J-03

Can the recovery of culturable Helicobacter pylori from water be improved?

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There is still no consensus about how Helicobacter pylori spreads among human population. Data from survival in water show that, at 20-25°C, culturability of the pathogen is lost in less than one day, although detection of acridine orange-stained cells by epifluorescence can last for more than two years. In order to address this apparently divergent information, studies were made evaluating the importance of several factors in the recovery of environment-stressed H. pylori. Both a low nutrient content of the media, high humidity and a rapidly achieved incubation atmosphere proved to increase the numbers of H. pylori recovered. An atmosphere of 5 % CO_2, 5 % O_2 and 3 % H_2 is recommended, although other atmospheres with a low oxygen concentration are also acceptable. Although these factors increased the number and the size of colony forming units detected, the time after which H. pylori could be identified by plate procedures in water did not vary significantly. Recovery of H. pylori can be improved in a number of different ways. However, the key factor for greatly improving the long-term culturability remains elusive, raising questions about the pathogen's ability to survive in drinking water to provide a serious route of transmission.