The importance of clean water lines

Jane Armitage urges readers to be aware of clean water lines

The cleaning of water lines is something I would not normally write about but this is going to be a personal article that I would like to raise awareness to. Last year I received a telephone call from a chest consultant who told me that he thought he knew why I was having recurrent chest infections, tiredness, and persistent cough.

He had taken three sputum samples from me and had grown Mycobacterium avium and Mycobacterium intracellulare, otherwise known as a Mycobacterium avium-intracellulare infection (MAI) or MAC (Mycobacterium avium Complex). These bacteria are found living in house dust and tap water. They may infect wild or domestic animals as well as humans.

I had never heard of it and was very self composed when he told me it was a type of lung infection caused by bacteria from the same genus as the one which causes Tuberculosis (Tb), but was non-contagious. Within a matter of days I was seen by a Tb specialist and commenced treatment the following day.

I was told that MAC mimics Mycobacterium tuberculosis (MtB) and is usually found in thin middle age women with low immunity. He stated that he wished I had had full-blown infectious Tb as this would have been cleared in six months. Unlike Tb, it would take a treatment plan of 18 – 24 months (three times as long as conventional Tb) and relapses are common even after taking what was described as chemotherapy antibiotics. I was ok until I saw that word then I freaked. How can this have happened? How had I caught it? Was I going to die? These were all questions I was throwing at him.

He explained that this form of non-contagious mycobacterial infection can be caught from shower heads, soil, cigarette papers, any form of sprayed water or simply by breathing the bug in. I was told I had been unlucky and his guess was I had breathed it in and slowly it had reached my lung and started to attack. The bug was already in the white blood cells which are responsible for removing infections in the body therefore it was difficult to get rid of.

MAC is resistant to many antibiotics; there are limited drugs that can be given but all come with extreme side effects which I was warned about. One drug can affect the optical nerve in the eye, the other, your liver. I remember looking at the medication and putting it back in the bag as the mere thought was freaking me out.

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I have now been on treatment for a year and can’t wait until I can come off. I have since had negative results and my x-ray is clear but I will have to remain on the drug regime as if there are any stray MAC bugs they will multiply and I will become very ill again.

The Consultant was impressed with how I had tolerated the treatment as many throw the towel in before completion. Several times that thought had crossed my mind, but I wanted rid; I wanted that thought had crossed my mind as many throw the towel in with how I had tolerated the treatment with the drug regime as if there are any drug regime as if there are any biocides to control the biofilm by flushing the waterlines for two minutes at the start of the day and for 20-30 seconds between patients reduces the bacterial load caused by over-night water stagnation. Flushing between patients helps to prevent cross contamination by removing any suck-back of oral fluids that have bypassed the anti-retraction valve. It is recommended to use biocides to control the biofilm by daily draining down and cleaning of the waterlines to reduce biofilm build up. The biocide (disinfectant) can be introduced with a pressurised pump or via an independent reservoir bottle.

I didn’t catch my illness from our water lines but since I have been ill the people around me have looked not only at their water lines but at their cleaning methods at home. Many have changed their shower heads so often that I’m thinking of asking for commission.

The Health & Safety Exec and the Dept of Health have issued guidance for the treatment of DUWL. I urge you all to ensure these means of testing and cleansing the water lines are carried out. A risk assessment for managing water lines should also be carried out.

I would also advise you to look at your home, clean the showerheads, and run the shower for a couple of minutes before use.’

However, in dental units, which are not drained down at night, flushing at the start of the day will help to reduce the bacterial load caused by over-night water stagnation. Flushing between patients helps to prevent cross contamination by removing any suck-back of oral fluids that have bypassed the anti-retraction valve.

My reasons for sharing this information is to ask you all to be aware that this can come from sprayed water, so please ensure your water lines are cleaned with one of the many waterline cleansers/disinfectants manufactured. Biofilms form rapidly on dental unit waterlines. The majority of the organisms in the biofilm are harmless environmental species, but some dental units may harbour opportunistic respiratory pathogens.

Effective infection control is one of the cornerstones of good practice and clinical governance. Due to a combination of negative publicity and an increased scientific knowledge of dental unit waterlines (DUWL) biofilms and their associated risks, contamination of dental unit waterlines has become a prominent infection-control issue.

Ref: Primary Dental Care 2005
Flushing the waterlines for two minutes at the start of the day and for 20-30 seconds between patients reduces the bacterial count but in DUWL where this method is used as the sole means of water quality management flushing is unlikely to provide water of drinking water standard i.e. with a total bacterial count of 100 cfu/ml, nor will flushing remove the biofilm.

Don’t let this opportunistic pathogen into your life.

I have been unfortunate.

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