SaBTO

Advisory Committee on the Safety of Blood, Tissues and Organs

ANNUAL REPORT

2011/12

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Foreword

At a time of increasing work pressures and financial stringency, I would like to pay tribute to the members of SaBTO for their generosity in giving freely of their time and expertise to provide evidence-based guidance on a series of difficult and important issues for the NHS.

The list of SaBTO's outputs in 2011/12 is impressive, and each one is the visible tip of an iceberg of work by the relevant Sub Group, over months or even years. Their consideration has been wide ranging, scientifically rigorous and often ground breaking.

Some subjects have reached a conclusion during the past year, with a published report, statement or advice. These are listed on page 16. As the work programme on page 17 shows, however, SaBTO's consideration of other subjects is still under way, and work on new topics is planned.

SaBTO's published advice has covered a wide range of subjects, and has drawn on the expertise both of members and of other experts in the relevant fields in its development. In the field of transplantation, SaBTO has provided advice to help clinicians decide with confidence on the suitability of organs from donors with a primary brain tumour; has updated and extended existing guidance on the microbiological safety of human organs, tissues and cells used in transplantation, and has given guidance on the implications of seasonal influenza for organ donation in a number of scenarios. In the area of blood transfusion, SaBTO has recommended a change to the donor deferral criterion for men who have had sex with men, and given guidance on the provision of cytomegalovirus-tested blood components for specific patient groups. SaBTO's advice on these subjects provides trustworthy, evidence-based guidance for clinical practice.

This, SaBTO's first Annual Report, is one of the steps we are taking to further increase the transparency of our work. We have always published our advice, with an account of the evidence that has led us to our conclusions. In future, we plan to provide more detail of our work as it goes along, by publishing meeting papers. It will be necessary to edit these at times, in line with the principles of the Freedom of Information Act, when for example SaBTO considers information that is commercially sensitive or confidential, or data from research studies that have not yet been published. Nevertheless we believe the additional information will be of interest to many.

We also plan to continue holding an Open Meeting each year, on one of the subjects on which SaBTO is working, and in which there is a general level of interest. The meeting in 2011 on 'Patient consent for a blood transfusion' was

well attended and lively, reflecting the high level of response to our public consultation on the issue.

Finally, Dr Mike Potter stood down at the end of March 2012, having been a member since SaBTO began in 2007. Dr Potter's contribution to the Committee's work over that time has been both extensive and valuable. He led the work on cytomegalovirus-tested blood components, and also on the appropriate use of cryoprecipitate, as well as contributing to several other topics including the updating of the microbiological guidance and the advice on seasonal flu and organ donation. We wish him well for the future.

Professor John Forsythe
Chair, SaBTO

Topics considered by SaBTO in 2011/12

Use of organs for transplantation from donors with primary brain tumours

People with malignant disease are not usually considered as potential organ donors because of the risk of transmitting the malignancy. One exception is the group of patients with primary brain tumours, as these have a very low risk of metastasising (spreading) to organs used in transplantation, and thus of being transferred into the recipient.

Anecdotal reports suggest that certain factors increase the likelihood of such metastasis. These include the histology of the tumour, and whether the blood-brain barrier has been breached, for example through biopsy or the insertion of a shunt to relieve hydrocephalus. However, the data on which these assertions are based are of low quality. In addition, even if there is a risk of transmitting a tumour, the magnitude of this risk has rarely been compared with the risk of not being transplanted.

SaBTO established a Sub Group chaired by Professor Anthony Warrens to analyse data from transplants carried out in the UK using organs from donors with primary brain tumours, and determine if it would be possible to draw up improved guidance on practice in this area.

The Sub Group distilled its task into five questions:

1) Was the outcome of transplantation using organs from donors dying with primary brain tumours different to that from other donors?

2) What was the risk of acquiring a tumour from an organ donated from someone dying with a primary brain tumour?

3) What was the risk of dying from a tumour acquired from an organ donated from someone dying with a primary brain tumour?

4) How did the risks of dying as a result of transmission of a primary brain tumour compare with the risks of dying if the patient was not transplanted?

5) What advice should be given on how to deal with the potential donor who presents with a new brain tumour at death, which therefore would be previously histologically undefined?

The Group consulted widely on this topic, and the use of ‘higher risk’ organs was the subject of SaBTO’s annual open meeting in 2010.

