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The comparison of the effect of experimental Staphylococcus aureus endophthalmitis of different CFU counting

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Aim & Objective: To evaluate the effect of experimental Staphylococcus aureus endophthalmitis by inoculating different colony-forming units (CFU) of bacteria into the vitreous cavity of rabbits.

Method: Fifteen adult New Zealand white rabbits of either gender weighting 2.5-3.0 kg were randomly assigned to 50 colony-forming units (CFU) Staphylococcus aureus inoculated group, 100 colony-forming units (CFU) Staphylococcus aureus inoculated group and 1000 colony-forming units (CFU) Staphylococcus aureus inoculated group. The rabbits in each group Randomly one eye was received an intraocular injection of corresponding colony-forming units (CFU) of Staphylococcus aureus. The inoculated eyes were observed by slit-lamp examination and funduscopy and clinic observation scores were recorded every day.

Results: The overall clinic observation scores of the 50 CFU inoculate group fluctuated from 1.6-2.0. The inflammation curve of the 50 CFU inoculate group was low flat without development trend and easy to accompany the Self-healing tendency. The overall clinic observation scores of the 1000 CFU inoculate group fluctuated from 14.4-48.8. The inflammation curve of the 100 CFU inoculate group was ordinary steep and the intraocular inflammation developed very rapidly with high rates of ocular perforating. The overall clinic observation scores of the 100 CFU inoculate group fluctuated from 6.8-30.6. The intraocular inflammation developed obviously at one day after inoculated. The inflammation curve of the 100 CFU inoculate group was smoothly increased without phenomenon of ocular perforating

Conclusion: The experimental Staphylococcus aureus endophthalmitis with 100 CFU Staphylococcus aureus inoculated was more stable and suitable for observing the clinic effects of different methods to treat endophthalmitis.

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