

**EFEKTIVITAS OXYTETRACYCLINE TERHADAP INFEKSI  
*Streptococcus iniae* ISOLAT dari KUPANG  
PADA IKAN PATIN (*Pangasius sutchi*)  
INTISARI**

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Penelitian ini bertujuan untuk mengetahui Efektivitas *Oxytetracycline* pada Ikan Patin (*Pangasius sutchi*) yang diinfeksi bakteri *Streptococcus iniae* isolat dari Kupang, yang dilakukan di laboratorium Patologi dan Mikrobiologi Fakultas Kedokteran Hewan Universitas Gadjah Mada Yogyakarta.

Penelitian dilakukan tahap pertama yaitu penelitian pendahuluan meliputi pemurnian isolat, uji sensitivitas *streptococcus iniae* terhadap antibiotik *erythromycine*, *enrofloxacin*, *amoxycilline*, *oxytetracycline* dan *tetracycline* dengan metoda Kirby- Bauer dan penentuan Minimum Inhibitory Concentration (MIC) antibiotik terpilih, dengan metode "Tube dillution test". Tahap kedua penelitian utama terdiri 7 kelompok ikan masing-masing 10 ekor. 2 kelompok sebagai kontrol, 1 kelompok tanpa diinfeksi dan tanpa pengobatan antibiotik, dan kelompok kontrol yang lain hanya diinfeksi tanpa pengobatan antibiotik. Sebanyak 5 kelompok perlakuan diinfeksi dengan LC<sub>50</sub> secara rendaman. Pengobatan dilakukan setelah menunjukkan gejala klinis masing-masing dengan antibiotik 1, 2, 4, 8, 16 kali MIC, secara rendaman 4 jam perhari selama 5 hari.

Hasil penelitian, menunjukkan isolat murni *Streptococcus iniae* berdasarkan sifat morfologi dan biokimianya. Uji sensitivitas *Sreptococcus iniae* terhadap antibiotik derajat resisten ditunjukkan pada antibiotik *enrofloxacin*, *erythromycine*, *tetracycline*, *amoxycilline*, sedangkan derajat sensitif ditunjukkan *oxytetracycline*. Hasil nilai MIC *oxytetracycline* terhadap *Streptococcus iniae* yaitu 4 µg/ml. Pada hasil uji Efektivitas pengobatan 8 kali MIC (32 µg/ml) memberikan kelangsungan hidup 90 %, 1 kali MIC dan 4 kali MIC (4 dan 16 µg/ml) memberikan kelangsungan hidup 70 %, 2 kali MIC (8 µg/ml) memberikan kelangsungan hidup 60% sedangkan 16 kali MIC (64 µg/ml) kelangsungan hidupnya 10%. Perubahan histopatologi ikan diinfeksi *S. iniae* menunjukkan radang kulit, otot dan usus, kongesti hati, limpa dan ginjal, degenerasi hati dan ginjal. Sedangkan hasil histopatologi ikan diobati dosis 8 x MIC menunjukkan kongesti hati, ginjal dan limpa. Berdasarkan hasil penelitian disimpulkan *oxytetracycline* dosis 8 x MIC (32 µg/ml) merupakan dosis paling efektif untuk pengobatan *S. Iniae* pada Ikan Patin (*Pangasius sutchi*).

Kata-kata kunci : Ikan patin (*Pangasius sutchi*), Efektivitas, *Oxytetracycline*, *Streptococcus iniae*.

## THE EFFECTIVITY OF *OXYTETRACYCLINE* ON THE INFECTION OF ISOLATE *Streptococcus iniae* FROM KUPANG IN PATIN FISH (*Pangasius sutchi*)

### ABSTRACT

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The purpose of this study is to find out the effectivity of *Oxytetracycline* on Patin Fish (*Pangasius sutchi*) infected by the bacteria of isolate *Streptococcus iniae* from Kupang, done in laboratory of the Pathology and Microbiology, Animal Medicine Faculty, Gadjah Mada University, Yogyakarta.

The study is conducted in several stages, i.e. first, a preliminary study that includes isolate purification, test on the effectivity of *Streptococcus iniae* on some antibiotics such as *erythromycine*, *enrofloxacin*, *amoxycilline*, *oxytetracycline*, and *tetracycline* by using Kirby-Bauer method and determination of the Minimum Inhibitory Concentration (MIC) of selected antibiotic by using a method of "Tube dilution test." Second, primary study consists of 7 groups of fish each of which is 10 tails. Two groups as control, one group as placebo (without being infected and no antibiotic medicine), and other control group is only infected without antibiotic medicine. Five groups of treatment are infected by LC<sub>50</sub> submerged. Medicine is conducted after indicating their own clinical symptoms with antibiotic of 1, 2, 4, 8, 16 times of MIC submerged for four hours a day during five days.

The result of the study indicates that the pure isolate of *Streptococcus iniae* is based on the morphological and biochemical properties. From the test of the sensitivity of *Streptococcus iniae* on antibiotic, it can be concluded that the rate of resistance is shown at the antibiotics of *enrofloxacin*, *erythromycine*, *tetracycline* and *amoxycilline*, while the rate of sensitivity is at the antibiotic of *oxytetracycline*. The result of the MIC value of *oxytetracycline* on *Streptococcus iniae* is 4 µg/ml. The result of test for the effectivity of medicine for 8 times of MIC (32 µg/ml) indicates the survival of 90%, 1 time and 4 times of MIC (4 and 16 µg/ml) that of 70%, 2 times of MIC (8 µg/ml) that of 60%, while 16 times of MIC (64 µg/ml) that of 10%. Histopathological change shows that inflammation occurred in skin and heart, inflammation and necrosis in muscle, congestion and degeneration in heart, necrosis, congestion, and degeneration in kidney, and congestion in lymph.

Keywords: Patin Fish (*Pangsius sutchi*), Effectivity of *Oxytetracycline*, Bacteria of *Streptococcus iniae*