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강연 제목: 방사력 강화를 위한 스텐트 디자인 연구와 스텐트 시술된 혈관 내부의 PIV 분석  
및 CFD 시뮬레이션

/Stent design study for radiation force enhancement and computational fluid  
dynamics study inside the stented blood vessel

Abstract:

Cardiovascular disease is one of the main causes of high mortality worldwide. Endovascular stent is one of the most effective and popular procedures of cardiovascular intervention. Among them, biodegradable stents support blood vessel walls for 6 to 24 months, release drugs, and then decompose, so they can reduce the occurrence of thrombosis compared to metal stents that remain permanently.

Despite these advantages, the biodegradable polymer stent is made of a polymer material that can be absorbed into the body and has low physical properties, and thus has a thicker stent thickness than a metal stent. Such a thick stent thickness increases the rate of clot formation when the stent is inserted into the body, causing a problem of restenosis. However, when the thickness of the stent is reduced, the radial force of the stent is reduced, making it difficult to sufficiently support the stent on the blood vessel wall, and it is difficult to apply it to patients due to the high recoil rate.

In this paper, in order to compensate for the radiation force that is reduced according to the stent thickness, the optimal stent design was presented and comparative analysis was conducted through finite element analysis (FEA) and radiation force measurement experiments.

Brief Biosketch

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