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News

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Health professionals are reminded of the need to consider malaria chemoprophylaxis for travellers to Goa, India

On 9 March 2007, the Health Protection Agency Malaria Reference Laboratory (MRL) reported on five *Plasmodium falciparum* malaria cases that were diagnosed between 29 December 2006 and 14 March 2007 in travellers from the United Kingdom (UK) who had visited Goa [1]. A cluster of cases was also seen in other European travellers to Goa [2]. An increase in falciparum malaria cases was subsequently reported in the resident population of Goa in the first six months of 2007 with 788 cases reported compared to 240 in the same period in 2006 [3]. From 1 January to 31 August 2007 the MRL received reports of 11 cases of falciparum malaria imported from India. Six were in individuals known to have visited Goa. Increased rainfall in the region was reported to be a contributing factor to the increase in cases [2].

As a result of the increase in cases, the Advisory Committee on Malaria Prevention in UK travellers (ACMP) [4], temporarily updated the UK malaria guidelines in March 2007, to advise that travel advisors should recommend malaria chemoprophylaxis to those travellers who will be visiting Goa, particularly areas north of Panaji, who will be remote from medical care. **This advice remains current.** The recommended chemoprophylaxis is chloroquine plus proguanil. Alternatives are mefloquine, atovaquone plus proguanil (Malarone®), or doxycycline. All travellers to Goa should also be instructed on the use of mosquito bite avoidance measures [5] and be made aware of the risk of malaria; this also applies to the other low-risk regions of India as listed in the guidelines [4].

Since late 2006, when the updated ACMP guidelines [4] were published online, the Malaria Reference Laboratory has been undertaking enhanced surveillance of malaria cases imported from India to determine the state(s) visited. Monsoon rains occur in India every year between June and September; and it has been reported that rainfall has been slightly higher than average in the southern states during the 2007 monsoon season [6]. This may contribute to increased transmission over the coming months. The situation will therefore continue to be monitored closely for any change in transmission of malaria to travellers from the UK visiting India.

All travellers should seek medical attention promptly if they become unwell and inform their doctor that they have been in a malarious area. The healthcare worker should consider malaria in every ill patient who has recently returned from the tropics; for those with a fever the illness should be considered to be malaria until proven otherwise.

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The Health Protection Agency endorses the Government's influenza vaccine campaign

The Health Protection Agency endorses the Government's influenza vaccine campaign as it provides protection against influenza infection in 'at risk' individuals.

A recent study to which the Agency contributed, which was published in *Vaccine*, looked at the role of flu vaccination in reducing winter pressures in the NHS [1]. The study has led to reports that the authors and/or the Agency are questioning whether the annual flu vaccination campaign is worthwhile. This is not the case: not only is this not being called for, but the study did not actually address the issue as to whether it is beneficial for the elderly to receive 'flu vaccine.

The study found that, of the elderly people who became ill with an acute respiratory infection such as bronchitis and/or emphysema, not just flu, in the winter (sufficient to consult NHS services), the ones that ended up in hospital were no less likely to have been vaccinated than those who were successfully treated in primary care. It was therefore suggested that effective winter planning needs additional measures to be taken as well as the annual flu vaccine campaign.

This does not, however, negate the need for influenza vaccine, as other studies that were specifically designed to address this question, show demonstrable benefits in reducing both infection and subsequent morbidity and mortality in the elderly [2], particularly in a season where the vaccine is well-matched and there is high viral circulation.

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National Knowledge Week for seasonal influenza

October marks the beginning of the monitoring of the seasonal influenza activity in the United Kingdom. The HPA's Influenza and Respiratory Virus Programme Board (IRVPB) in collaboration with the National Electronic Library of Infection (NeLI) will be launching the *National Knowledge Week for Seasonal Influenza* commencing on Monday 29 October and running until 4 November 2007. This resource provides access to a wide range of information on seasonal flu [1].

