were detected in endocarditis and prosthesis biofilms, whereas some species were primarily associated with one type of infection. Interestingly Legionella spp was detected in an infected heart valve by fingerprinting, specific q-PCR and in a clone library, but not by cultivation. In 75% of the investigated samples polymicrobial communities were detected and all urinary catheters, chronic wounds and prosthesis samples were polymicrobial as opposed to only 25% of endocarditis samples. FISH illustrated that microorganisms were often positioned locally in the biofilm. Some species generally appeared as microcolonies and other species as single cells in the same sample. In conclusion the significance of the findings needs further investigations, and future studies should focus on the development of optimal sampling, identification and treatment regimes.

**Candida tropicalis biofilms: formation and virulence factors**  
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**Number:** 28  
Significance and objectives: A substantial proportion of *Candida tropicalis* infections is associated with biofilm formation, especially on catheters. Thus, the aim of this study was to investigate *C. tropicalis* biofilm formation on silicone and its effect on epithelial cells and enzyme production (hemolysins and proteinases).

Methods and results: This study was performed with *C. tropicalis* (clinical isolate and reference strain ATCC 750). Biofilms formed on silicone coupons immersed in artificial urine, were quantified by crystal violet (CV) staining and by enumeration of colony forming units (CFU) and the matrix content in proteins and polysaccharides was also determined. Biofilm cells and matrix were assessed in terms of hemolysins and proteinases production and their effect on TCC-SUP urinary epithelial cells was evaluated as well. Biofilms of *C. tropicalis* ATCC 750 presented a higher number of cells than the clinical isolate although less biofilm biomass and less polysaccharides. Moreover *C. tropicalis* biofilm was able to express total hemolytic activity and higher proteinase but these factors were not detectable within the matrix. Additionally, *C. tropicalis* biofilm adhered in higher extent to epithelial cells than their planktonic counterparts. Moreover, epithelial cells showed low metabolic activity when in contact with biofilms.

**Conclusions:** Therefore, it is possible to conclude that enzyme production was detected in *C. tropicalis* biofilm cells, but not in its matrix and that biofilm cells can cause more damage to epithelial cells than their planktonic counterparts. This highlights the importance of biofilm formation, associated to the use of urinary catheters, on *C. tropicalis* virulence.

**Changes of concentration and cultivability of *Escherichia coli* in biofilm of a drinking water distribution network**  
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**Number:** 29  
Harbored in biofilm of oligotrophic environment *Escherichia coli* cells lose their ability to grow on conventional culture media. In this state *E.coli* has been found in several drinking water distribution networks, hence the rising concern about possible risk of recontamination. However, it is not possible to properly address this concern before the fate of these fecal bacteria in water supply systems is understood. Previous laboratory scale studies have shown that *E.coli* can grow in water in presence of native biota at concentration of assimilable organic carbon (AOC) and temperature typical for some of drinking water supplies.

In this study drinking water from a water supply having a temperature of 20°C containing about 400 µg-AOC/l was fed in a biofilm reactor (Propella™). Weekly samples from water and biofilm were analyzed using the culture based methods and fluoresce in-situ hybridization combined with Direct Viable Count. Results showed that no cultivable *E. coli* was found in the biofilm. However, the total concentration of *E.coli* in biofilm gradually increased, reaching the maximum after two weeks (460 cells/cm²), after which it decreased below the detection limit (below 3 cells/cm²).

The occurrence of *E.coli* has been previously linked with repair works. By examining the repair data and applying computer modeling of the flow it was concluded that this was not the case in this study. The possible origins of *E.coli* in the network could be from surrounding environment or regrowth.

**The Pel and Psl polysaccharides in *Pseudomonas aeruginosa* display differential expression in both environmental and clinical isolates**  
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**Number:** 30  
*P. aeruginosa* can produce three extracellular polysaccharides, Alginate, Psl and Pel, as part of its extracellular matrix. Although much work has revealed the individual function of these three polysaccharides, little work has uncovered how these polysaccharides may work together and if they have redundant or unique functions.