

ORIGINAL ARTICLE

# Standardizing terminology for minimally invasive pancreatic resection

Andre L. Montagnini<sup>1</sup>, Bård I. Røsok<sup>2</sup>, Horacio J. Asbun<sup>3</sup>, Jeffrey Barkun<sup>4</sup>, Marc G. Besselink<sup>5</sup>, Ugo Boggi<sup>6</sup>, Kevin C.P. Conlon<sup>7</sup>, Abe Fingerhut<sup>8</sup>, Ho-Seong Han<sup>9</sup>, Paul D. Hansen<sup>10</sup>, Melissa E. Hogg<sup>11</sup>, Michael L. Kendrick<sup>12</sup>, Chinnusamy Palanivelu<sup>13</sup>, Shailesh V. Shrikhande<sup>14</sup>, Go Wakabayashi<sup>15</sup>, Herbert Zeh<sup>11</sup>, Charles M. Vollmer<sup>16</sup> & David A. Kooby<sup>17</sup>

<sup>1</sup>Universidade de Sao Paulo, Sao Paulo, Brazil, <sup>2</sup>University of Oslo University, Oslo, Norway, <sup>3</sup>Mayo Clinic Florida, Jacksonville, FL, USA, <sup>4</sup>McGill University, Montreal, Quebec, Canada, <sup>5</sup>Academic Medical Center, Amsterdam, The Netherlands, <sup>6</sup>University of Pisa, Pisa, Italy, <sup>7</sup>The University of Dublin, Trinity College, Dublin, Ireland, <sup>8</sup>University Hospital of Graz, Graz, Austria, <sup>9</sup>Seoul National University, SeongNam si, Korea, <sup>10</sup>Portland Providence Cancer Center, Portland, OR, <sup>11</sup>University of Pittsburgh Medical Center, Pittsburgh, PA, <sup>12</sup>The Mayo Clinic Rochester, Rochester, MN, USA, <sup>13</sup>GEM Hospital & Research Center, Coimbatore, Tamil Nadu, India, <sup>14</sup>Tata Memorial Centre, Mumbai, <sup>15</sup>Ageo Central General Hospital, Saitama, Japan, <sup>16</sup>The University of Pennsylvania, Philadelphia, PA, and <sup>17</sup>Emory University School of Medicine, Atlanta, GA, USA

## Abstract

**Background:** There is a growing body of literature pertaining to minimally invasive pancreatic resection (MIPR). Heterogeneity in MIPR terminology, leads to confusion and inconsistency. The Organizing Committee of the State of the Art Conference on MIPR collaborated to standardize MIPR terminology.

**Methods:** After formal literature review for “minimally invasive pancreatic surgery” term, key terminology elements were identified. A questionnaire was created assessing the type of resection, the approach, completion, and conversion. Delphi process was used to identify the level of agreement among the experts.

**Results:** A systematic terminology template was developed based on combining the **approach** and **resection** taking into account the **completion**. For a solitary approach the term should combine “approach + resection” (e.g. “laparoscopic pancreatoduodenectomy”); for combined approaches the term must combine “first approach + resection” with “second approach + reconstruction” (e.g. “laparoscopic central pancreatectomy” with “open pancreaticojejunostomy”) and where conversion has resulted the recommended term is “first approach” + “converted to” + “second approach” + “resection” (e.g. “robot-assisted” “converted to open” “pancreatoduodenectomy”)

**Conclusions:** The guidelines presented are geared towards standardizing terminology for MIPR, establishing a basis for comparative analyses and registries and allow incorporating future surgical and technological advances in MIPR.

Received 30 December 2016; accepted 5 January 2017

## Correspondence

Andre L. Montagnini, Hospital das Clinicas da Universidade de Sao Paulo, Disciplina de Cirurgia do Aparelho Digestivo, Rua Mario Amaral, 267, Sao Paulo, SP, 04002-021, Brazil. E-mail: [almontag@uol.com.br](mailto:almontag@uol.com.br)

Presented at the IHPBA State of the Art Conference on Minimally Invasive Pancreatic Resection, April 20–23, 2016, Sao Paulo, Brazil.