The Sub Group used data from the UK Transplant Registry and three national cancer registries to identify cases of transplantation from donors with primary brain tumours, and analyse the outcomes over a 15-year period after the procedure. Based on its findings, the Sub Group concluded that except in certain circumstances, patients with primary brain tumours can become organ donors. The survival of recipients of kidney, liver and cardiothoracic organs was equally good whether or not the organ donor had such a tumour. Data modelling showed that the recipients of organs from donors with primary brain tumours could gain between one and eight life years, in addition to the years they would gain if they waited for an organ from a donor without a tumour.

The Sub Group drew up recommendations for clinical practice, to help clinicians decide in each individual case whether an organ would be suitable for use. These recommendations were endorsed by the full SaBTO committee.

The Group estimated that up to 20 people with a primary brain tumour would become eligible to be organ donors each year.

The Sub Group's Report, setting out details of the evidence considered, the methodology used and the conclusions drawn, was published as an article in the journal 'Transplantation', and then on the SaBTO website.

In addition, SaBTO's work helped stimulate and encourage recommendations on the information that should be given to patients who might receive a transplanted organ with a higher risk than normal. These recommendations were drawn up in conjunction with the British Transplantation Society and NHS Blood and Transplant.

Advice concerning organ donation and seasonal influenza

During the HINIv (swine) flu pandemic, SaBTO issued advice on the implications for organ donation. This was withdrawn in March 2010 when the pandemic was over.

It became clear that there was a need for similar advice about organ donation and seasonal influenza. Professor Richard Tedder led the work to draw this up, and SaBTO published it in August 2011.

In general, organs from any potential donor should be offered, and the implanting surgeon will decide on their use. SaBTO advised that seasonal influenza may make certain organs unsuitable in some cases, however. Their advice provides guidance on a range of scenarios, including when a potential donor has suspected influenza, or has had contact with someone who has influenza. It also covers immunisation in relation to donors and healthcare workers, and the testing of donors for influenza.

vCJD risk reduction measures: prion filtration of red cells, double red cell collection and importation of fresh frozen plasma

SaBTO has been considering risk reduction measures to prevent the potential transmission of vCJD via blood transfusions, in light of developments in the available evidence, for some time. Such measures include the prion filtration of red cells, double red cell collection and the importation of fresh frozen plasma (FFP). SaBTO's Prion Sub Group is chaired by Professor Marc Turner.

During 2011 there was a significant development in the way evidence is interpreted. Experts had become increasingly concerned that the model used to assess the risk of vCJD transmission predicted many more cases than – happily – have actually been observed. Precautionary assumptions, though individually reasonable, made for an unduly pessimistic outcome when taken together. This led to the development of a new approach, in which the prevalence of subclinical disease, level of infectivity and susceptibility to infection are regarded as variable elements, and are combined in a series of illustrative scenarios which are consistent with the observed facts. The Advisory Committee on Dangerous Pathogens (ACDP) Transmissible Spongiform Encephalopathies (TSE) Risk Assessment Sub Group approved this approach, and has published a paper detailing it.

The SaBTO Prion Sub Group used this revised risk assessment model to review recommendations made by SaBTO in 2009 relating to the importation of FFP, prion filtration of red cells and double red cell collection as measures to reduce the risk of potential vCJD transmission through blood transfusion. The Sub Group considered a range of factors including ethical issues, level of blood safety risk and cost effectiveness, calculated using the revised assumptions on prevalence, infectivity and susceptibility.

In 2009 SaBTO considered the prion filtration of red cells and recommended that it should be introduced, subject to the satisfactory completion of a clinical trial to test whether filtration affected the safety of transfusions. The study, PRISM A, ended in 2011, and showed safety was not reduced, though the findings need to be confirmed in larger numbers of patients. Other important studies are currently under way, two on the effectiveness of the filtration process, and one on the prevalence of the abnormal protein associated with vCJD. SaBTO agreed with the Sub Group that it could not make a final decision on prion filtration of red cells until it had the findings of the studies due to end in 2012 (on efficacy and prevalence), and further results from the remaining efficacy study. This issue will therefore be considered again during 2012/13.

Another measure reviewed by the Prion Sub Group was double red cell collection (whereby red cells are separated out during a donation and the other components are returned to the donor's circulation, so more red cells can be taken). According to previous assumptions about infectivity, halving

the number of donors to whom a recipient was exposed would halve the potential risk of vCJD transmission. As this assumption had changed, the case for the effectiveness of double red cell collection was weakened. There were no grounds, therefore, for SaBTO to change the view it took in 2009, that double red cell collection would not be an effective risk reduction measure.

