

물고기 추진에 대한 수치적 연구

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Numerical Study of Fish Propulsion

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Key Words: Biomimetics(생체 모방학), Biomorphing Foil(생체 형상가변익), Fish Propulsion
(물고기 추진), Unsteady Panel Method(비정상 패널법)

Abstract : A numerical study on the propulsive characteristics of a fish is done by developing an unsteady linearly-varying strength vortex method. The fish is represented as a deforming foil with a tail fin. A new boundary condition is imposed by considering the relative rotational velocity, which has not been included in the previous published literature. Thrust and propulsion efficiency are investigated for the several undulation modes of fish tail fins. It is found that the undulation amplitude increase the thrust with both maximum thickness and maximum camber stepping down the thrust.

중재적 시술후 동맥경화증의 재발생에 관한 혈류역학적 연구

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for the Regeneration of Atherosclerosis after Interventional TherapySang-Ho Suh[†], Hyung-Woon Roh*, Hyuck-Moon Kwon** and Byoung-Kwon Lee***

Key Words: Atherosclerosis(동맥경화증), Progression and Regeneration(진행과 재형성), Interventional Therapy(중재적 시술), Mechanism(기전), Hemodynamic Characteristics(혈류역학적 특성)

Abstract : The objectives of this study were to investigate the hemodynamic characteristics in the atherosclerotic-prone coronary artery and to establish the mechanism of regeneration atherosclerosis after interventional therapy like stent and balloon angioplasties. This study also aimed to develop softwares which generate automatically three dimensional vascular models using the angiogram images and to visualize the blood flows by the computer vision techniques. In this study, the regeneration mechanism of atherosclerosis after surgical treatments was investigated from the results of the previous studies. From the investigation it was concluded that the mechanism of the regeneration of atherosclerosis was related to the hemodynamic characteristics such as flow separation and oscillatory wall shear stress on the vessel wall.