Travel Health Considerations for Individuals with Heart Disease – *Advice for Pharmacists*

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Travel with cardiovascular disease

Community pharmacists are increasingly engaged in the provision of travel health services to their clients. The role of travel pharmacists is particularly well developed in Canada, for example. The International Society of Travel Medicine (ISTM) has an active Pharmacist Professional Group who contribute to research and education in this dynamic field.[1] While travel is associated with well known psychological and physical stressors which may challenge patients with cardiovascular disease (CVD), a previous qualitative study we carried out did not identify significant barriers to international travel in this patient cohort.[2] We do not have a clear understanding of the travel patterns and behaviour of travellers with CVD and we cannot be certain of the extent to which heart disease patients attend for pre-travel health counselling and vaccination. We found that 12.8% of travellers attending a specialist travel health clinic in Ireland had a history of CVD or its risk factors, predominantly arterial hypertension.[3]

As travel medicine practitioners we tend to focus on the health risks of travel, but it is important to recognise that travel also confers mental health benefits and may be an important coping mechanism and 'release valve' for a patient living with a chronic illness such as CVD. The Danish author, Hans Christian Andersen, reminds us that "to travel is to live" after all! Patients with CVD have been very careful to reduce their risk of contracting COVID-19 during periods of high community transmission of SARS-CoV-2 over the past two years and many will now feel confident again in undertaking international travel, especially if they have received booster doses of a COVID vaccine. There will inevitably be a period of what I have termed 'Reiseangst' before travel feels comfortable and routine again.[4] These days we are all much more aware of course of how to minimise our carbon footprint and travel responsibly.

This short article will consider some of the more salient points for pharmacists to consider when advising international travellers with heart disease. The reader is referred to standard travel medicine textbooks such as Keystone's Travel Medicine, the World Health Organization's travel health information website (https://www.who.int/travel-advice), or the CDC website https://wwwnc.cdc.gov/travel) for more information than this overview can provide.

Travel health risks

CVD is the leading cause of death in older international travellers, which of course mirrors the epidemiological situation within most domestic borders. Some people travel overseas to receive medical care more promptly or cost effectively and there are multiple centres of excellence in elective coronary artery bypass surgery tourism around the world, especially in South East Asia. Skiing holidays are popular with older travellers and there have been many well-documented cases of acute coronary syndromes occurring on the slopes, likely the result of a combination of unaccustomed exertion and cold air with its resulting sympathetic activation and surges in blood pressure sufficient to disrupt a vulnerable atherosclerotic plaque. Fitness to fly assessments sometimes arise for travellers with chronic heart failure or following a recent cardiac episode or intervention, but these are beyond the scope of this brief overview of the subject. CVD patients with implanted cardiac devices such as pacemakers or cardioverter-defibrillators should be advised to declare the presence of these devices at airport screening stations and carry a manufacturer's card at all times while abroad.[5] Some cardiac medications can give rise to issues during travel, including diuretics in heart failure or hypertension, and anticoagulants in adventure travellers.[6]

Medications and travel

I advise travellers to obtain a copy of their prescription from their pharmacist and to request double the normal quantities of their regular medications, which should all be carried in hand luggage and ideally split between two bags. All medications should be carried in their original pharmacy-labelled containers or blister packs. Medications should generally be taken at the destination local time to avoid confusion. Specific time zone-related drug adjustment advice is needed for the diabetic traveller who requires insulin. For long-term or expatriate travellers, contact should be made prior to travel with a local English-speaking physician or pharmacist to ensure that an equivalent drug is available in the host jurisdiction. The ISTM global travel clinic directory (https://www.istm.org/AF_CstmClinicDirectory.asp) and the International Association for Medical Assistance to Travellers (https://www.iamat.org/) are excellent resources to recommend to your clients. Some medications will degrade with exposure to sunlight so all drugs should be stored in a cool, dry place. With disruption of the normal daily routine, patient medication adherence may suffer, and the traveller should use day-labelled blister packs to ensure compliance.

Use of warfarin for anticoagulation during longer trips will require access to a reliable INR monitoring clinic or calibrated point-of-care device. Where the INR is unstable prior to prolonged travel, it may be possible for the traveller's physician to convert the patient to a direct oral anticoagulant to avoid the need for monitoring.[7] Anticoagulated patients should be careful not to significantly increase the amount of dietary vitamin K they consume to avoid the risk of developing a sub-therapeutic INR abroad. While transportation of non-psychotropic, non-controlled medications is not likely to present difficulties for the heart disease patient, pharmacists should always remind their travelling clients to check individual country-specific requirements.[8]

