

Briefing for the Public Petitions Committee

Petition Number: [PE1448](#)

Main Petitioner: Grant Thomson

Subject: Improving awareness of the cancer risks in organ transplantation

Calls on the Parliament to urge the Scottish Government to raise awareness of the links between organ transplantation and cancer by providing appropriate guidance and education to medical professionals, patients, their families and carers; to improve health warning and patient information on the cancer risks associated with the long term use of immuno-suppressant medications and to introduce regular dermatological clinics for these patients to improve on early skin cancer screening and detection levels.

Background

There is epidemiological evidence that patients who have had an organ transplant are at high risk of developing all types of skin cancers. The risk has been found to have increased with time following the transplant and is higher in older patients and white-skinned people who have had excessive sun exposure¹.

In a recent article² for NHS Blood and Transplant, Neuberger et al outline their findings from the first national study of malignancy linked data from British transplant recipients to information on cancer registries from England, Scotland and Wales. The study found that, overall, incidence of non-melanoma skin cancer (NMSC) was found to be 14 times that of the general population, while the overall incidence rate for all other cancers is just over twice that of the general population. The study also found there were differences in the pattern of incidence between the different transplant types (see Figure 1 below, which illustrates this finding).

As Neuberger et al note, the increased risk of development of a malignancy in a transplanted patient is mainly due to the use of immunosuppressants³. However, there is also the possibility of transmission of a cancer from a donor. The research found that the outcome for the recipient is poor when such

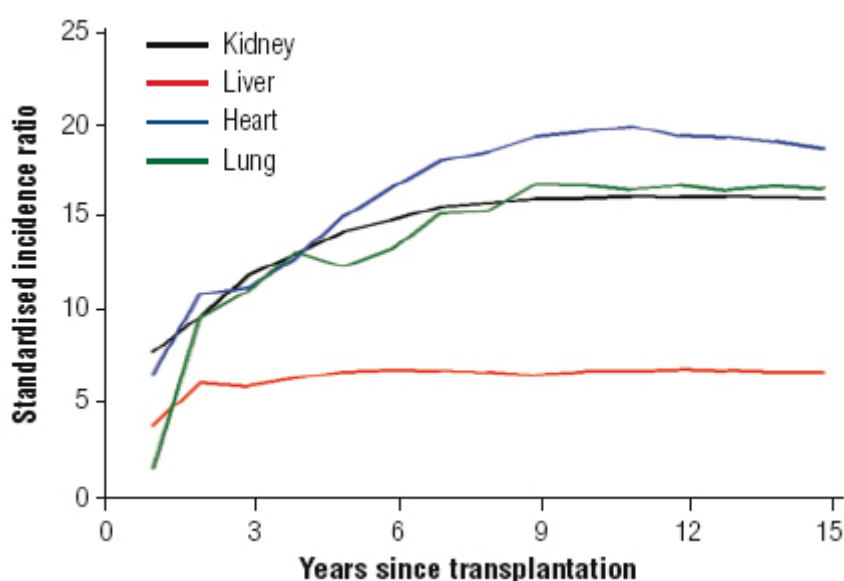
¹ National Institute for Health and Clinical Excellence (2006) '[Improving Outcomes for People with Skin Tumours including Melanoma](#)'. p 113.

² <http://www.nhsbt.nhs.uk/triennial-report/organ-donation-and-transplantation/cancer-in-transplant-recipients/>

³ The artificial suppression of the immune response, usually through medicines, so that the body will not reject a transplanted organ or tissue.

transmission occurs, with a high chance of graft loss and death. The article goes on to state that because of this, donors with a known history of malignancy are not generally considered for transplantation. However, the Scottish Government has noted the importance of taking risk into account in such decisions. For example, there is significant mortality attached to a patient who is on the waiting list for a liver, heart or lung transplant. If there was an organ offered from a donor who had a history of low malignant or spreading potential, or a history of a more malignant tumour from many years ago with no sign of recurrence since that time, then both clinicians and patients and/or relatives may accept the risk of receiving that organ, acknowledging the risk that remaining on the list may significantly exceed this smaller risk.

Figure 1: Incidence of non-melanoma skin cancer by transplant type



Source: Neuberger et al (2012)⁴

Guidance

There is no specific NHS Scotland guidance covering the issues raised in the petition⁵. However, there is a range of professional clinical guidelines which do. For example, in the case of kidney transplant recipients, The Renal Association⁶ published its guidance into '[Post-operative care of the Kidney Transplant Recipient](#)'. Section 7 includes guidelines on screening for cancer and specific guidelines in connection with NMSC. These have been reproduced at Appendix 1. However, one of these is a recommendation that kidney transplant recipients should receive "an annual examination of skin by a healthcare professional" and that such patients "should be educated about the adverse effects of solar exposure".

⁴ <http://www.nhsbt.nhs.uk/triennial-report/organ-donation-and-transplantation/cancer-in-transplant-recipients/>

⁵ Personal communication 9 November 2012.

