High bacterial counts in haemodialysis water supplies

We have been informed of high bacterial counts occurring in dialysis machines in a dialysis unit run by a commercial company. The water supply was negative for bacteria. This situation had been present for 11 months without clinicians being informed by the company. The company had taken the view that it was just a sampling issue, and no further action needed to be taken. The Renal Association standards state that the water should have a CFU count of less than 100/ ml, and samples had been above this level.

It then came to light that a connection pipe between the reverse osmosis treated water and the machine could not be heat disinfected. This is a design issue, as it is a place where biofilm may build up and the system could not be fully disinfected. Subsequently the piping has been replaced.

These issues have been reported to the NPSA and the MHRA, and there have been discussions with the company responsible for the dialysis unit.

Specification of Haemodialysis Unit water plants

In the recent past there have been examples where new-build haemodialysis unit water plants, built through PFI by commercial companies, and possibly via sub-contactors, have not met Renal Association standards. This has delayed opening of renal units.

Action

- We would welcome information from renal units to whether they have had similar experiences of:
  - High bacterial counts occurring in dialysis units and not being reported by the company running the dialysis unit.
  - Design problems in dialysis machines or water plants in commercially run dialysis units that might be a risk for bacterial contamination.
  - New-build dialysis unit water plants not reaching Renal Association standards.

- A working party of the Renal Association and Association of Renal Technologists is at present formulating a document, “Guideline on water treatment facilities and water quality for haemodialysis and related therapies”, which will also be the basis of discussions with the Department of Health.

Please submit comments, solutions, and personal experience to:

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