**CALCIUM CHANNEL BLOCKERS: A MULTIPURPOSE APPROACH**

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**Objectives and Background:** Each year many people die as a result of infection and resistance to antibiotics. Microbial aggregations takes root within medical devices ,implants, heart valves, and catheters . Verapamil, a Calcium Channel Blocker is able to inhibit bacterial motility and aggregation. We already showed effect of CCB in preventing migration and bacterial aggregation. Here we report that Verapamil a CCB is able to help remove preformed biofilm on plastic catheter in a dose dependent manner.

**Methods:** We evaluated Verapamil effect on removing preformed biofilm on a plastic catheter.  
In a laboratory model, the effects of verapamil on the removal of *P. mirabilis* (Strain HI4320) biofilms on plastic catheters were examined. Using 6-well plates, biofilm formation on the catheter + LB+ P.m (fresh culture of *P. mirabilis* in a warm room) was evaluated. Plastic catheters (1 cm) were inserted in each well, followed by incubation at 37°C for 24 h for biofilm formation.

Catheters with preformed biofilm were inserted into all wells containing verapamil at various concentrations:0,3,6. Then, plates were incubated for 24 h in a 37°C incubator. After 24 h of incubation, each catheter was thoroughly rinsed in PBS 3 times and immersed in 0.1% crystal violet for 10 s. They were then washed with diH2O 6 times and inserted in 30% acetic acid and shaken for 20 min at 100 rpm. Optical density was determined at 595 nm to evaluate biofilm in each well.

**Results:** Verapamil was able remove preformed aggregated bacteria in a plastic catheter in a dose dependent manner.

**Conclusion:** It was Identified for the first time that verapamil decreases preformed biofilm of tested bacteria in a plastic catheter in a dose dependent manner. Further *ex-vivo* and *in-vivo* experiments is needed to make them applicable as a novel preventive or therapeutic target.