

ABSTRACT

CLINICAL AND HISTOPATHOLOGICAL COMPARISON BETWEEN  
INTRAVITREAL MOXIFLOXACIN THERAPY AND INTRAVITREAL  
MOXIFLOXACIN AND DEXAMETHASONE COMBINATION THERAPY IN  
*STAPHYLOCOCCUS AUREUS* ENDOPHTHALMITIS  
(Experimental Study on *Oryctolagus cuniculus*)

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**Objective:** To compare the clinic and histopathology between intravitreal moxifloxacin therapy with intravitreal moxifloxacin and dexamethasone combination therapy on animal model *Staphylococcus aureus* endophthalmitis.

**Materials and methods:** This experimental study was conducted under local ethical review board. A total 18 rabbits were induced endophthalmitis by injecting intravitreal  $10^2$  CFU *Staphylococcus aureus*. Six rabbits were injected intravitreal moxifloxacin, 6 rabbits were injected intravitreal moxifloxacin and dexamethasone, and the another 6 rabbits were injected intravitreal balanced salt solution as control. Evaluation were undergone to all rabbits clinically on day 1, day 2, day 3 and day 5 using clinical grading scale. At the end of study all rabbits in each group were sacrificed. The eye were enucleated and processed with Haematoxylin Eosin staining for histological studies. Evaluation using histopathologic grading scale at day 5.

**Results:** The mean score of Clinical grading scale of moxifloxacin group on the 1st and 2nd day was 11.333 and 16.333. The median of Clinical grading scale on the 3<sup>rd</sup> day, 5<sup>th</sup> day and Histopathologic grading scale were 18, 24. and 12.5. The mean score of Clinical grading scale of moxifloxacin and dexamethasone groups on 1<sup>st</sup> day and 2<sup>nd</sup> day were 17.8 and 22.4. The median of Clinical grading scale on the 3<sup>rd</sup>, 5<sup>th</sup> day and Histopathologic grading scale were 25, 26 and 12. Statistical analysis result showed there was no difference on clinical grading scale on the 1<sup>st</sup>, 2<sup>nd</sup> and 5<sup>th</sup> day. There was a difference between moxifloxacin therapy and combination therapy of moxifloxacin and dexamethasone on clinical grading scale on the 3<sup>rd</sup> day ( $p < 0.05$ ). There was no difference in moxifloxacin therapy with combination therapy of moxifloxacin and dexamethasone on histopathologic grading scale

**Conclusion:** Intravitreal moxifloxacin is effective in the treatment of *Staphylococcus aureus* endophthalmitis. The combination of dexamethasone to the antibacterial treatment does not affect the pathological outcome and clinically increase the inflammation more than intravitreal moxifloxacin alone.

Keywords: endophthalmitis, moxifloxacin, dexamethasone, *Staphylococcus aureus*, intravitreal injection