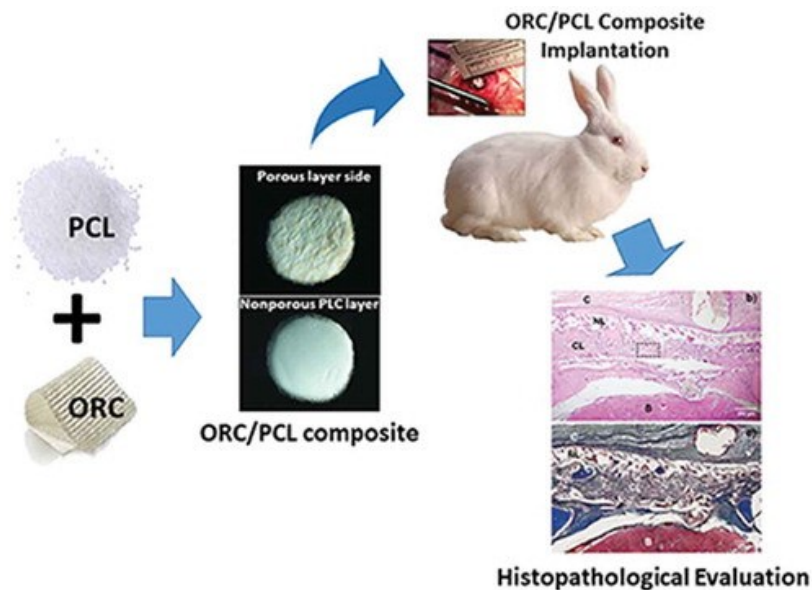


In vivo evaluation of bilayer ORC/PCL composites in a rabbit model for using as a dural substitute

After a neurosurgical procedure, dural closure is commonly needed to prevent cerebrospinal fluids (CSF) leakage and to reduce the risk of complications, including infections and chronic inflammatory reactions. Although several dural substitutes have been developed, their manufacturing processes are complicated and costly and that many of them have been implicated in causing postoperative complications. This study aimed to assess the effectiveness and safety of new bilayer ORC/PCL composites in a rabbit model. Two formulations of bilayer oxidized regenerated cellulose (ORC)/poly ϵ -caprolactone (PCL) knitted fabric-reinforced composites and an autologous graft (pericranium) were employed for dural closure in forty-five male rabbits. The effectiveness and safety of new bilayer ORC/PCL composites were successfully demonstrated in a rabbit model, which similarly exhibited biocompatibility and supported the dural regeneration without immunological rejection. However, since this study were performed in animal experiments, further clinical studies are required to assess their performances.



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ความเชื่อมโยงกับเป้าหมาย SDGs:

เป้าหมายที่ 9: อุตสาหกรรม นวัตกรรม โครงสร้างพื้นฐาน

เป้าหมายที่ 3: การมีสุขภาพและความเป็นอยู่ที่ดี