**DEVELOPMENT OF SIROLIMUS COATED ELUTING STENT USING ABLUMINAL COATING TECHNOLOGY**

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ABSTRACT

The current study focuses on the development of abluminal coated stent using blend of sirolimus and poly L-lactide-co-caprolactone as the biodegradable polymer. The abluminal coating of stents presume to reduce the systemic side effects and provide targeted tissue release. To compare outcome of abluminal coated stents, conformal coated stent was also prepared using similar technology. Scanning electron microscopy was carried out to differentiate the abluminal and conformal coating patterns. Both patterns showed smooth and uniform coating which remains intact with stent surface even after crimping and post-expansion. Drug content data acquired by HPLC represented uniformity of drug coating on coated stents. In vitro drug elution revealed that both coating patterns yield similar percentage of drug release however, abluminal coated stent required less amount of drug and polymer due to selective application at vascular injury area. The findings indicate that the abluminal coated stent may be the future technology for efficient delivery of certain drugs.

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