

A NEWLY INVENTED CHEMICAL DISINFECTANT CAN ERADICATE COLONIC BACTERIAL CONTAMINATION OF THE SKIN

KADHIM CH. HASAN¹ & ANWAR KADHIM AL-SAFFAR²

¹Assistant Professor , Department of General Surgery, C. A. B. S. Babylon Medical College, Babylon, Iraq

²Assistant Professor, Department of Micro Biology, Babylon College of Sciences, Babylon, Iraq

ABSTRACT

To assess the antibacterial effect of a new chemical solution made by a mixing Sidr ziziphus spina christi infusion with hydrogen peroxide (H₂O₂).

The antibacterial effect of the mixture of sidr infusion with H₂O₂ were evaluated through surface disinfectant testing. microscopic slides were used as carriers . Twenty sterile slides were contaminated through immersion into diluted faeces. Having been washed and rinsed by sterile tap water ,each pair of slides was soaked for 2 minutes into one of the 20 solutions ;sidr (2.5, 5.0, 6.25 ,7.5,8.75, 10.0) g% and H₂O₂ (1.5, 3)% , mixture of H₂O₂ 1.5 % and 3% with all sidr infusion concentrations separately . The slides were divided equally to be cultivated in nutrient agar or Bacteroides Bile Escolin agars(BBE). The media were incubated for 18-48 hours in aerobic or anaerobic conditions as required. Room temperature was 35-45 °C.

The study then involved 5 adults as volunteers, after contaminating their hands through immersion for 15 minutes into a basin of liquid stool. Having been air dried, the hands were washed by neutral soaps for 1 minute, then bacteriological swabs were taken which were cultivated for 18-48 hours, under aerobic or anaerobic conditions as required . Guided by the slides testing results, the hands were then immersed into 3 selected solutions(sidr 6.25 g%, H₂O₂ 1.5% , and mixture of both) using one solution only in each step for 2 minutes of immersion .Shifting to the other solutions was only done after an interval of 30 minutes (for cleaning, rinsing and drying the hands) . Each time swabbing then dipping finger tips into nutrient agars were performed to be followed by cultivation both aerobically or anaerobically.

Results of surface disinfectant testing (microscopic slides) and results of cultivated agars indicated that significant variable growth of bacterial colonies were visible in all cultures except the conditions when the mixture of both sidr infusion 6.25g% and H₂O₂ 1.5% was used We concluded that the newly invented chemical disinfectant can eradicate all colonic bacterial contamination from the skin and inanimate surfaces to be listed among hospital disinfectants.

KEYWORDS: Colonic Bacteria, Nosocomial Infection, Extract, Disinfectant