

ABSTRACT

The objective of this study was to prove whether the palladium catalyst must be used to create anaerobiosis in an anaerobic jar or not.

This experimental study uses a non-randomized control group design. The amount of the replication used is 10. The palladium catalyst was used in 10 experiments, whereas it was not used in ten other experiments. The growths of *Pseudomonas aeruginosa*, *Clostridium tetani*, and *Bacteroides fragilis*, each was observed after 48-hour incubation. The time of appearance of water condensate was observed until 24-hour incubation.

The time of appearance of water condensate in the palladium-contained anaerobic jar varied between 1.37 minutes and 3.33 minutes. On the other hand, water condensate did not appear in the without-palladium anaerobic jar. No growth of *Pseudomonas aeruginosa* was observed in the palladium-contained anaerobic jar, while on the contrary there were 10 growths in the anaerobic jar without palladium. Eight growths of *Clostridium tetani* were observed in the palladium-contained anaerobic jar, whereas there was no growth in that without palladium. No growth of *Bacteroides fragilis* was observed in the without-palladium anaerobic jar, whereas 7 growths were observed in the anaerobic jar containing palladium.

The time of appearance of water condensate in the palladium-contained anaerobic jar was apparently different compared to that in the anaerobic jar without palladium. Very significant differences ($p < 0,01$) on anaerobiosis creation between the palladium-contained anaerobic jar and the without-palladium anaerobic jar were also clearly observed.

Keywords : anaerobic, palladium, water condensate, *Pseudomonas aeruginosa*,

Clostridium tetani, and *Bacteroides fragilis*.