OUTCOMES RESEARCH Consortium

2021 Annual Report

- 31st Anniversary -
The OUTCOMES RESEARCH Group was formed in 1990 at the University of California in San Francisco and subsequently became an institute when the group’s administrative center moved to the University of Louisville in March of 2000. In 2005, OUTCOMES RESEARCH became a department at the Cleveland Clinic. After 15 years, the Department of OUTCOMES RESEARCH now includes 65 members at the Clinic, among more than 190 academic investigators in twenty countries including the Austria, Canada, China, Ireland, Israel, Japan, China, and the United States. The Consortium is non-profit; its only goal is thus participation in high-quality research.

The Consortium has published more than 1,600 full papers and more than 80 editorials. The collaboration publishes a full paper every 3 days.

The Consortium is currently involved in about 150 clinical studies, including many large multi-center outcome trials. Funding for the Consortium’s funding is from various peer-reviewed granting agencies, and we also collaborate with companies that make innovative devices and drugs, often conducting major trials that lead to regulatory certification. The Consortium facilitates scientific exchange and collaboration necessary for technically complex outcomes studies involving hundreds or thousands of patients. Additional information is available at www.OR.org.

Aspirations

OUTCOMES RESEARCH seeks to understand the end results of particular health care practices and interventions. End results include effects that people experience and care about, such as change in the ability to function. In particular, for individuals with chronic conditions—where cure is not always possible—end results include quality of life as well as mortality. By linking the care people get to the outcomes they experience, OUTCOMES RESEARCH has become the key to developing better ways to monitor and improve the quality of care.

The general goal of the OUTCOMES RESEARCH Consortium is to evaluate inexpensive, low-risk interventions that are easy to implement yet likely to markedly improve outcome. For example, we have shown that simply maintaining intraoperative normothermia markedly reduces the risk of complications — and does so at trivial cost. A consequence of our work is that active intraoperative warming has become routine, whereas it was previously rare. Current focus areas include cardiovascular complica-

Mission

Be the world’s leading clinical anesthesia-related research organization.

Behaviors

1. Publish more high-impact, peer-reviewed clinical research papers (quantified as number times impact) than any other anesthesia organization.

2. Recruit more extra-mural clinical research funding than any other anesthesia organization, with “clinical research” being defined as research conducted with human subjects.

