

Title (en)  
METHODS AND APPARATUS FOR DELIVERING MEDICAMENT TO TISSUE

Title (de)  
METHODEN UND GERÄTE ZUR EINBRINGUNG VON MEDIKAMENTEN IN GEWEBE

Title (fr)  
PROCEDES ET APPAREIL PERMETTANT DE DISTRIBUER DES MEDICAMENTS A UN TISSU

Publication  
**EP 1235526 A1 20020904 (EN)**

Application  
**EP 99965094 A 19991202**

Priority  
US 9928570 W 19991202

Abstract (en)  
[origin: WO0139682A1] A system for delivering medicaments to tissue includes a tissue-removal and medicament-delivery device. The device includes a delivery member and an optical fiber formed together into a unitary structure by cladding. The optical fiber has an inlet for receiving laser energy from a laser energy source and an outlet for emitting laser energy. The delivery member has an inlet for receiving medicament from a medicament source and an outlet for injecting medicament. A handpiece is adapted to receive the ablating and injecting device in a controlled and movable relationship. In use, a distal end of the handpiece is placed against tissue to be ablated. The ablating and injecting device is advanced beyond the distal end of the handpiece and into the tissue while emitting laser energy from the optical fiber. The emitted laser energy ablates the tissue as the optical fiber advances. The ablating and injecting device is then retracted from the tissue, thereby resulting in a channel formed in the tissue. While the device retracts, medicament is injected from the delivery member into the channel, thereby providing a plug within the channel. Alternatively, medicament may be injected into the tissue surrounding the channel by delivering the medicament into the tissue surrounding the channel opening or delivering it directly into the channel wall. The medicament may include growth factor combined with a cellular matrix which enhances angiogenesis in the tissue or may include a gene that encodes for said growth factor, or any other therapeutic agent or gene therapy agent that promotes angiogenesis or any therapeutic agent for the treatment of cardiovascular disease. The medicament delivery system is particularly useful in cardiac applications for performing transmyocardial revascularization (TMR) in ischemic myocardium and promoting endothelial cell growth within the myocardium.

IPC 1-7  
**A61B 18/24**

IPC 8 full level  
**A61B 17/00** (2006.01); **A61B 17/32** (2006.01); **A61B 18/12** (2006.01); **A61B 18/20** (2006.01); **A61B 18/24** (2006.01); **A61M 25/00** (2006.01); **A61B 17/22** (2006.01); **A61B 18/14** (2006.01)

CPC (source: EP)  
**A61B 18/24** (2013.01); **A61B 17/3203** (2013.01); **A61B 18/1477** (2013.01); **A61B 18/1492** (2013.01); **A61B 2017/00247** (2013.01); **A61B 2017/22082** (2013.01); **A61B 2018/00392** (2013.01); **A61B 2018/1425** (2013.01)

Citation (search report)  
See references of WO 0139682A1

Designated contracting state (EPC)  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**WO 0139682 A1 20010607**; AU 3108100 A 20010612; AU 782484 B2 20050804; CA 2392642 A1 20010607; EP 1235526 A1 20020904; JP 2003515383 A 20030507

DOCDB simple family (application)  
**US 9928570 W 19991202**; AU 3108100 A 19991202; CA 2392642 A 19991202; EP 99965094 A 19991202; JP 2001541418 A 19991202