Medical care overseas

Obtaining safe medical care overseas is a perennial concern for travellers with chronic illness. Here, the pharmacist should advise against relying on the availability of medications locally in developing country destinations, given the high rate of

counterfeit drugs in circulation. These may have been formulated to appear identical to active agents but be, at the very least, inert and at worst, unsafe. I advise all travellers to carry a comprehensive travel health kit and pharmacists are well positioned to provide the contents of these kits and to customise them to the needs of individual travellers. They will typically include items such as analgesics, antihistamines, steroid creams, anti-diarrhoeal agents, electrolyte replacement powder sachets, anti-emetics, plasters, bandages, hand sanitiser, a DEET-containing insect repellent, and antiseptics. Do not forget to recommend a high-SPF sun cream for travel to destinations with a high ultraviolet index. Most CVD patients will also be advised to purchase graduated compression stockings at their local pharmacy where their calves can be measured accurately by the pharmacy staff.

Pre-travel health advice

Pharmacists should be familiar with the most important travel-related infectious risks and their geographical distribution and be willing to provide or reinforce key pre-travel health advice regarding food and water consumption, insect bite avoidance, sexual health, and animal bite prevention. Where a traveller is attempting a trek to high altitude, the pharmacist should have a working knowledge of basic high altitude illness prevention advice. No trekker should leave home without a good supply of blister plasters from their local pharmacy. In cases where a traveller has a known drug allergy or is taking drugs such as insulin or corticosteroids, MedicAlert bracelets should be recommended. I am always alarmed at how few of my patients with diabetes ever wore these bracelets. I have never seen a pharmacy that did not stock them.

Travel vaccinations

Some pharmacists will provide pre-travel vaccinations and will be familiar with the precautions to observe when administering vaccine doses intramuscularly in patients taking anticoagulants. My advice around travel vaccines is to follow a personalised approach. Not all vaccines are recommended for all travellers. The choice of vaccines will depend on a detailed travel risk assessment, which takes into account multiple risk factors relating to both traveller and travel itinerary. Apart from the usual routine and recommended vaccines, some travellers to sub-Saharan Africa and parts of South America will be recommended or required to present evidence of yellow fever vaccination. The travel medicine provider will need to be very familiar with the cautions and contraindications that apply to the use of this live attenuated vaccine, especially in older patients. I additionally consider influenza, pneumococcal and hepatitis B vaccines for all travellers with CVD.

Prophylactic medication

For travel to some malaria endemic regions, malaria chemoprophylaxis or possibly emergency self-treatment of malaria may be indicated. The pharmacist will be expert on drug-drug interactions[9] and be keenly aware

of the importance of avoiding mefloquine in patients with cardiac conduction disturbances, preferring to use atovaquone-proguanil or doxycycline for prevention of falciparum malaria instead. A prescription for an antibiotic to self-treat moderate to severe travellers' diarrhoea is common practice in travel medicine, but azithromycin may not be the optimal choice in a traveller with CVD given the association with Q-T prolongation and ventricular tachyarrhythmias and we need to be attentive to the risk of promoting antimicrobial resistance through injudicious use of antibiotics. Chemoprophylaxis of acute mountain sickness is sometimes appropriate if the rate of ascent and maximum altitude warrant it, but the carbonic anhydrase inhibitor acetazolamide must be used with caution, given the risk of causing hypokalaemia. I tend to avoid it if the patient is taking digoxin, for example, and I do not prescribe it if the patient is taking a high dose of aspirin, because of the potential for causing more severe metabolic acidosis.

The ill returned traveller

Our travellers may return unwell and their first port of call may be their community pharmacist or general practitioner. However, a travel history is often not volunteered,[10] so pharmacists should be alert to this and routinely ask about travel, especially where the patient presents with fever (malaria?), fever, a rash and arthralgia (dengue, Zika or chikungunya?), persistent abdominal symptoms (intestinal parasite or post-infectious irritable bowel syndrome?). Please also remind your traveller with CVD to bring rapid antigen tests with them for use during their travel and to be mindful of the potential for developing COVID symptoms in the first week of return from abroad. I still perform daily rapid antigen tests on myself for 5 days after returning from travel abroad, even if there is no official public health advice to do so.

Travel insurance

Finally, I believe that all healthcare professionals who encounter departing international travellers should remind them to obtain suitable travel health insurance which includes repatriation coverage and, in the case of the traveller with CVD, to declare all pre-existing medical conditions. Unfortunately, too many of our patients opt not to purchase travel insurance, although the COVID pandemic has highlighted the importance of being adequately insured during travel.

Further educational opportunities

For pharmacists who wish to become more deeply engaged in travel health services or who wish to deepen their knowledge of this fascinating area of practice, I strongly recommend you to consider becoming a member of the Travel Medicine Society of Ireland, the British Global and Travel Health Association or the International Society of Travel Medicine. I am happy to receive enquiries from any pharmacists who wish to collaborate in travel medicine research projects.

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