Journal of the British Global and Travel Health Association, vol 28 2017 1
doi: http://dx.doi.org/10.21864/jbgtha.2017.01

Case study: Asplenic traveller to Botswana

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A 42 year old man attended the Travel Clinic on a Friday morning, travelling to Botswana and leaving in three days' time. He will be away for five weeks filming wildlife in February. The plan was to bush camp with four others in his team in the far north of the country in the Chobe National Park and was likely to be remote from reliable medical attention. A satellite phone and medical evacuation (medivac) cover were available through the television production company he was travelling with. He was asplenic because of a car accident 15 years ago but otherwise well with no further medical conditions and took no regular medication. For this case study only vaccines and malaria will be discussed, but his increased risks and relative advice as an immuno-compromised traveller were also covered in the consultation.

To begin, a full vaccination history was taken. He was a frequent traveller with a long and full vaccination history, having received all his routine immunisations (TDaP), MMR and Hepatitis A (2nd dose) and Typhoid two and a half years ago. He had received three rabies vaccines seven years ago and a full course of hepatitis B and a five-year booster two years ago. According to WHO, there is no risk of yellow fever in Botswana. The Government of Botswana require proof of yellow fever vaccination only if a traveller is arriving from a country with risk of yellow fever[1].

Due to asplenia, he is considered partially immuno-compromised and therefore at greater risk of overwhelming infection. Although in the splenic traveller the vaccines received would provide adequate protection for this trip, data on long-term antibody levels in asplenic patients are limited. Additional booster doses should be considered, depending on the person's underlying condition.[2] The risk of potentially being inadequately protected was explained to the traveller, but he chose to not have additional doses for this trip. He felt that as he would be preparing his own food in camp this would reduce his risks of a food and waterborne illness. He would be bush camping so his risk of rabies would be relatively low, as per WHO. Ninety nine per cent of rabies cases in humans are caused by dog bites[3] and he was more likely to be surrounded by wild animals. He appreciated he needed urgent medical attention in the event of a bite/scratch and knew to explain his asplenia to the medic assessing him.

This traveller had an appointment with his GP the same afternoon, so was asked to ensure his routine vaccines including pneumococcal, Haemophilus influenza type b (Hib), meningococcal ACWY and influenza vaccines were completed prior to travel as these are recommended for all asplenic patients and are available free of charge through NHS services. He was given the Public Health England (PHE) splenectomy leaflet which reinforced this information.[4]

Malaria was a big concern for this traveller. He would be staying in Chobe National Park which according to NaTHNaC[5] is situated in a high-risk malaria area during a high-risk season. The Advisory Committee for Malaria Prevention (ACMP) state that persons without a spleen should avoid travel to a malarious area[6]. The spleen has an active role in removing parasitised red blood cells, and therefore without it, he is at risk of the *Plasmodium* parasites multiplying at a much greater and faster rate than in a person with a functioning spleen. This could result in severe malaria, a potentially life threatening situation occurring at a far more rapid rate. On previous trips, this traveller had always taken atovaquone and proguanil for prophylaxis and carried a course of Riamet (artemether and lumefantrine) with him to be used if malaria was suspected. Riamet is an effective malaria treatment for non-severe falciparum malaria. It should not routinely be taken in replacement for prophylaxis, however the ACMP states emergency standby treatment should be recommended for those taking chemoprophylaxis and visiting remote areas where they are unlikely to be within 24 hours of medical attention and that they should commence treatment immediately whilst on their way to seeking medical attention.[6] This traveller is likely to be 22 hours or more away from a town, and although has medivac available, it is not certain that it could respond quickly enough. The traveller was very anxious that he carry malaria treatment with him. He was aware that as he was asplenic malaria could develop a lot quicker than in other travellers. He was departing within three days and as he lived some distance away he was unable to attend the clinic again before departure and Riamet was not held in stock. Atovaquone and proguanil (A&P) can also be used as a treatment for falciparum malaria. In the event of symptoms associated with malaria, four tablets can be taken as a single dose for three consecutive days. This was an equally suitable option, and in stock. It is not possible to use the same malaria medications for treatment as taking for prophylaxis to minimise drug toxicity and due to concerns over drug resistance.[6] The traveller had wanted to take A&P as a

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prophylaxis. We looked at alternatives. Due to his imminent departure, he did not have time to trial mefloquine before travel. The only other option was doxycycline. On questioning, it turned out he had used this many years ago and did not recall side effects. The decision was made to provide doxycycline for prophylaxis and 12 tablets of atovaquone and proguanil for treatment.

It had been established during the initial risk assessment that he was not currently taking any regular medication. Asplenic patients are often taking long term prophylactic low dose penicillin due to their increased risk of sepsis caused by infection with encapsulated bacteria, with pneumococcal disease being predominant.[7] His spleen was removed many years ago, and he had decided to discontinue taking prophylactic antibiotics. It is advised that asplenic travellers carry a course of high dose antibiotics with them in case of infection. As he planned to be staying in a remote location, this would be an essential component of his medical kit and had booked an appointment that afternoon with his GP to arrange this. It was advised that he request erythromycin as an alternative to his usual penicillin as tetracyclines are known to interfere with the efficacy of penicillin and therefore it would be best to avoid concomitant use.

Finally, it was important to reiterate the importance of seeking medical attention if experiencing symptoms he could suspect as malaria, and to remind him that due to his remoteness he should start taking treatment at the onset of symptoms to the way to hospital. An overview of the symptoms was provided along with literature to reinforce all the verbal information given with instructions for self-treatment. He would require an urgent thick and thin blood test to diagnose the malaria and establish which type he had to ensure he was treated appropriately. He was also given a leaflet explaining how to use the treatment dose.

At the end of the consultation, the traveller expressed their thanks for me being able to spend time with him. The appointment had overrun, but justifiably so. He had rightly been anxious about travelling to a remote area at short notice with his medical history, but left more prepared, stating he felt reassured on when and how to deal with his main risks as an asplenic traveller.

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