A high level policy debate report

**Melanoma: Prevention and Early Diagnosis**

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FORWORD

Melanoma: Prevention and Early Diagnosis

On Tuesday, 3 June 2008, politicians, dermatologists, patient organisations and other interested parties gathered together for an evening dinner discussion at the European Parliament. The meeting tackled the prevention and early diagnosis of melanoma, a salient issue given the dramatic rise in skin cancer incidence rates.

In 2006, there were around 60,000 new cases of melanoma in the EU 25 (46% male and 54% female) and 13,000 melanoma deaths. Such worrying figures clearly merited an urgent response.

Source:

Melanoma incidence and mortality are still increasing
SPEAKER BIOGRAPHIES

Prof. Antonios Trakatellis, Member of the European Parliament
Antonios Trakatellis MEP graduated and received a Doctorate in Medicine from the University of Athens. He went on to graduate in chemistry from Athens and to specialise in microbiology and biochemistry. He has written over 140 original scientific publications and 10 books in the field of biochemistry. In his Parliamentary work, he is currently Chair of the Delegation to the EU- Former Yugoslav Republic of Macedonia Joint Parliamentary Committee and Member of the Committee on the Environment, Public Health and Food Safety, the Delegation for relations with the countries of south-east Europe, the Conference of Delegation Chairmen and the Temporary Committee on Climate Change.

Dr Myrto Georgia Trakatelli, Dermatologist
Dr Myrto Trakatellis completed a PhD in Biochemistry-Immunology before specialising in dermatology (ULB, Belgium), clinical immunology (ULB, Belgium) and cutaneous surgery (UCB Lyon, France). She has been responsible for the clinical follow-up of melanoma patients enrolled in tumor immunotherapy protocols and has lectured in dermatology. She is a former member of the Belgian Task Force of the Euromelanoma prevention campaign and is a current member of the campaign's Greek Task Force. She is participating in the European Prevention Initiative for Dermatological Malignancies project launched in July 2008 and funded by the Public Health Program and also participated in the 2007 ECL meeting to formulate guidelines on sun smart behavior and prevention of skin cancer.

Professor Ralph P. Braun, department of dermatology at University Hospital, Zurich
Professor Braun trained at the Medical School of the University of the Saarland, Homburg, Germany and has since obtained a certification in Dermatology and Venereology and completed a Professorial Thesis at the Medical School of Geneva University. Between 1995-2007, he worked in the Department of Dermatology, University Hospital, Geneva and from 2007, in the Department of Dermatology, University Hospital Zürich. His areas of specialisation include dermoscopy, skin imaging, dermatologic surgery and telemedicine.
Dr Wilma Bergman, Dermatologist from Leiden University Medical Centre in the Netherlands
Dr Bergman studied medicine at Leiden University, The Netherlands, where she later completed a pathology internship. Between 1981-1985, she worked in the Department of Dermatology at the Leiden University Medical Centre, where in 1997 she went on to become Vice Head of the Department of Dermatology and in 2008, Professor of Dermatology.

Cora Honing, MA
International Relations Officer, Dutch Cancer Society
President of Association of European Cancer Leagues (ECL)
Originally trained as a radiotechnician, Cora worked in the National Cancer Institute/Antoni van Leeuwenhoekhuis in Amsterdam. During her employment at the University of Utrecht, department of Epidemiology, she shifted her professional interest to the social aspects of cancer. She developed an information and support program for women participating in breast cancer screening in the framework of a scientific program. In the meantime she finished a study on social work. From 1984 on, she has been working in different positions at the Dutch Cancer Society, especially in the area of public and patient information. An important part of the jobs was the collaboration with patient organizations. In 1994, she graduated at the University of Amsterdam as a psychologist.

During the last eight years, Cora was director of Prevention and Patient Support. Recently she was appointed as International Relations Officer.

Cora belongs to the Board of Directors of the International Cancer Information Service Group. Since 2002, she is on the Executive Board of the ECL and, for two years, in the capacity of President.
INTRODUCTION

Professor Antonios Trakatellis MEP, himself a former medical doctor, opened the discussion.

