



(11) **EP 2 275 144 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**22.06.2011 Bulletin 2011/25**

(51) Int Cl.:  
**A61K 49/22 (2006.01)**

(43) Date of publication A2:  
**19.01.2011 Bulletin 2011/03**

(21) Application number: **10011849.6**

(22) Date of filing: **08.05.2003**

(84) Designated Contracting States:  
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR  
HU IE IT LI LU MC NL PT RO SE SI SK TR**

(30) Priority: **09.05.2002 US 378640 P  
21.11.2002 US 428145 P**

(62) Document number(s) of the earlier application(s) in  
accordance with Art. 76 EPC:  
**07020190.0 / 1 878 447  
03732330.0 / 1 506 022**

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(54) **Medium for contrast enhancement or convenience for ultrasonic, endoscopic and other medical examinations**

(57) The present invention relates to a particularly convenient medium for providing contrast enhancement and/or distension of the subject body or organ cavity during imaging, radiographic, visualization, or other similar medical examinations, including ultrasound, endoscopic examinations, MRI, x-ray, hystero-salpingograms, CT scans, and similar procedures. The present invention provides the contrast enhancement and/or distends the body or organ cavity without constant leakage of the medium or the resulting need to constantly or repeatedly infuse additional medium. The medium is designed to have sufficient viscosity or consistence initially -- whether as a solid, semi-solid, gel, viscous fluid, or otherwise -- to remain in the body or organ cavity for a time generally sufficient to complete the procedure, and then to facilitate easy removal or expulsion from the cavity, preferably by liquefying or losing viscosity. For imaging and radiographic examinations, the medium may provide enhanced contrast as well as the distension of the cavity. For visualization examinations, the medium typically would be optically transparent but provide the convenient reliable distension. The phase or viscosity change may be triggered by a variety factors, such as the passage of time, a change in temperature or pH, the addition of another substance, or any other trigger that liquefies or otherwise facilitates easy removal or expulsion of the composition from the cavity.

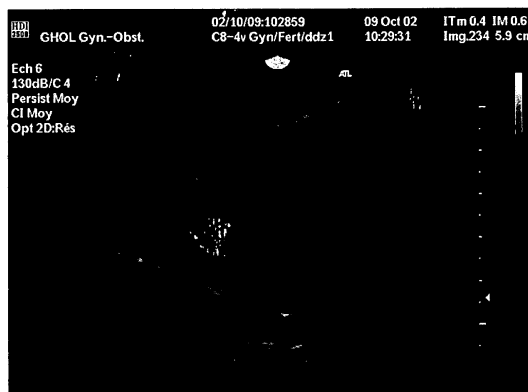


FIGURE 1A



## EUROPEAN SEARCH REPORT

Application Number  
EP 10 01 1849

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                               |                                                          |                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|------------------------------------------------|
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Citation of document with indication, where appropriate, of relevant passages                                                                                                                                                                                                                                                                                                                 | Relevant to claim                                        | CLASSIFICATION OF THE APPLICATION (IPC)        |
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| X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | EP 1 034 796 A (AKAIKE TOSHIHIRO ;NIHON<br>SCHERING K K (JP))<br>13 September 2000 (2000-09-13)<br>* -Page 6 paragraph 23 - Page 7, paragraph<br>30;<br>page 2, paragraphs 2,5,7 - page 4,<br>paragraph 10; claims; examples 3,4 *                                                                                                                                                            | 1-3,7,8,<br>14,15                                        | TECHNICAL FIELDS<br>SEARCHED (IPC)<br><br>A61K |
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| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                               |                                                          |                                                |
| Place of search<br><b>The Hague</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                               | Date of completion of the search<br><b>20 April 2011</b> | Examiner<br><b>Vadot, Pierre</b>               |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons<br/>.....<br/>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                                                                                                                                                                                                                                                                                               |                                                          |                                                |

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EPO FORM 1503 03.02 (P04C01)