The aim of the national knowledge promotion week is to raise awareness about seasonal flu and provide the busy clinician with the best and most up-to-date knowledge on this topic in electronic format. This should also be of use and interest beyond the flu season. The contents of this new website will be supported and updated through regular reviews of the evidence selected by the HPA's IRVPB.

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Immunisation

- ▶ Invasive meningococcal infections, England and Wales, laboratory reports: weeks 36-40/2007
- ▶ Laboratory Reports of *Haemophilus influenzae* by age group and serotype, England and Wales: October to December 2007 (2006)
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Invasive meningococcal infections, England and Wales, laboratory reports: weeks 36-40/2007

	Method of diagnosis			Total reports 36-40/2007	Cumulative* total to week 40/2007
	CSF and blood Culture	Non- culture	Other sites		
Group A	–	–	–	–	1
B	31	29	1	61	821
C	–	2	–	2	30
W135	2	–	–	2	24
X	–	–	–	–	1
Y	1	–	–	1	30
Z/29E	–	–	–	–	1
Ungroupable	–	–	–	–	2
Ungrouped	–	6	–	6	59
Total	34	37	1	72	969

*Latex antigen, microscopy, polymerase chain reaction combined Health Protection Agency Centre for Infections data and Meningococcal Reference Unit data.

Laboratory Reports of *Haemophilus influenzae* by age group and serotype, England and Wales: weeks 27-39/2007 (2006)

Type	Age					Total
	<1y	1-4y	5-14y	≥15	nk	
b	2 (3)	2 (10)	– (–)	4 (16)	– (1)	8 (26)
nc	4 (7)	1 (15)	1 (1)	32 (30)	– (–)	38 (41)
a,e,f	– (–)	1 (–)	– (–)	5 (6)	– (1)	6 (6)
not typed	1 (2)	4 (2)	1 (–)	28 (24)	1 (–)	35 (28)
Total	7 (12)	8 (11)	2 (1)	69 (76)	1 (1)	87 (101)

Transfusion transmitted infections reported to National Blood Service/HPA infection surveillance, 2006

The surveillance of suspected transfusion transmitted infections (TTIs) began in October 1995 and is coordinated by the National Blood Service (NBS)/ Health Protection Agency (HPA) Centre for Infections (Cfi). Data collected forms part of the Serious Hazards of Transfusion (SHOT) haemovigilance scheme. Data presented here are for NBS/HPA TTI surveillance only. The 2006 SHOT Annual Report is due to be published shortly and will be available through the website (www.shotuk.org).

Methods

Blood centres in England, Wales, and Northern Ireland report possible transfusion transmitted infections (TTIs) of which they have been informed to NBS/HPA TTI surveillance. Blood centres in Scotland report all incidents to the Microbiology Reference Unit of the Scottish National Blood Transfusion Service, for investigation. Details and findings on each incident are passed to NBS/HPA TTI surveillance annually.

Reports of suspected transfusion transmitted infections

Between 1 January 2006 United Kingdom (UK) to NBS/HPA TTI surveillance. One additional report was made by a hospital to the Medicines and Healthcare Regulatory Agency (MHRA) via SABRE (the MHRA web-enabled adverse event recording system) that had not been reported through routine blood service surveillance. This case was made available to the surveillance scheme and has been included in the numbers below (29 cases in total).

After complete investigation, two reports (bacteria) were determined to be TTIs according to the definition (Box 1). Twenty-five cases were concluded as not transfusion transmitted infections (five hepatitis B [HBV], two hepatitis C [HCV], one hepatitis A [HAV], one HIV, two CMV and 14 bacteria). One (HCV) involved a multi-transfused patient (dates of transfusion between 1997 and 2005) that could neither be confirmed nor refuted as a TTI as three donors could not be traced. One case (HBV) is pending complete investigation. An additional report of a clinical diagnosis of vCJD in a blood transfusion recipient was received.