With around one third of all cancers preventable and one third possible to diagnose early, prevention and early detection are clearly key elements of any comprehensive strategy to fight cancer in the European Union. However, said Professor Trakatellis, they are particularly crucial for melanoma due to the great difference in treatment success rates for those caught at an early and late stage. Early stage treatment of melanoma is very good: the 5-year survival rate is around 90% for men and close to 100% for women. By contrast, for thick, late-stage melanomas, there are no treatment available. The 5-year survival rate is less than 65% for women and less than 40% for men.

We need to do more to encourage people to limit sun exposure, one of the major risk factors of melanoma. We also have to embark on a campaign to teach the public how to follow changes in their skin and to know when to consult their dermatologist. We have a real opportunity with skin cancers, he explained, since they are very easily accessible to inspection, no special gadgets or invasive procedures were needed and an examination is not expensive.

Professor Trakatellis assured his audience that cancer, including melanoma, is now very much at the centre of the European Parliament’s work. A Resolution had been passed almost unanimously and a Written Declaration adopted with 435 signatures. Europe is now an established player in melanoma prevention and early diagnosis.

“It is so important that the EU’s work on melanoma continues and in particular, that melanoma is included in the Commission Recommendation for early diagnosis of cancer. Together we can advance a strategy on combating melanoma in Europe.”

Cora Honing, President of the Association of European Cancer Leagues (ECL), introduced her umbrella association of 29 leagues.

ECL is particularly active in the field of melanoma and aims to educate both professionals and the public about the disease. One focus is prevention: ECL has defined strategic goals in the area of primary and secondary prevention, including sun safety measures.

Many of the Leagues have been organising sun safety campaigns for years and together had produced in 2007 the ECL Sun Safety Recommendations. These guidelines provide advice on how to avoid excessive UV exposure, including limiting time in the midday sun, using sunscreens and avoiding solariums. Other measures to be taken include wearing tightly woven fabrics such as polyester, a much better protector than cotton, and paying particular attention when in water, or outside on a cloudy day, moments when we were often not conscious of sun damage.
“By following the ECL Sun Safety Recommendations, European citizens can actively reduce their chances of developing melanoma.”

These guidelines are one example of the progress being made in melanoma prevention, but we still have a long way to go in lowering mortality rates. Crucially, we have to pay more attention to early detection, which is so important given that treatment then becomes very effective. But there are still questions on how exactly this should be done: should we develop sophisticated intervention programmes, should we target health professionals, and what about focusing more on high-risk groups? These are all questions which need addressing so that a concrete proposal for melanoma prevention could be developed for the Commission’s new Europe Against Cancer programme due in 2009.

In conclusion, it was hoped that the evening would contribute to a debate about this important issue and in which way leagues, national professional organisations, governments, patient organisations and the EU could contribute to reduce the melanoma burden as much as possible in the framework of the new EU Action Plan on Cancer.
Dr Myrto Trakatelli, lecturer in the department of Dermatology of the Aristotle University of Thessaloniki Greece, and member of the Euromelanoma Task force of EADV (European Academy of Dermatology and Venerology, provided a review of the evidence in melanoma prevention.

Changing behaviour towards sun exposure is a pillar of any melanoma prevention campaign. We know that UV is responsible for sun burn, skin cancer and skin ageing. However, we have still not completely elucidated how UV causes melanoma and what role in the genesis of melanoma play respectively cumulative UV effect and intermittent exposure.

Moreover, it is difficult to measure total sun exposure since there are several different types: **incidental**, where being outside in the sun is part of everyday activity, **recreational** such as going for a picnic, **occupational**, including those who worked outdoors and **intentional**: those who purposefully went to the beach for a tan. There is also an increasing trend in using solariums to obtain a tan which scientific studies have shown is associated with melanoma, particularly for those under 35.

However, it is not only behaviour towards UV radiation that is important. Some people clearly have a higher risk of developing melanoma than others and need to be particularly vigilant.

### Mechanisms of UV-Induced Epidermal Malignancy

**UV exposure**

- **Mutations in keratinocytes**
- **Deficient immune surveillance**

**UV-induced skin tumor**
Risk factors include geographical location, taking immunosuppressant drugs, a light phototype (fair skin that burns easily, blue/green eyes, blonde/red hair), and a family history of melanoma. Children are also especially sensitive as well as those who live in a climate not compatible with their skin, such as people who migrate from Northern Europe to the South or in tropical climates such as Australia.