3. Train clinical investigators at all levels.
Members

1. Alaa A. Abd-Elsayed, M.D.  
   Madison  
   USA

2. Basem B. Abde lmalak, M.D.  
   Cleveland  
   USA

3. Janet Adegboye, M.D.  
   Baltimore  
   USA

4. Sanchit Ahuja, M.D.  
   Detroit  
   USA

5. Wael Ali Sakr Esa, M.D.  
   Cleveland  
   USA

6. Federico Almonacid, MD  
   Cleveland  
   USA

7. Jorge Andres Araujo Duran, M.D.  
   Cleveland  
   USA

8. Harendra Arora, M.D.  
   Chapel Hill  
   USA

9. Valentina Assenzo, M.D.  
   Suresnes, Paris  
   France

10. Abdulkadir Atim, M.D.  
    Ankara  
    Turkey

11. Sabry Ayad, M.D.  
    Cleveland  
    USA

12. Rovnat Babazade, M.D.  
    Galveston  
    USA

13. Gausan Bajracharya, M.D.  
    Cleveland  
    USA

14. Omer Bakal, M.D.  
    Cleveland  
    USA

15. Karsten Bartels, MD, PhD, MBA  
    Omaha  
    USA

16. Allen Bashour, M.D.  
    Cleveland  
    USA

17. Beatrice Beck-Schimmer, MD  
    Zurich  
    Switzerland

18. Sergio D. Bergese, M.D.  
    Stony Brook  
    USA

    Cape Town  
    South Africa

20. Peter Biro, M.D.  
    Zurich  
    Switzerland

21. Joshua A. Bloomstone, M.D., M.Sc  
    Glendale  
    USA

22. Hagen Bomberg, M.D.  
    Zurich  
    Switzerland

23. Mauro Bravo, M.D.  
    Cleveland  
    USA

24. Jack Brooker, MD  
    Cleveland  
    USA

25. Donal J. Buggy, M.D., FRCP, FRCACSI, FRCA  
    Dublin  
    Ireland

26. Juan Cata, M.D.  
    Houston  
    USA

27. Praveen Chahar, M.D., F.C.A.R.C.S.I.  
    Cleveland  
    USA

28. Athanasios F. Chalkias, MD, MSc, PhD, FESC, FACadTM, FCP  
    Larisa  
    Greece

29. Suresnrdasingh S. Chhabada, M.D.  
    Cleveland  
    USA

30. Anne Cipriani  
    Cleveland  
    USA

31. Barak Cohen, M.D.  
    Tel Aviv  
    Israel

32. Allen Collins  
    Cleveland  
    USA

33. Jacek B. Cywinski, M.D.  
    Cleveland  
    USA

34. Albert Dahan, MD  
    Leiden  
    Netherlands

35. Jarrod E. Dalton, Ph.D.  
    Cleveland  
    USA

2021 Site Directors

<table>
<thead>
<tr>
<th>Director</th>
<th>Vice-director</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel I. Sessler MD, Cleveland</td>
<td>Alparslan Turan MD, Cleveland</td>
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<table>
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<th>2021 Site Directors</th>
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| Donal Buggy  
| Dublin  
| Ireland  
| USA |
| Peter Szmuk  
| Dallas  
| China  
| USA |
| Yuguang Huang, Dongxin Wang  
| Beijing  
| Germany  
| USA |
| Thomas Volk  
| Homburg  
| Australia  
| USA |
| Colin Royse  
| Melbourne  
| USA  
| Canada  
| Israel  
| France  
| Germany |
| Brian Ilfeld  
| San Diego  
| France  
| Germany |
| PJ Devereaux  
| Hamilton  
| USA  
| Canada  
| Israel  
| France  
| Germany |
| Barak Cohen  
| Tel Aviv  
| USA  
| Canada  
| Israel  
| France  
| Germany |
| Ngai Liu  
| Paris  
| France  
| Germany |
| Bernd Saugel  
| Hamburg  
| Germany  
| France  
<p>| Germany |</p>
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<tr>
<td>Beth O'Brien</td>
<td>Cleveland</td>
<td>USA</td>
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<td>Detlef E.R. Obal, M.D.</td>
<td>Palo Alto</td>
<td>USA</td>
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<td>Ibrahim Onal, M.D.</td>
<td>Konya</td>
<td>Turkey</td>
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<td>Makoto Ozaki, M.D.</td>
<td>Tokyo</td>
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<td>Matt A. Pappas, M.D.</td>
<td>Cleveland</td>
<td>USA</td>
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<td>Marie-Odile Parat, Pharm.D., Ph.D.</td>
<td>Wooloongabba</td>
<td>Australia</td>
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<td>Lijian Pei, M.D.</td>
<td>Beijing</td>
<td>China</td>
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<td>Silvia E. Perez-Protto, M.D., M.S.</td>
<td>Cleveland</td>
<td>USA</td>
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<tr>
<td>Olga M. Plattner, M.D.</td>
<td>Vienna</td>
<td>Austria</td>
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<td>Attila Podoalyk, M.D.</td>
<td>Cleveland</td>
<td>USA</td>
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<td>Xuan Pu, M.S.</td>
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<tr>
<td>Yuwei Qiu, M.D.</td>
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<td>Shobana Rajan, M.D.</td>
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<td>Christian Reiterer, MD</td>
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<td>David A. Rincon-Valenzuela, M.D., M.Sc.</td>
<td>Bogota</td>
<td>Colombia</td>
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<td>Eva Rivas Ferreira, M.D.</td>
<td>Barcelona</td>
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<td>Efrain Riveros-Perez, M.D.</td>
<td>Augusta</td>
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<td>Reizte N. Rodseth, M.B.Ch.B., F.C.A., M.Med.</td>
<td>Durban</td>
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<td>Leif Saager, M.D.</td>
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<td>Daniel I. Sessler, M.D.</td>
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<td>Tetsuya Shimada, M.D.</td>
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<td>Alexis Skolaris</td>
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<td>Jeff W. Steiner, D.O.</td>
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<td>Matthew W. Swisher, M.D., M.S.</td>
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<td>Abdullah S. Torkawi, M.D.</td>
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<td>Yasin Tire, M.D.</td>
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<td>David Torres, M.D.</td>
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<td>Tamas Vegh, M.D., Ph.D.</td>
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<td>Thomas Volk, M.D.</td>
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<td>Anuparna Wadhwa, M.D.</td>
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<td>Jiayi Wang, MD</td>
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<td>Peiyian Wang, MS</td>
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<tr>
<td>Marita Windpassinger, MD</td>
<td>Vienna</td>
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<tr>
<td>Kiran Winemiller, BS</td>
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<td>Jason Wu, M.D.</td>
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<td>Lexie Xu, M.D.</td>
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<tr>
<td>Ece Yilmaz Altipulluk, M.D.</td>
<td>Istanbul</td>
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<td>Dongsheng Yang, M.S.</td>
<td>Cleveland</td>
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<tr>
<td>Jean-Pierre Yared, M.D.</td>
<td>Cleveland</td>
<td>USA</td>
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<tr>
<td>Peter Yassa, MD</td>
<td>Izmir</td>
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<tr>
<td>Oguz Yilmaz, M.D.</td>
<td>Chengdu</td>
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<tr>
<td>Hai Yu, M.D.</td>
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<td>USA</td>
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<tr>
<td>Kan Zhang, M.D.</td>
<td>Lianyungang</td>
<td>China</td>
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Research Fellows