The final measure the Sub Group reviewed was the use of imported FFP. Since 2002, imported FFP has been used to treat those born on or after 1st January 1996, and therefore not likely to have been exposed to BSE in their diet. In 2004 this was extended to all those aged below 16 years, and to adult patients with thrombotic thrombocytopenic purpura (TTP), who require repeated transfusions. In 2009 SaBTO recommended it should be further extended to all patients, a recommendation that was not implemented because of increasing concern about the credibility of the assumptions underpinning the risk assessment. In March 2012, SaBTO accepted the Sub Group's view that the evidence no longer supported extending the use of imported FFP for patients other than those born on or after 1st January 1996, and adult patients with TTP.

The cohort of people born on or after 1st January 1996 are accepted as being at lower risk of developing vCJD than older people, who were potentially exposed to BSE through the food chain. From January 2013 they will begin to be eligible to donate blood, and in time may provide a source of lower risk blood. SaBTO will work with other bodies to consider issues around this group both as potential donors and recipients.

The provision of cytomegalovirus tested blood components

A Cytomegalovirus (CMV) Sub Group was set up early in 2011, chaired by Dr Michael Potter, to review the evidence surrounding the effectiveness of both leucodepletion and the provision of CMV seronegative blood components to prevent the transmission of CMV through blood transfusion. The Group was asked to make recommendations on whether the evidence supported the replacement of CMV seronegative blood components (both red cells and platelets) with blood components that have been leucodepleted but not screened for CMV.

CMV is a common herpes-type virus, which causes chronic infection: some 50 – 60% of UK adults carry the infection, and around 1% become newly infected each year. The transmission of CMV in blood products can cause primary infection, or reactivate infection in previously infected people. Most adults have no symptoms, but the infection can have more serious consequences for some patient groups.

Universal leucodepletion was implemented by all four UK Blood Services in 1999, and is largely effective in preventing CMV transmission. There remains a small risk, however, that CMV could be transmitted in blood components from recently infected donors, due to the presence of virus in plasma or the remaining white cells.

Currently, a proportion of donations are screened for CMV antibodies to provide 'CMV seronegative' cellular components for transfusion. The screening is very effective, but a small risk remains that CMV may be transmitted by a CMV negative component.

The Group considered the relative risk of CMV transmission from leucodepleted and from CMV seronegative components, and the potential impact of CMV infection on various patient groups, and so developed its recommendations. They reported back to the full Committee in the autumn, and SaBTO endorsed the Group's recommendations.

SaBTO recommended that CMV negative blood and blood products should continue to be provided for unborn and newborn babies (ie up to 28 days post expected date of delivery); and for elective transfusions during pregnancy (not labour and delivery). CMV negative granulocyte components should also continue to be provided for CMV seronegative patients.

For other groups, including immunodeficient patients and those receiving organ and stem cell transplants (adults and children), SaBTO recommended leucodepleted blood should be used, though they recommended PCR monitoring should be considered to allow early detection of any CMV infection.

Ending the dual inventory of leucodepleted and CMV negative blood components in most hospitals is likely to result in considerable reductions in cost, wastage and workload. This could facilitate other safety initiatives, such as achieving the target of 80% platelets by apheresis; and recruitment of more male platelet donors, reducing the risk of transfusion related acute lung injury (TRALI).

SaBTO published a Position Statement which sets out the background, the relevant factors for each patient group, and SaBTO's conclusions and recommendations on the type of blood components suitable in each case. Clinicians who implement these recommendations will continue to prescribe CMV seronegative blood components only for those patient groups where SaBTO found the evidence supported its use.

The Position Statement, together with a more detailed Report, have been published**.**

Patient consent for a blood transfusion

In 2011 SaBTO completed an extensive and long-running piece of work, on patient consent for a blood transfusion. A Sub Group was set up in 2009 chaired by Catherine Howell, SaBTO's Nurse member, which completed its work in 2011.

It is an accepted principle that a patient should give valid consent before receiving medical treatment, and this includes when they receive a blood transfusion. Both the General Medical Council and the Department of Health have published guidance on consent. A blood transfusion is often an additional procedure during a course of treatment, however, and audits have shown there is wide variation in consent practice around the country. Many patients do not receive adequate information about the benefits, risks and alternatives to a blood transfusion; some are not aware whether or not they have received a transfusion, and if they have, do not understand that they should no longer donate blood.

Between March and May 2010 SaBTO held a public consultation on issues around patient consent to a blood transfusion. There were separate online questionnaires for health professionals and for patients and others with an interest in patient safety. The consultation attracted more than 900 responses, from a wide range of health professionals and individuals, demonstrating the high level of interest in the subject. The Sub Group developed their recommendations on the basis of the consultation responses, and these were endorsed by the full SaBTO committee.