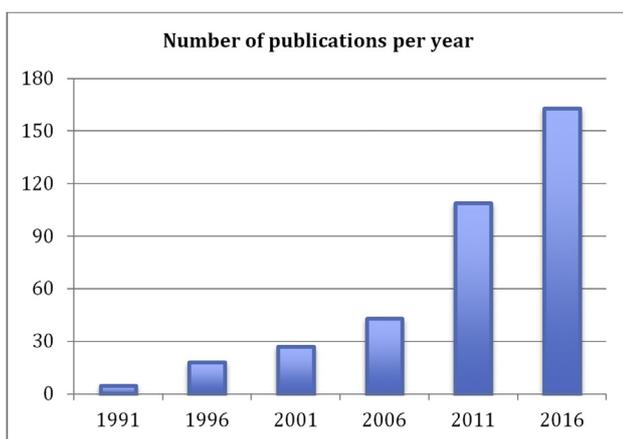
## Introduction

Minimally invasive surgery (MIS) is now standard for many gastrointestinal surgical procedures such as cholecystectomy<sup>1</sup> and hiatal hernia repair.<sup>2</sup> Innovative technology and improved training and skills among surgeons have led to increasing use of minimally invasive techniques for pancreatic resections. Parallel to this evolution, there are increasing numbers of scientific publications related to MIS. A PubMed search for “Minimally Invasive Pancreatic Surgery” identified more than 1300 published articles from 1991 to 2016, with a steady growth over time (Fig. 1).

One unwarranted consequence of this surge in Minimally Invasive Pancreatic Resection (MIPR) related publications is the non-uniformity in the terms used to describe procedures and surgical strategies. For example, a pancreatic resection for which all steps were performed using a laparoscopic approach has been called “full laparoscopic pancreatectomy”,<sup>3</sup> “totally laparoscopic pancreatectomy”,<sup>4</sup> “total laparoscopic pancreatectomy”,<sup>5</sup> or “pure laparoscopic pancreatectomy”.<sup>6</sup> On the other hand, the same term has been used to define different procedures. For example, the non-specific term “hybrid” has been used to describe surgeries where resection is performed through laparoscopic approach and reconstruction is performed through a mini-laparotomy,<sup>7</sup> under robot assistance,<sup>8,9</sup> or with hand-assistance.<sup>10</sup>

Terms such as “totally laparoscopic,” “pure laparoscopic,” “completely laparoscopic” versus simply using the term “laparoscopic”<sup>11</sup> to describe the procedure make it challenging to navigate the literature. Other terms such as “hybrid” and “mini-laparotomy” are vague and represent different approaches depending on the study.

To address this problem the organizing committee of the “State of Art Conference on MIPR”<sup>12</sup> held during the 12th annual IHPBA Congress in Sao Paulo, Brazil, on April 20, 2016, proposed a new method of standardization of terminology. Considering the complexity of pancreatic surgery, an open template model was developed that can accommodate the



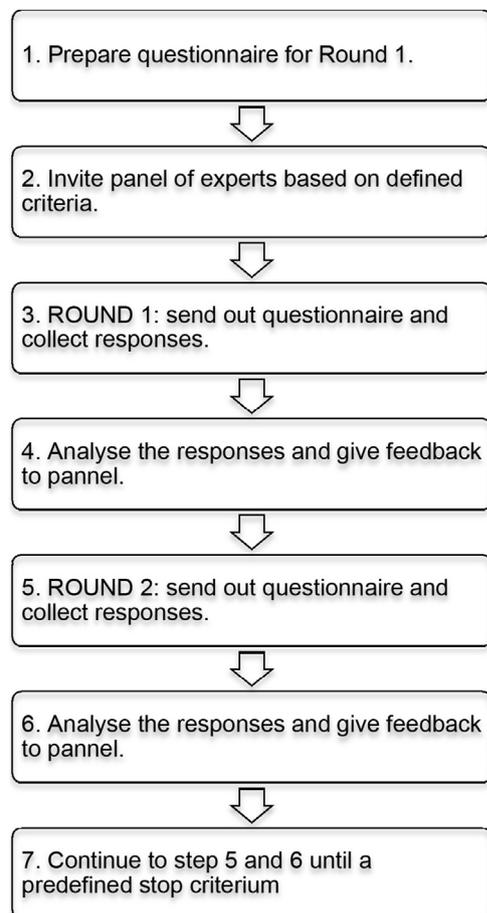
**Figure 1** Number of publications found in PubMed search for “Minimally Invasive Pancreatic Surgery” in last 25 years

various surgical strategies and may incorporate future new minimally invasive procedures yet to be developed. This report summarizes the proposed terminology for MIPR.

## Methods

This work represents a collaborative effort by the organizing committee of the first IHPBA state of the art conference on MIPR. The study is based on the Delphi process,<sup>13</sup> a method of structured communication technique applied to reach a consensus on a specific topic based on a panel of experts with rounds of discussion and answering (voting) questions (Fig. 2). The study defined the Delphi process to be considered concluded if the panel achieved a consensus, of at least 80%, by round three<sup>14</sup> (Fig. 3).

In preparation for the conference over 600 manuscripts were reviewed for content and assessed for nomenclature. On assessing manuscript titles and clinical situations, six issues were identified and considered as key elements in terminology:



**Figure 2** The Delphi process flowchart

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات