bed use and sun burn in younger years can increase the risk of the most serious form of skin cancer - melanoma. From speaking to the school girls I know that there is still a lack of awareness of the dangers of excessive sun exposure and I think we should be doing as much as we can to spread the sun safety message”.

Sarah Davis (teacher, Manchester High School for Girls) said, “Dr Ogden was fantastic and the girls really enjoyed her session. She related very well to the age group & made her talk lively, interesting and interactive which was just the job!”
**Dr Amy Foulkes has been helping to ‘Change the face of the PhD’**

Dr Amy Foulkes has been in front of the camera to promote the opportunities available to science graduates.

In January Amy represented the group in a series of video’s entitled “The Changing face of the PhD”. Posted on the postgraduate pages of The University of Manchester, the video series aims to promote the variety of postgraduate opportunities available at The University. Amy features alongside three other students within the Faculty of Medical and Human Sciences, discussing the skills they hope to gain from their PhD studies, challenges they have faced and the support that has been available from The University. Amy has also been featured in a short film funded by the Biochemical Society- “What jobs can you do with a bio-science degree?” Available to view on You Tube, the video illustrates the variety of careers available to science graduates.

**Dr Elina Theos (Clinical Trial Physician) presented at The University of Athens last October.**

As a doctor who has undergone training in both Manchester and Baltimore, Elina was invited to give her unique perspective on the debate ‘Medical Training: UK or USA’.

Addressing Greek medical students and early career doctors, Elina explained the structure of medical training in the United Kingdom, discussed potential barriers to access and emphasised the research opportunities available.

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**Next Issue - August 2012**
Healthy volunteers & patients with psoriasis aged 18 to 50 years required for brain scan study.

You will need to do one study visit, which involves two brain scans. Time and expenses will be reimbursed.

For further information contact:

Dr. Hamish Hunter or Dr. Elise Kleyn
tel: 0161-206-4282
e-mail: Hamish.Hunter@manchester.ac.uk

Ethics #11/NW/0197

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