Core points in the recommendations were:

- that patients should give valid consent for a blood transfusion, which is recorded in their clinical notes;
- that there should be a modified consent process for long-term multi-transfused patients; and
- that patients who were not able to give consent prior to a transfusion, for example when it was an emergency, should be given information retrospectively.

SaBTO also recommended that the consent standard developed by Health Improvement Scotland (formerly NHS Quality Improvement Scotland) should be adopted throughout the UK for consent for blood transfusion.

There were 14 recommendations in all, some of which have already been implemented, including the development of resources to help clinicians taking consent. These are published on the Better Blood Transfusion Toolkit website:

- A standardised information resource, summarising the topics to be raised with a patient when seeking consent for a transfusion;

- A good practice guideline on giving patients information retrospectively, when prior consent was not possible.

The Sub Group involved other bodies in the NHS to take action on a number of the recommendations:

- A UK comparative audit of consent for transfusion will be carried out by the National Comparative Audit of Blood Transfusion (a collaborative between the Royal College of Physicians and NHS Blood and Transplant) in 2012/13;
- The UK Better Blood Transfusion Network will develop a module on patient consent for transfusion for their 'learnbloodtransfusion' e-learning package in 2012/13;
- The National Blood Transfusion Committee in England and equivalent bodies throughout the UK are working to have this package included in relevant Royal Colleges' educational programmes and undergraduate curricula;
- The British Committee for Standards in Haematology is updating its guidelines on the administration of blood components to reflect the recommendations.

SaBTO's 2011 Open Meeting was on the subject of patient consent for blood transfusion. It was opened by Professor Sir Bruce Keogh, the Department's NHS Medical Director and a distinguished cardiothoracic surgeon, and was well attended.

Review of blood donor selection criteria: men who have had sex with men, and commercial sex workers

The blood donor selection criteria are one of the most important mechanisms to ensure the safety of blood for transfusions. They identify those donors who should not donate because it could harm their own health, or that of the recipient, for example if they are at higher risk of an infection which could be passed on in their blood.

The Blood Donor Selection Steering Group, set up in 2010 under the Chairmanship of Professor Deirdre Kelly, completed its work in 2011. Its remit was to review deferral criteria related to sexual behaviour, specifically the appropriateness of the lifetime exclusion of men who have had sex with men (MSM) and commercial sex workers (CSW). The Group included members from HIV charities, groups representing gay and bisexual men and commercial sex workers, and groups for patients with conditions requiring frequent transfusions.

The conclusions of the Group's review took into account available scientific evidence on:

- The effectiveness of current testing strategies employed by the UK Blood Services;
- The differences in prevalence and incidence of transfusion-transmitted infections (TTIs) between different risk groups;
- The level of compliance with current blood donor deferral and exclusion criteria;
- The risks associated with changing donor deferral and exclusion criteria, including any impact on the level of compliance; and
- The impact on transfusion recipients.

There had been a number of significant changes since the last review in 2006, and the Group looked at the impact of scientific and technological advances in the testing of donations, particularly the reduction of the window period through the introduction of nucleic acid technology (NAT) testing; the effective use of information technology to reduce human error in testing; and the introduction of automated sample handling and tracking systems, to reduce testing errors. The Group had new information on levels of compliance with the current deferral of MSM, from a study carried out by the Health Protection Agency (HPA)[1]. They also took into consideration the significant social, cultural and legal changes since the last review: for example the Equality Act 2010, which prohibits discrimination on grounds of sexual orientation, but includes a provision which permits blood donor deferral if it is a reasonable judgement made on the basis of available data.

[1] Views and experiences of men who have sex with men on the ban on blood donation: a cross sectional survey with qualitative interviews. Grenfell, Nutland, McManus, Datta, Soldan and Wellings. BMJ 2011; Sep 7; 343: d5604

The Steering Group reported their findings to the full Committee in 2011. The report is published on the SaBTO website.

SaBTO considered the Sub Group's findings, and formulated recommendations which they put to Health Ministers in England, Wales, Scotland and Northern Ireland. On MSM, these were that the evidence supported a 12 month deferral rather than the current lifetime exclusion; and that the importance of complying with the criteria should be highlighted. On CSW, SaBTO considered that more data on the prevalence of blood borne viruses in this group, and their compliance with the deferral criterion, were needed before SaBTO could decide whether to recommend any change.

Health Ministers in England, Wales and Scotland accepted this recommendation, and the change was implemented in those countries on 7th November 2011. Consideration is still ongoing in Northern Ireland.

