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# United States Patent [19]

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Spears

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- [54] **METHOD FOR TREATING AN ARTERIAL WALL INJURED DURING ANGIOPLASTY**
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- [58] Field of Search ..... **604/96, 101, 113; 606/7, 8, 13-15, 192-195; 600/36; 623/1, 12; 128/395, 397, 398, 399-401**

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### [57] ABSTRACT

A method for treating a lesion in an arterial wall having plaque thereon and a luminal surface, the arterial wall having been mechanically injured during an angioplasty procedure, the arterial wall and the plaque including fissures resulting therefrom, the method comprising the steps of positioning an angioplasty catheter adjacent to the lesion being treated; delivering a bioprotective material between the arterial wall and the angioplasty catheter so that the bioprotective material is entrapped therebetween and permeates into the fissures and small vessels of the arterial wall during apposition of the angioplasty catheter to the arterial wall; applying thermal energy to the lesion, thereby bonding the bioprotective material to the arterial wall and within the fissures; and removing the angioplasty catheter, the bioprotective material remaining adherent to the arterial wall and within the fissures, thereby coating the luminal surface of the arterial wall with an insoluble layer of the bioprotective material so that the insoluble layer provides at least semi-permanent protection to the arterial wall, despite contact with blood flowing adjacent thereto.

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62 Claims, 2 Drawing Sheets