## EUROPEAN SEARCH REPORT

Application Number  
EP 10 01 1849

| DOCUMENTS CONSIDERED TO BE RELEVANT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                            |                                                   |                                         |
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| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Citation of document with indication, where appropriate, of relevant passages                                                                                                                                                                                                              | Relevant to claim                                 | CLASSIFICATION OF THE APPLICATION (IPC) |
| A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | IKEDA T ET AL: "THE SEPARATION PROCEDURE FOR INTRAUTERIN ADHESION (SYNECHIA UTERI) UNDER ROENTGENOGRAPHIC VIEW", 1 September 1981 (1981-09-01), FERTILITY AND STERILITY, ELSEVIER SCIENCE INC, NEW YORK, NY, US, PAGE(S) 333 - 338, XP008067512, ISSN: 0015-0282<br>* the whole document * | 1-15                                              |                                         |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                            |                                                   | TECHNICAL FIELDS SEARCHED (IPC)         |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                            |                                                   |                                         |
| The present search report has been drawn up for all claims                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                            |                                                   |                                         |
| Place of search<br>The Hague                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                            | Date of completion of the search<br>20 April 2011 | Examiner<br>Vadot, Pierre               |
| <p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone<br/>Y : particularly relevant if combined with another document of the same category<br/>A : technological background<br/>O : non-written disclosure<br/>P : intermediate document</p> <p>T : theory or principle underlying the invention<br/>E : earlier patent document, but published on, or after the filing date<br/>D : document cited in the application<br/>L : document cited for other reasons<br/>.....<br/>&amp; : member of the same patent family, corresponding document</p> |                                                                                                                                                                                                                                                                                            |                                                   |                                         |

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EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 10 01 1849

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

20-04-2011

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|                |                                                                                                   |         |            |
|----------------|---------------------------------------------------------------------------------------------------|---------|------------|
| 专利名称(译)        | 用于增强对比度或便于超声波，内窥镜和其他医学检查的介质                                                                       |         |            |
| 公开(公告)号        | <a href="#">EP2275144A3</a>                                                                       | 公开(公告)日 | 2011-06-22 |
| 申请号            | EP2010011849                                                                                      | 申请日     | 2003-05-08 |
| [标]申请(专利权)人(译) | 超微                                                                                                |         |            |
| 申请(专利权)人(译)    | ULTRAST LLC                                                                                       |         |            |
| 当前申请(专利权)人(译)  | ULTRAST LLC                                                                                       |         |            |
| [标]发明人         | DE ZIEGLER DOMINIQUE                                                                              |         |            |
| 发明人            | DE ZIEGLER, DOMINIQUE                                                                             |         |            |
| IPC分类号         | A61K49/22 A61B5/00 A61B A61B1/00 A61B5/05 A61B5/055 A61B8/02 A61B8/06 A61B8/12 A61B8/14 A61K49/00 |         |            |
| CPC分类号         | A61K49/226                                                                                        |         |            |
| 优先权            | 60/378640 2002-05-09 US<br>60/428145 2002-11-21 US                                                |         |            |
| 其他公开文献         | EP2275144A2                                                                                       |         |            |
| 外部链接           | <a href="#">Espacenet</a>                                                                         |         |            |

#### 摘要(译)

本发明涉及一种特别方便的介质，用于在成像，放射线照相，可视化或其他类似的医学检查期间提供对象身体或器官腔的对比度增强和/或扩张，包括超声，内窥镜检查，MRI，X射线，hystero - 测量图，CT扫描和类似程序。本发明提供了对比度增强和/或扩张身体或器官腔而没有介质的不断泄漏或由此产生的需要不断地或重复地注入额外的介质。该介质被设计成具有足够的粘度或一致性 - 无论是作为固体，半固体，凝胶，粘性流体还是其他 - 在体内或器官腔中保留一段时间通常足以完成该过程，并且然后，为了便于从空腔中取出或排出，优选通过液化或失去粘度。对于成像和射线照相检查，介质可以提供增强的对比度以及腔的扩张。对于可视化检查，介质通常是光学透明的，但提供方便可靠的膨胀。相变或粘度变化可以由多种因素触发，例如时间的推移，温度或pH的变化，另外的物质的添加，或液化或以其他方式促进组合物易于从中移除或排出的任何其他触发因素。腔。

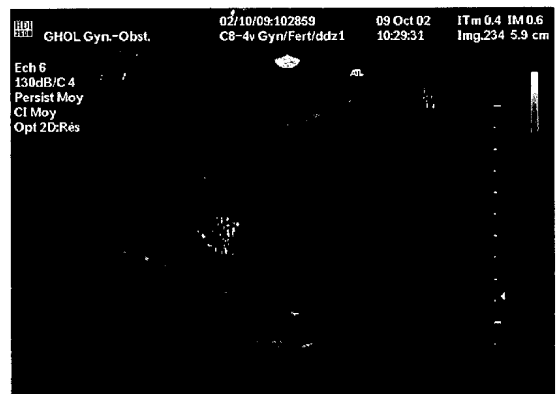


FIGURE 1A