There are broadly 3 patterns in Europe.

- **North**: A wealthy, light skinned population spending holidays in the sunny south. People have access to good medical care, including early prevention. There is a high incidence of melanoma but low mortality due to good early detection.

- **South**: A less wealthy, darker skinned population. People have different daily habits, tending to take a siesta during the hottest hours and stay in the shade. There is a lower incidence but higher mortality since the melanoma which exists tends to be thick.

- **CE Europe**: A poorer population with varying skin colours. People traditionally do not travel often, though this is increasing since joining the EU. There is a lower incidence of melanoma, although concern exists over the accuracy of the figures. Mortality is high since the melanomas are thick.

In the past, it had not been necessary to tell people to be responsible in the sun since it used to be fashionable to cover up. But today, people like to be tanned. Red bodies lying on the beach have become an all too familiar sight. Whilst sunscreens are very important, they are not to be used as an excuse to prolong sun exposure.

"You cannot change your skin; you cannot become tropically bronzed if you are white with red hair."

Dr Trakatelli introduced the annual *Euromelanoma* campaign which had started in Belgium in 1999 with the aim of improving secondary prevention of melanoma. This campaign focuses on increasing people’s awareness of skin cancer and encouraging them to check their moles early. The project has since been extended to around 19 European countries, including Greece in 2000. The Greek campaign now involves a whole week of screening, with around 250 dermatologists from both hospitals and private practices providing free skin examinations. Around 2,500 people visited per year and the programme has been helpful in detecting new skin cancer cases. Moreover, it is an important opportunity to educate the public and raise awareness on skin cancer since in covering the campaign, the media provides information on melanomas and safe sun exposure.

Dr Trakatelli concluded that we still have a problem in Europe, despite increased awareness. Melanoma incidence has stabilised in several countries but has actually increased in others. Moreover, mortality levels continue to rise in many countries, including the UK. We have to take steps to increase screening for melanoma, a strategy which has already been shown in some studies done in the United States to be cost-effective in specific settings.

"Screening for melanoma might be cost-effective in specific settings or for high risk individuals and should be included in public health plans. Research to best define who could benefit from skin cancer screening and to examine the costs of mass screening should be undertaken and supported. Europe can play a significant role in making such a suggestion."
Dr Wilma Bergman, Dermatologist from Leiden University Medical Centre in the Netherlands, talked about approaches to the early diagnosis of melanoma.

The outcome of a melanoma diagnosis can often be determined just by looking and knowing the risk factors, such as red hair, sun damage and the presence of atypical moles. The thinner the melanoma, the better the prognosis. If the diagnosis is made very early, the patient could likely be cured with simple surgery, but for a thick melanoma of over 2 mm deep, the patient would have little chance of surviving.

This is why early detection and screening is so important. Unlike other types of cancer, there are no effective treatment yet available for advanced melanoma. If we want to win this battle, we must focus on prevention. And we know that we can do better - one only has to draw a comparison with Australia, where the figures are notably more favourable.

“In Australia, 90% of both sexes survive melanoma, compared to around 70% for males and 80% for females in Western Europe. Europe is lagging significantly behind in prevention, we must step up our efforts.”

For primary prevention, more research is required to look into the different risk factors. We know that melanoma has a strong association with sunlight and sunburn before the age of 15, but there are other environmental risk factors that need investigation, especially for the thick melanomas and those developing on older males. And once we know of the dangers, we have to educate the public in order to encourage behavioural changes. Also, the role of Vitamin D in the development of skin cancer is worth additional research.

As for secondary prevention, we need to spread our knowledge of the early warning signs, to train primary healthcare workers and to educate the public so that they know when to see their doctor. Genetic risk factors are important here. Those with a light phototype, many moles or a family history of melanoma are at a higher risk and need to be identified and screened.
The concluding presentation was given by Dr Ralph Braun, from the department of dermatology at University Hospital, Zurich, who spoke of the different methods of melanoma diagnosis.

