Antibiogroup Pattern of Microorganisms Isolated from Root Canals Associated with Periapical Lesion

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Objectives: To evaluate the antibiotic susceptibility towards selected antibiotics and to obtain the minimal inhibition concentration (MIC) of the antibiotics towards the isolated microorganisms from the root canals associated with periapical lesion. Methods: The disc diffusion method of Kirby-Bauer test was used for evaluation of antibiotics susceptibility of Ampicillin (Ap)(10µg), Azithromycin (Ath)(15µg), Metronidazole (Mz)(5µg) and Amoxicillin(A) (10µg). Test culture suspensions were swabbed evenly onto Iso-sensitest Agar and antibiotic discs were placed onto the agar surface firmly. All plates were incubated at 37°C for 18-24 hours. The diameter of the inhibited zones surrounding the colonies were recorded. Bacterial culture suspensions were also prepared to a density of McFarland 0.5 turbidity standard, and dropped onto Mueller Hinton Antibiotic Agar. MIC results were recorded as the lowest antibiotic concentration with no visible growth. Results: All strains were 100% sensitive towards Metronidazole. In contrast, all strains were resistant towards Azithromycin. Ampicillin and Amoxicillin were both sensitive towards 60% of isolated strains and only 3% were sensitive towards Augmentin. Three antibiogroup were displayed by the strains, namely Mz, ApMzA and ApAugMzA. Conclusion: All isolated microbes from root canals are sensitive towards Metronidazole, and antibiogroup Mz being the most common pattern observed.

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