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Isolation of *H. pylori* from gastric tissues by microculture method: The ever first experience worldwide

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Background: The main purpose of clinical and laboratory diagnosis of *H. pylori* is to cure the patient by an effective treatment. The culture of this bacterium is both costly and requires specific atmospheric conditions and specific culture media. The aim of this cross-sectional case-control study is to isolate *H. pylori* for the first time in the world, by microculture method and to compare this method with classical culture, histopathology and PCR used for the laboratory diagnosis of *H. pylori*.

Methods & Materials: This study was performed between October 2012–December 2012, with 26 patients whose histopathological examination of biopsy samples and /or culture revealed the presence of *H. pylori* and with 26 control whose *H. pylori* was not found. The biopsy samples were homogenized and 60 µl was transferred to four capillary tubes. They were closed with silicone and were incubated 48 hours at 37 °C. Any atmospheric conditions like CO₂ was not provided. The bacteria that grew in capillary tubes was confirmed as *H. pylori* with PCR.

Results: From 25 of 26 biopsy, *H. pylori* was isolated with microculture and from 14 with classical culture. *H. pylori* was detected by histopathology in only 17 samples. The sensitivity of the microculture method was found as 96% the specificity as 80% the positive predictive value (PPV) as 83%, the negative predictive value (NPV) as 95% and Kappa coefficient of concordance was found as 76%.

Conclusion: In this study, for the first time in the world, *H. pylori* was isolated from gastric biopsies by micro-culture method and the culture was confirmed by PCR. Furthermore, this new method was compared with histopathology and classical culture and it appeared to be more sensitive. We are believing that the microculture method will be useful for the isolation of *H. pylori* from symptomatic patients, as well as asymptomatic patients.

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Detection of slime production, icaAD genes and antibiotic resistance in clinical and non-clinical isolates of coagulase-negative staphylococci (CoNS)

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Background: Coagulase-negative Staphylococci (CoNS) continue to pass for contaminants in many routine hospital diagnostic laboratories despite their emerging role as pathogens in device-related infections. This study evaluated the occurrence of slime production, icaAD genes as well as antibiograms in both skin and clinical isolates of CoNS.

Methods & Materials: The 42 slime negative CoNS isolates were obtained from apparently healthy students while the 45 slime positive were isolated from clinical specimens including catheterized and mid-stream urine, wound and blood. All CoNS were identified using microgen Staph ID system (Microgen, UK) and Novobiocin disc NB5 (Hardy Diagnostics, USA). Slime production was determined by Christensen's tube method while the presence of icaAD genes was tested by PCR. Antibiograms of CoNS against erythromycin, septrin, gentamycin, augmentin, ciprofloxacin, ofloxacin and oxacillin (Hardy Diagnostics) were performed by the agar disc diffusion method (CLSI, 2011) and interpreted using the interpretative chart.

Results: The Identity of the 42 skin CoNS were *S. epidermidis*, (39), *S. capitis* subsp *ureolyticus* (2), *S. caprae* (1), while the 45 clinical isolates were *S. epidermidis* (39) and *S. hemolyticus* (6). Gender distribution for skin isolates was male – 26 (61.9%) and female – 16 (38.1%). The clinical isolates were equally distributed: male – 23 (51%) and female – 22 (49%). Of the 7 antibiotics tested for their efficacy against CoNS, both skin and clinical isolates were 100% resistant to augmentin, gentamycin and oxacillin, while all isolates were susceptible to ofloxacin. Isolates from skin were more susceptible to ciprofloxacin (98%) and erythromycin (86%) than clinical isolates, with 29% and 18% respectively. Both isolate types were not resistant to trimethoprim/sulphatham. All icaAD genes were carried on clinical isolates derived from catheterized urine. The eight isolates were resistant to all antibiotics except ofloxacin. However, 3 isolates were susceptible to trimethoprim/sulphatham, while 5 showed intermediate susceptibility.

Conclusion: Ofloxacin and trimethoprim/sulphatham were most effective antibiotics. Presence of icaAD in 8 slime-positive isolates shows that icaAD does not always correlate with slime production. However, the icaAD carrying isolates were more resistant to tested antibiotics than other slime-positive isolates that did not carry the genes. Catheterized urine was strongly associated with the presence of icaAD.

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