

Recovery of Helicobacter Pylori from Stagnant and Moving Water Biofilms

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Abstract : Water as an environmental reservoir is reported to act as a habitat and transmission route to microaerophilic bacteria such as Heliobacter pylori. It has been studied that in biofilms are the predominant dwellings for the bacteria to grow in water and protective reservoir for numerous pathogens by protecting them against harsh conditions, such as shear stress, low carbon concentration and less than optimal temperature. In this study, influence of these and many other parameters was studied on H. pylori in stagnant and moving water biofilms both in surface and underground aquatic reservoirs. H. pylori were recovered from pipe of different materials such as Polyvinyl Chloride, Polypropylene and Galvanized iron pipe cross sections from an urban water distribution network. Biofilm swabbed from inner cross section was examined by molecular biology methods coupled with gene sequencing and H. pylori 16S rRNA peptide nucleic acid probe showing positive results for H. pylori presence. Studies showed that pipe material affect growth of biofilm which in turn provide additional survival mechanism for pathogens like H. pylori causing public health concerns.

Keywords : biofilm, gene sequencing, helicobacter pylori, pipe materials

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