⁶ The Renal Association is the professional body for United Kingdom nephrologists (renal physicians, or kidney doctors) and renal scientists in the UK.

Other guidance often referred to is that of the National Institute for Health and Clinical Excellence (NICE). Its guidance, [‘Improving Outcomes for People with Skin Tumours including Melanoma’](#)⁷ (2006, p 118) recommends the following for transplant patients in general:

- Transplant patients who have precancerous skin lesions or who have developed a skin cancer should be seen in a dedicated ‘transplant patient skin clinic’, either in the transplant centre or in a hospital closer to the patient’s home
- Close links should be established between the transplant centre, local physician and dermatologist for the management of transplant patients postoperatively
- Dermatologists managing transplant recipients with multiple and/or recurrent skin cancers need to liaise with the transplant team regarding reduction of immunosuppression and the use of systemic retinoids in order to reduce the risk of invasive disease

It also stated that there was a requirement for “more research in transplant-related skin malignancy including prevention, epidemiology, pathogenesis and treatment” (p 127). Such NICE guidance has no formal status in the NHS in Scotland, though may be referred to by health professionals.

Ultimately, such guidelines are based on evidence that the risks of developing melanoma are minimised by good skincare and avoiding sun damage. In addition, with good surveillance and/or early treatment, skin tumours in transplant recipients can be treated successfully.⁸

Evaluating skin cancer surveillance

In 2009, research was published which considered the approach to skin cancer surveillance in UK NHS transplant centres⁹. Whilst only related to renal transplant recipients (RTR), its purpose was to repeat a survey undertaken of centres in the UK and Australian in 2000. Its findings in connection with the UK were:

- 67% (n = 56) of centres, caring for 82% (n = 16 349) of the RTR population replied
- 66% (n = 37) of responding centres provided annual skin cancer surveillance and 39% (n = 22) offered full skin examination
- in 81% (n = 30) of those centres providing an annual skin check, surveillance was performed by non-dermatologists (in 30% (n = 9) of these, formal training had been provided for the role)

Further work would need to be undertaken to establish the current situation in NHS Scotland. This would need to include the information that is currently

⁷ This guidance was partially update in 2010, but the update did not affect the recommendations concerning transplant patients.

⁸ For example, see Cancer Research UK (Online) [‘Melanoma statistics and outlook’](#)

⁹ Garg, S., Carroll, RP., Walker, RG., Ramsay, HM. and Harden, PN. (2009) *Skin cancer surveillance in renal transplant recipients: re-evaluation of U.K. practice and comparison with Australian experience*. British Journal of Dermatology, Vol 160, Issue 1, p 177-179, January 2009.

supplied to transplant recipients on potential health risks, including that of skin cancer.

Scottish Government Action

The Scottish Government has advised that there is no centrally held information on the checks that are happening in each unit. However, the issue has been discussed with the Chair of the Scottish Transplant Group (STG), Professor John Forsythe¹⁰, and is to be raised as an agenda item at the next meeting of the STG on 5th December 2012.

Scottish Parliament Action

There have been no debates in the Scottish Parliament or work undertaken by any committee of the Parliament as regards the issues raised in the petition.

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16 November 2012

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Every effort is made to ensure that the information contained in petition briefings is correct at the time of publication. Readers should be aware however that these briefings are not necessarily updated or otherwise amended to reflect subsequent changes.

¹⁰ Prof Forsythe is the Scottish Government's Lead Clinician for Organ Donation and transplantation.

7. Kidney Transplant Recipient (KTR): Neoplasia (Guidelines 7.1-7.9)

Guideline 7.1 – KTR: Screening for cancer

We suggest that the organisation of screening for neoplasia in KTRs take into account:

- Screening should be similar to the general population for cervical, breast, colon and prostate cancer. (2C)
- Screening is not recommended for renal cell carcinoma. (2C)
- Breast and testicular self-examination should be encouraged. (2D)
- An annual examination of skin by a healthcare professional. (2C)
- Patients with cirrhosis should undergo an annual hepatic ultrasound and determination of serum alpha feto-protein. (2C)

Guideline 7.2 – KTR: Non-Melanoma Skin Cancer (NMSC)

We recommend that KTRs should be educated about the adverse effects of solar exposure. (1C)

Guideline 7.3 – KTR: Non-Melanoma Skin Cancer (NMSC)

We suggest that an individualised assessment of hazard should be made according to risk factors. (2C)

Guideline 7.4 – KTR: Non-Melanoma Skin Cancer (NMSC)

We recommend that patients should be encouraged to cover their skin in direct sunlight and to use total sunblock (Sun Protection Factor \geq 50). (1D)

Guideline 7.5 – KTR: Non-Melanoma Skin Cancer (NMSC)

We suggest that self-examination should be encouraged and should be supplemented by annual review by a trained healthcare professional. (2C)

Guideline 7.6 – KTR: Non-Melanoma Skin Cancer (NMSC)

We suggest that acitretin should be prescribed to those with previous NMSC if there are no contraindications. (2B)