

## University of Groningen

### ASO Visual Abstract

Merola, E; Pascher, A; Rinke, A; Bartsch, D K; Zerbi, A; Nappo, G; Carnaghi, C; Ciola, M; McNamara, M G; Zandee, W

*Published in:*  
Annals of Surgical Oncology

*DOI:*  
[10.1245/s10434-022-12049-3](https://doi.org/10.1245/s10434-022-12049-3)

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2022

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Merola, E., Pascher, A., Rinke, A., Bartsch, D. K., Zerbi, A., Nappo, G., Carnaghi, C., Ciola, M., McNamara, M. G., Zandee, W., Bertani, E., Marcucci, S., Modica, R., Grützmann, R., Fazio, N., de Herder, W., Valle, J. W., Gress, T. M., Delle Fave, G., ... Pavel, M. E. (2022). ASO Visual Abstract: Radical Resection in Enteropancreatic Neuroendocrine Tumors-Recurrence-Free Survival Rate and Definition of a Risk Score for Recurrence. *Annals of Surgical Oncology*, 29, 5580–5581. <https://doi.org/10.1245/s10434-022-12049-3>

#### Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

#### Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

*Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.*



## ASO Visual Abstract: Radical Resection in Enteropancreatic Neuroendocrine Tumors—Recurrence-Free Survival Rate and Definition of a Risk Score for Recurrence

E. Merola, MD, PhD<sup>1,2</sup>, A. Pascher, MD, PhD<sup>3,4</sup>, A. Rinke, MD, PhD<sup>5</sup>, D. K. Bartsch, MD, PhD<sup>6</sup>, A. Zerbi, MD, PhD<sup>7,8</sup>, G. Nappo, MD<sup>8</sup>, C. Carnaghi, MD<sup>9</sup>, M. Ciola, MD<sup>10</sup>, M. G. McNamara, MD, PhD<sup>11</sup>, W. Zandee, MD, PhD<sup>12,13</sup>, E. Bertani, MD, PhD<sup>14</sup>, S. Marcucci, MD<sup>15</sup>, R. Modica, MD<sup>16</sup>, R. Grützmann, MD, PhD<sup>17</sup>, N. Fazio, MD, PhD<sup>18</sup>, W. de Herder, MD, PhD<sup>12</sup>, J. W. Valle, MD, PhD<sup>11</sup>, T. M. Gress, MD, PhD<sup>5</sup>, G. Delle Fave, MD, PhD<sup>18,19</sup>, G. de Pretis<sup>2</sup>, A. Perren, MD<sup>20</sup>, B. Wiedenmann, MD, PhD<sup>21</sup>, and M. E. Pavel, MD, PhD<sup>1,2</sup>

<sup>1</sup>Division of Endocrinology, Department of Medicine 1, Friedrich-Alexander University Erlangen-Nuremberg, Erlangen, Germany; <sup>2</sup>Department of Gastroenterology, Santa Chiara Hospital, Trento, Italy; <sup>3</sup>Department of Surgery, Charité Universitätsmedizin, Berlin, Germany; <sup>4</sup>Klinik für Allgemein-, Viszeral- und Transplantationschirurgie, Universitätsklinikum Münster, Münster, Germany; <sup>5</sup>Department of Gastroenterology, University Hospital Gießen and Marburg, Marburg, Germany; <sup>6</sup>Department of Visceral, Thoracic and Vascular Surgery, Philipps-University Marburg, Marburg, Germany; <sup>7</sup>Department of Biomedical Sciences, Humanitas University, Pieve Emanuele, Milan, Italy; <sup>8</sup>IRCCS Humanitas Research Hospital, Rozzano, Milan, Italy; <sup>9</sup>Oncology Unit, Bolzano Central Hospital, Bolzano, Italy; <sup>10</sup>Department of Surgery, Bolzano Central Hospital, Bolzano, Italy; <sup>11</sup>Division of Cancer Sciences, University of Manchester/Department of Medical Oncology, Christie NHS Foundation Trust, Manchester, UK; <sup>12</sup>Department of Internal Medicine, Sector of Endocrinology, Erasmus MC, Rotterdam, The Netherlands; <sup>13</sup>Division of Endocrinology, Department of Internal Medicine, University Medical Centre Groningen, University of Groningen, Groningen, The Netherlands; <sup>14</sup>Division of Gastrointestinal Surgery, European Institute of Oncology IRCCS, Milan, Italy; <sup>15</sup>Department of Surgery 2, Santa Chiara Hospital, Azienda Provinciale per i Servizi Sanitari (APSS), Trento, Italy; <sup>16</sup>Endocrinology Unit, Department of Clinical Medicine and Surgery, University Federico II, Naples, Italy; <sup>17</sup>Department of Surgery, University Medical Center Erlangen, Erlangen, Germany; <sup>18</sup>Division of Gastrointestinal Medical Oncology and Neuroendocrine Tumours, European Institute of Oncology IEO, IRCCS, Milan, Italy; <sup>19</sup>Department of Gastroenterology, Sant'Andrea Hospital, Sapienza University of Rome, Rome, Italy; <sup>20</sup>Institute of Pathology, University of Bern, Bern, Switzerland; <sup>21</sup>Department of Hepatology and Gastroenterology, Campus Virchow-Klinikum, Charité Universitätsmedizin, Berlin, Germany

In this multicenter series of 441 sporadic enteropancreatic neuroendocrine tumors (EP-NETs), 30% of patients recurred within 5 years after radical surgery (<https://doi.org/10.1245/s10434-022-11837-1>).

A nomogram for recurrence risk included disease stage, lymph node ratio, margin status, and grading to select potential candidates for adjuvant treatments.

---

E. Merola and A. Pascher share first authorship.

---

© Society of Surgical Oncology 2022

First Received: 22 April 2022

Accepted: 9 June 2022

Published Online: 4 July 2022

E. Merola, MD, PhD  
e-mail: [elettra.merola@apss.tn.it](mailto:elettra.merola@apss.tn.it)

**Supplementary Information** The online version contains supplementary material available at <https://doi.org/10.1245/s10434-022-12049-3>.

**DISCLOSURE** W. de Herder: advisory boards Ipsen and AAA-Novartis, research funding Ipsen, speaker Ipsen, AAA-Novartis. For the remaining authors, no conflicts of interest were declared.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.