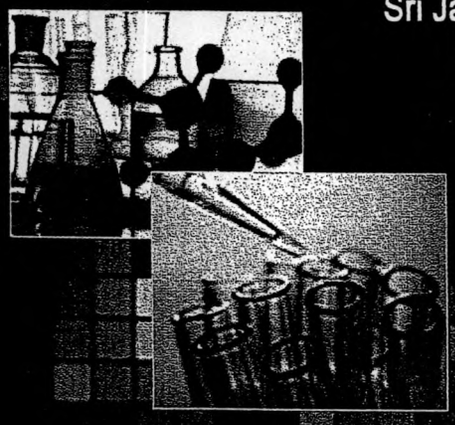
Faculty of Medical Sciences, University of Sri Jayewardenepura
in collaboration with
Sri Jayewardenepura General Hospital



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Identification of bacterial aetiologies of dento alveolar abscesses and the antibiotic sensitivity patterns of the aerobic bacteria at selected dental units

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Objectives: To identify the bacterial aetiologies and the antibiotic sensitivity patterns of the aerobic bacteria at selected dental units.

Methods: A descriptive cross sectional study was performed among patients presenting to the dental units at National Hospital and Colombo South Teaching Hospital, with acute dentoalveolar abscesses. An aspirated sample was processed in the microbiology laboratory to isolate the aerobic and anaerobic bacteria. Antimicrobial susceptibility was performed for the aerobes.

Results: In thirty patients, aerobic cultures isolated mainly viridians streptococci, *Staphylococcus aureus* and coagulase negative staphylococci. Erythromycin resistance was shown by five isolates and clarithromycin resistance shown by four, in the viridans group streptococci and two of the *Staphylococcus aureus* isolates showed macrolide resistance. Penicillin resistance was shown by only two viridians streptococci. Ampicillin/amoxicillin resistance was shown by only one of them. Among the strict anaerobes, the Porphyromonas species was the most commonly identified isolate, followed by the Peptostreptococci, Bacteroides and Fusobacterium species. Other isolates included *Clostridium hastiforme*, *Actinomycesodontolyticus*, Proprionibacter and Veillonella species.

Conclusions: Acute dentoalveolar abscesses have polymicrobial etiology, with the majority being anaerobes. The aerobes are mostly sensitive to the commonly used antibiotics, such as amoxicillin. It must be noted that, though the prevalence of β-lactamase production is increasing among the anaerobes, most of them remain susceptible to metronidazole. However, further studies are needed to determine the susceptibility patterns of the anaerobic bacteria.

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Evaluation of a simple and rapid microscopy technique for detection of Leptospira

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Objectives: Determine the usefulness of Fontana staining method and dark field microscopy to detect Leptospira species in spiked urine and serum.

Methods: *Leptospira interrogans* serovar icterohaemorrhagiae and canicola were cultured in EMJH (Ellinghausen-McCullough-Johnson-Harris) medium to obtain 6×10^8 organisms/ml (McFarland =2). Organisms were spiked to PBS, alkalinized human urine and serum in triplicates, and serial dilutions were made ($6\times10^6$to 6×10^1organisms/ml). Smears were prepared using 10 µl of each dilution. Further centrifuged sediments of urine were used to prepare smears. Slides were stained by modified Fontana method as reported by Gangadhar et al. and examined. Number of Leptospires per field was recorded. Motility of Leptospira were observed using light microscope modified with an in-house dark field stop

Results: Characteristic morphology of Leptospires was observed in PBS, uncentrifuged urine and in urine sediment using modified Fontana silver staining. Leptospires could not be clearly observed in serum. Leptospires could be detected in Fontana stained smears made from cultures of $6x10^3$ – $6x10^6$ organisms/ml. At a concentration of $6x10^3$ organisms/mlat least 1-3 organisms/smear could be detected in PBS and urine (centrifuged and uncentrifuged), while an average of 5 organisms/field could be detetcted in a smear made from cultures of $6x10^5$ organisms/ml. In-house darkfield microscopy was only able to detect motile Leptospires in the urine sediment spiked with 6×10^6 organisms/ml and not in uncentrifuged urine or PBS.

Conclusions: Modified Fontana staining was found to be a simple and rapid test for detection of Leptospira in urine with a detection limit of 6000 organisms/ml.