Box 1 : Definition

A report was classified as a **transfusion transmitted infection** if, following investigation:

The recipient had evidence of infection post-transfusion, and there was no evidence of infection prior to transfusion and no evidence of an alternative source of infection

And, either

At least one component received by the infected recipient was donated by a donor who had evidence of the same transmissible infection,

or

At least one component received by the infected recipient was shown to contain the agent of infection

Case report of transfusion transmitted *Klebsiella pneumoniae*

One recipient (M 54y) with acute myeloid leukaemia received one unit of pooled platelets (3 days old). Within five minutes of starting the transfusion he became acutely unwell and the transfusion was terminated. The patient was given hydrocortisone and Piriton, but died 24

hours post transfusion. The findings confirmed death due to overwhelming septic shock subsequent to either live Gram negative bacteraemia, or as a result of a lethal exposure to Gram negative bacterial endotoxin. *Klebsiella pneumoniae* was isolated from the platelet pack, but not from a sample taken from the patient at the time of transfusion. The platelet pack had been screened using the BacT/ALERT* system prior to issue and was negative after 24 hours culture. (BacT/ALERT is a fully automated blood culture system for detecting bacteraemia and fungaemia based on detection of CO₂ production by any organisms present. As well as its clinical application in the diagnosis of bacteraemia, it is validated CE marked and FDA approved for quality control testing of apheresis and platelet concentrates [1].) Four associated red cell units and three associated FFP units were investigated and were negative. Skin and throat swabs were taken from all four donors and were also negative. Archived plasma donations from all donors were investigated by PCR for *Klebsiella* -specific DNA but none was detected. Extensive investigation of the blood centres at which the component was manufactured, tested and issued did not reveal the presence of *Klebsiella* spp. on or in any of the equipment involved. The investigation concluded that this was bacterial contamination of a pooled platelet unit with *Klebsiella pneumoniae*; no source of the contamination was found.

Case report of transfusion transmitted *Streptococcus bovis*

One recipient (90 year old female), found to have low platelet count and bleeding symptoms during an outpatient visit, received pack two of a three-part apheresis platelet donation (three days old). One hour later the patient collapsed on her journey home. She was admitted to A&E where she was resuscitated. On re-admission to hospital she was febrile, tachycardic, hypotensive, and hypoxic. Cultures were taken and broad spectrum antibiotics and fluids were started. In the initial 48 hours after transfusion she developed signs of mild cardiac failure and renal impairment. *Streptococcus bovis* (biotype II) was cultured from a sample of the patient's blood and from the apheresis platelet pack. Pulsed field gel electrophoresis (PFGE) on the isolates from the patients blood and platelet pack revealed them to be indistinguishable. The patient made a full recovery.

The donor was referred to the local hospital for colonoscopy and ongoing management because of the strong association between *S. bovis* bacteraemia and gut pathology. This revealed diverticular disease, together with two small dysplastic tubular villous adenomas which were removed. It is suspected the donor's diverticular disease was the cause of the *S. bovis* contamination of the platelet donation. The donor was removed from the donor panel and thanked for many previous platelet donations.

Pack one of the apheresis donation was transfused to another patient, also on day three of the shelf-life, with no adverse reaction. The recipient's blood cultures were negative and the remnants of the implicated pack were investigated but no organisms were isolated. Pack three had also been transfused successfully on day three of the platelet shelf-life, but the empty pack was not available for investigation - the recipient was on high dose antibiotics at the time of the transfusion. This case was concluded to be a proven case of bacterial contamination of an apheresis platelet unit with *Streptococcus bovis*, the source of which was asymptomatic bacteraemia in a donor with undiagnosed asymptomatic diverticular disease.

