CATHETER SYSTEM FOR PERFORMING A SINGLE STEP CRYOABLATION

Abstract: A system for cryoabrating target tissue at a treatment site includes a cryo-element that is attached to the distal end of a cryo-catheter. An annular shaped balloon is attached to a cylindrical shaped sleeve and the sleeve is slideably mounted over the cryo-catheter. The distal end of a fill tube is attached to the sleeve to place the lumen of the fill tube in fluid communication with the balloon. In use, the cryo-element is first positioned at the treatment site using the cryo-catheter. Next, the fill tube is used to advance the balloon and sleeve over the cryo-catheter until the balloon is interposed between the cryo-element and the target tissue. Saline solution is then pumped through the fill tube to expand the balloon between the cryo-element and target tissue. A refrigerant is then expanded in the cryo-element which freezes the saline solution and cryoablates the target tissue.
**INTERNATIONAL SEARCH REPORT**

A. **CLASSIFICATION OF SUBJECT MATTER**
   
   **IPC:** A61B 18/18(2006.01)
   
   **USPC:** 606/21
   
   According to International Patent Classification (IPC) or to both national classification and IPC
   
B. **FIELDS SEARCHED**
   
   Minimum documentation searched (classification system followed by classification symbols)
   
   **U.S.:** 606/20-26
   
   Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
   
C. **DOCUMENTS CONSIDERED TO BE RELEVANT**
   
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>US 6,383,181 B1 (JOHNSTON et al) 07 May 2002, Figure 1b</td>
<td>1-20</td>
</tr>
<tr>
<td>A</td>
<td>US 5,868,735 A (LAFONTAINE) 09 February 1999, whole document, figures 2-4</td>
<td>1-20</td>
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<tr>
<td>A</td>
<td>US 5,971,979 A (JOYE et al) 26 October 1999, whole document</td>
<td>1-20</td>
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</table>

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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