Staphylococci in marine areas

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During the bathing, season 1991, Goletta VERDE for the Lega per l'Ambiente conducted the campaign for evaluation of sea water quality along the italian coastline.

The bacterial quality of the recreational water was assessed by the usual fecal indicators (total and fecal coliforms and fecal streptococci); as supplementary indicator, the occurrence of staphylococci was investigated.

The former microrganisms can indicate the presence of enteric pathogens. However, infections in bathing waters are not limited to enteric diseases but extend to the skin, ears, nose and throat (WHO,1986). Staphylococci are harboured in the mucous membranes, on the skin and hair follicles of warm-blooded animals. They can be washed out under all conditions of swimming so that their origin in bathing water is undoubtedly human activity. These microorganisms have been recommended as an index of bather pollution in swimming pool, as in lake and marine waters where low water exchange is present (FAVERO, 1985).

This investigation reports results obtained by analyzing 200 sea water samples collected along the Italian Coasts.

The area studied extends along the beaches of 10 Italian Regions.

As stated by the Italian legislation (DPR 470/82) on recreational bathing water total coliforms, fecal coliforms and fecal streptococci were enumerated. Moreover on the same samples the analyses for staphylococci were carried out.

All monitoring was done by membrane filtration (MF), total coliforms and fecal coliforms recovery was performed by using Endo and Teepol media, respectively. Fecal streptococci were enumerated on Azid medium and staphylococci on Vogel Johnson agar. For all the microrganisms 10 ml of seawater were filtered.

The data presented here indicate absence of correlation between the presence of fecal indicators and staphylococci. That can indicate that the usual bacterial species used as index of presence of enteric pathogens may, by themselves, not be adequate to ensure the bacterial safety of recreational waters in relation to water washed diseases. In fact, some beaches could be considered suitable for bathing when evaluated through the enumeration of fecal indicators. However, in the same seawater samples staphylococci occurred. It could be a suggestion for monitoring staphylococci as a supplementary indicator in overcrowded beaches because they will add valuable information on the sanitary quality of the seawater.

REFERENCES

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