Further reports: vCJD

In early 2007, the Health Protection Agency gave notification of a fourth case of vCJD infection associated with blood transfusion. In late 1997, a recipient received transfusion of a number of blood components. The donor of one of the units of non-leucodepleted red cells developed symptoms of vCJD about 17 months after this donation. The recipient developed symptoms of vCJD 8.5 years after receiving the transfusion. The donor is the same as that of case three, reported in the SHOT 2005 report. The recipient has since died. (For more information on variant CJD see <http://www.cjd.ed.ac.uk/>).

Cumulative total (1995-2006)

Since surveillance began in 1995 there have been 60 confirmed TTIs reported to the scheme including four vCJD or prion reports), with 13 deaths caused by transfusion (table 1). The majority of confirmed TTIs are due to bacteria or hepatitis B.

Table 1: Cumulative total of reports of transfusion transmitted infection incidents (infected recipients) made to NBS/HPA TTI surveillance between 1 October 1995 and 31 December 2006 by year of transfusion and infection

Infection	Year of transfusion											Total	Deaths#
	Pre 1997	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006		
HAV	1(1)	–	–	–	1(1)	–	–	–	–	1(1)	–	3	–
HBV	3(3)	1(1)	1(1)	2(3)	1(1)	–	1(1)	1(1)	–	1(1)	–	11	–
HCV	1(1)	1(1)	–	–	–	–	–	–	–	–	–	2	–
HIV	1(3)	–	–	–	–	–	1(1)	–	–	–	–	2	–
HEV	–	–	–	–	–	–	–	–	1(1)	–	–	1	–
HTLV I	2(2)	–	–	–	–	–	–	–	–	–	–	2	–
Bacteria	2(2)	3(3)	4(4)	4(4)	7(7)	5(5)	1(1)	3(3)	–	2(2)	2(1)	33	8
Malaria	–	1(1)	–	–	–	–	–	1(1)	–	–	–	2	1
vCJD/prion	1(1)	2(2)	–	1(1)	–	–	–	–	–	–	–	4	4
Total	11(13)	8(8)	5(5)	7(7)	9(9)	5(5)	3(3)	5(5)	1(1)	4(4)	2(1)	60	13

* The number of incidents is shown with the total number of identified infected recipients in brackets.

Death caused by transfusion transmitted infection

Comment

During 2006, only two cases were confirmed TTIs; both were due to bacteria. There were no confirmed transmissions of any of the markers for which there is mandatory testing. The number of reports received during 2006 was lower than in any of the previous six years of surveillance. However, each year the number of reports received by the surveillance scheme is small and fluctuations are to be expected. In eleven years of surveillance only two transfusion transmitted HIV cases have been identified. These results are consistent with the current very low estimated risk of HBV, HCV and HIV infectious donations entering the UK blood supply [2].

The report of a fourth case of vCJD infection in a recipient of non-leucodepleted red blood cells increases the concern about the risk of vCJD transmission by blood transfusion. The patient is one of a small group of recipients of blood from donors who later developed vCJD. These recipients have been notified of their possible exposure to vCJD and are under surveillance; this represents active case finding. All four cases to date relate to the transfusion of blood components prior to the introduction of leucodepletion; none relate to plasma products. Since 1997 the UK blood services have introduced a number of precautionary measures against the risk of vCJD. These include leucodepletion of all blood components (since 1999), the use of methylene blue virally inactivated FFP obtained outside the UK for children under 16, importation of plasma for fractionation, imported solvent detergent (SD) treated FFP for adult patients with thrombotic thrombocytopenic purpura (TTP) and the exclusion of donors who have received a blood transfusion in the UK since 1980.

Bacterial contamination of platelets continues, albeit at a low level, despite actions to reduce bacterial contamination, such as sample diversion pouches and enhanced donor arm cleansing, which have been introduced over the years. One TTI case identified this year was, however, due to bacterial infection in a donor with underlying asymptomatic disease; actions such as sample diversion and enhanced arm cleansing to reduce risk of contamination at donation are unlikely to have prevented this transmission.

Transfusion transmitted infections continue to be rare in the UK.

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