For some large thick melanoma, diagnosis is a simple procedure, where the patient just needs to have it seen by the doctor, so obvious is the melanoma. Nonetheless, dermatologists are still seeing melanoma in very advanced stages. People are still dying from these thick melanoma, despite regular visits to their general practitioners (GPs). The problem is not that the doctors do not know how to diagnose: they simply do not look.

“A patient goes to see his GP twice per year, who takes the blood pressure and checks the pulse, he does not examine for melanoma.”

Dr Braun stressed that primary care physicians should be encouraged to perform total body examinations. All the GP needs to do is to take a look and the melanoma would be found. Behind the ears, under the hat, if we do not look, we would not find them!

However, melanomas at the earlier stages pose the most difficulties. Those at a very early stage often resemble benign lesions. The task of identifying these is currently better performed by specialists. A GP's diagnostic accuracy for melanoma was 38%, but for dermatologist by clinical examination, it was 64%. It is, however, important to note that even a dermatologist's diagnosis accuracy is not 100%. This means that, in practice, we perform too many “unnecessary” surgeries and we often make the diagnosis at later stages.

Diagnostic tools are one way to reduce the health costs of surgery and increase diagnostic accuracy. **Dermoscopy** involves the use of a simple, hand-held, non-invasive device to predict whether a given pigmented lesion is a melanoma. However, its effectiveness depends on whoever controlled it. When the operator has been trained in its use, the number of lesions cut out to discover one melanoma (benign to malignant ratio) is reduced 5:1 by the means of dermoscopy.
This being said, this simple technique would avoid 10 “unnecessary” surgeries. But when dermoscopy is used by untrained GPs, diagnostic accuracy is actually worse than by clinical examination.

So why is it that not more physicians and dermatologists use dermoscopy? The answer is that, unlike surgery, dermoscopy is not reimbursed in many EU Member States.

“*The reality is that financial incentives currently favour unnecessary surgery. We are carrying out too many operations*”

Dermoscopy is clearly a step forward, and furthermore, it can be adapted to detect melanoma even earlier. **Digital dermoscopy,** a combination of video camera and microscope, allows the melanoma image to be enlarged onto a screen, further aiding diagnosis. The pictures taken are of such high quality that they could be sent digitally for examination. This **teledermoscopy** allows an expert to diagnose without ever actually seeing the patient and is particularly useful for areas in which surgery would cause disfigurement. **Computer-assisted dermoscopy** is also becoming increasingly important. In his own study, Dr Braun found that a computer’s diagnosis is currently better than that of a GP but inferior to that of a dermatologist. But it is surely just a question of time before the computer surpasses human efforts.

Other useful tools and techniques included **digital follow up** - taking pictures of lesions at intervals and comparing any changes, **total body photography**, for if the patient had a very large number of moles and **confocal microscopy** - a new technique applying a laser beam to the skin and examining lesions under a microscope. A more surprising aid being trialled is the **sniffer dog** - cases had been reported of dogs continually licking moles which were melanomas.

Many advances have been made in melanoma prevention, concluded Dr Braun, but we have to ensure that we capitalise on them through adequate training and education of health professionals and the public.
CONCLUSIONS AND RECOMMENDATIONS

This ECL meeting on melanoma prevention and early diagnosis made the following conclusions and recommendations

• There should be simple guidelines for GPs and the public on skin examination and melanomas.
• Skin cancers should be included in the new Commission Recommendation for early diagnosis.
• Follow-up should be ensured when there is doubt over diagnosis.
• Melanoma screening should be encouraged; it is a cost-effective measure that needs to be included in public health plans.
• Research into finding risk factors needs to continue, such as, does vitamin D matter, do hormones play a role.
• Educating the public should be continued and increased, especially regarding risk factors in order to change attitudes about sun tanning.
• The training of public health professionals need to be continued and improved.
• There needs to be an increased focus on the screening of high risk populations.
• We need to continue developing diagnostic tools.
PHOTOS FROM THE EVENT

Antonios Trakatellis, MEP
Cora Honing, ECL
Wendy Tse Yared, ECL
Ralph Braun

Antonios Trakatellis,
Ralph Braun,
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- Wilma Bergman, Professor of Dermatology, Leiden University Medical Center, The Netherlands
- Ralph Braun, Assistant Professor, University Hospital, Geneva, Switzerland

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