The public response to the change in the MSM criterion was generally positive. Most people accept that it is based on science, and is there to ensure the safety of the blood used in transfusions.

Summary of SaBTO outputs in 2011/12

The provision of cytomegalovirus tested blood components

Position Statement and more detailed Report published in March 2012 at http://www.dh.gov.uk/health/2012/03/sabto/

Use of organs for transplantation from donors with primary brain tumours

Report (published as an article in 'Transplantation') published in February 2012 at http://journals.lww.com/transplantjournal/Fulltext/2012/02270/Advising_Potential_Recipients_on_the_Use_of_Organs.3.aspx

Patient consent for a blood transfusion

Report published in October 2011 at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_130716?ssSourceSiteId=ab

Review of blood donor selection criteria: men who have had sex with men and commercial sex workers

Report published in September 2011 at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_129796?ssSourceSiteId=ab

Advice concerning organ donation and seasonal influenza

Statement published in August 2011 at http://www.dh.gov.uk/ab/SaBTO/index.htm?ssSourceSiteId=en

Updated Guidance on the Microbiological Safety of Human Organs, Tissues and Cells used in Transplantation[2]

Guidance published in February 2011 at http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_121497?ssSourceSiteId=ab

Minutes of meetings

May 2011 at http://transparency.dh.gov.uk/2012/04/20/sabto-3-may-2011/
October 2011 – Committee meeting at http://transparency.dh.gov.uk/2012/04/22/sabto-10-october-2011/
October 2011 – Open meeting at http://transparency.dh.gov.uk/2012/04/23/sabto-11-october-2011/
March 2012 at http://transparency.dh.gov.uk/2012/04/24/sabto-9-march-2012/

[2] While this guidance was not published within the period covered by this report, it is current.

2012/13 work programme

SaBTO's work programme for 2012/13 includes the following:

- Ongoing consideration of the efficacy and appropriateness of measures to reduce the potential risk of transmitting variant Creutzfeldt-Jakob disease (vCJD) and other infections through blood transfusion; both measures already in place, and any new measures proposed.

- Consideration of the implications for tissues and cells of the change to the blood donor deferral criterion for men who have had sex with men.

- A review of the evidence base for the blood donor deferral policy relating to the sexual partners of those who have been sexually active in areas with a high incidence of HIV/AIDS.

- Consideration of the use of the potential source of 'lower risk' blood as those born on/after 1st January 1996 become eligible to donate blood.

- Exploration of a possible 'donor risk index' for organ donors, if data are available.

- When significant new information becomes available:

    - consideration of the donor deferral of commercial sex workers, when new evidence is available on compliance with the current deferral policy and rates of blood borne viral infection in this group

    - the use of cryoprecipitate and any licensed / potential alternatives

    - washing of femoral heads, when data is available from clinical trials

    - pathogen inactivation for platelet concentrates.

SaBTO Members

The members of SaBTO are as follows. The area of expertise for which they were appointed is shown in brackets:

- Professor John Forsythe (Chair)
- Professor Peter Braude (IVF/fertility/stem cell specialist)
- Professor John Cairns (Health economist)
- Professor John Dark (Solid organ transplant surgeon)
- Dr George Galea (Blood/transplant service manager)
- Mrs Catherine Howell (Nurse)
- Professor Deirdre Kelly (Physician)
- Professor Richard Knight (Prion disease specialist)
- Dr Harpreet Kohli (Epidemiologist/public health specialist)
- Dr Eithne McMahon (Microbiologist/bacteriologist/virologist)
- Professor Joanne Martin (NHS management specialist)
- Mr Elwyn Nicol (Patient representative)
- Dr Mike Potter (Haematologist) *(Stood down March 2012)*
- Professor Hamish Simpson (Orthopaedic surgeon)
- Professor Richard Tedder (Microbiologist/bacteriologist/virologist)
- Professor Marc Turner (Haematologist)
- Professor Anthony Warrens (Immunologist)
- Dr Lorna Williamson (Blood Service Medical Director)

Change of SaBTO's status

SaBTO is currently an Advisory Non-Departmental Public Body. Following a review by the Department of its arm's length bodies in 2010, it will change its status and become a Department of Health Committee of Experts, though the date when that change will become effective has not yet been settled.

Despite this change, the essentials of SaBTO's role will remain unchanged. It will continue to provide independent scientific advice, free from political influence, to UK Ministers and Health Departments.

The Government Office for Science updated its Code of Practice for Scientific Advisory Committees, following a public consultation. The new Code, under which SaBTO operates, was published in 2011.

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