<table>
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<tr>
<th>Name</th>
<th>Origin</th>
<th>Dates</th>
<th>Subsequent Position</th>
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<tbody>
<tr>
<td>2 Mauro Bravo, M.D.</td>
<td>Venezuela</td>
<td>2018-21</td>
<td>Anesthesia residency, Cleveland Clinic</td>
</tr>
<tr>
<td>3 Hani Essber, M.D.</td>
<td>Syria</td>
<td>2019-</td>
<td></td>
</tr>
<tr>
<td>4 Ece Yamak Altipulluk, M.D.</td>
<td>Turkey</td>
<td>2019-21</td>
<td>Faculty, Cerrahpasa Medical School</td>
</tr>
<tr>
<td>5 Andrew Volio, D.O.</td>
<td>United States</td>
<td>2019-21</td>
<td>Internal medicine residency, Ohio State</td>
</tr>
<tr>
<td>6 Ahmed Algharrash, M.D.</td>
<td>Saudi Arabia</td>
<td>2019-21</td>
<td>Fellowship, McGill University</td>
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<tr>
<td></td>
<td>Turkey</td>
<td>2019-</td>
<td></td>
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<tr>
<td>7 Kai Li, M.D.</td>
<td>China</td>
<td>2019-21</td>
<td>Anesthesia Faculty, Japan-China Union Hosp</td>
</tr>
<tr>
<td>8 Esra Kutlu Yalcin, M.D.</td>
<td>Turkey</td>
<td>2019-</td>
<td></td>
</tr>
<tr>
<td>9 Fabio Rodriguez Patarryo, M.D.</td>
<td>Colombia</td>
<td>2019-</td>
<td></td>
</tr>
<tr>
<td>10 Ahmed Al Gharrash, M.D.</td>
<td>Saudi Arabia</td>
<td>2020-21</td>
<td>Cardiac anesthesia fellowship, McGill Univ</td>
</tr>
<tr>
<td>11 Jorge Araujo Duran, M.D.</td>
<td>Colombia</td>
<td>2020-</td>
<td></td>
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<tr>
<td>12 Mateo Montalvo, M.D.</td>
<td>Ecuador</td>
<td>2020-</td>
<td></td>
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<tr>
<td>13 Sinem Sarı Ozturk, M.D.</td>
<td>Turkey</td>
<td>2020-21</td>
<td></td>
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<tr>
<td>14 Momina Sharif Umair, M.D.</td>
<td>Pakistan</td>
<td>2020-21</td>
<td></td>
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<tr>
<td>15 Jeevan Shivakumar, M.D.</td>
<td>India</td>
<td>2020-21</td>
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<tr>
<td>16 Marc Schmidt, M.D.</td>
<td>Switzerland</td>
<td>2020-21</td>
<td>Anesthesia faculty, University of Zurich</td>
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<tr>
<td>17 Tyler Karras, M.D.</td>
<td>USA</td>
<td>2021-22</td>
<td>Anesthesia residency, Alleghany Health</td>
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Graduate and Medical Students (full year)

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<tr>
<td>1 Alexis Skolaris, B.S.</td>
<td>USA</td>
<td>2019-21</td>
<td>Coordinator, Taussig Cancer Center</td>
</tr>
<tr>
<td>2 David Lynn, B.S.</td>
<td>USA</td>
<td>2020-20</td>
<td></td>
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<tr>
<td>3 David Hoying, B.S.</td>
<td>USA</td>
<td>2020-21</td>
<td></td>
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<tr>
<td>4 Oguzalp Turan, M.S.</td>
<td>USA</td>
<td>2020-21</td>
<td>Northeast Ohio Medical School</td>
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<tr>
<td>5 Stephanie Ezoeke, B.S.</td>
<td>USA</td>
<td>2021-</td>
<td></td>
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<tr>
<td>6 Kiran Winemiller, B.S.</td>
<td>USA</td>
<td>2021-22</td>
<td>Case Western Dental School</td>
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<tr>
<td>7 Anne Cipraini, B.S.</td>
<td>USA</td>
<td>2021-22</td>
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<td>8 Nicole Brown, B.S.</td>
<td>USA</td>
<td>2021-</td>
<td></td>
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<td>9 Metabel Markwei, B.S.</td>
<td>USA</td>
<td>2020-21</td>
<td>Cleveland Clinic Lerner College of Medicine</td>
</tr>
<tr>
<td>10 Rod Nault, B.S.</td>
<td>USA</td>
<td>2020-21</td>
<td>Case Western Research School of Medicine</td>
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Honors and Awards

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Hesham Elsharkawy</td>
<td>Associate Editor</td>
<td>Reg Anesth Pain Management</td>
</tr>
<tr>
<td>Ashish Khanna</td>
<td>Vice-chair for research</td>
<td>Wake Forest, Department of Anesthesia</td>
</tr>
<tr>
<td>Sanchit Ahuja</td>
<td>Resident scholar</td>
<td>FAER</td>
</tr>
<tr>
<td>Juan Cata</td>
<td>Vice-chair for Clinical Research</td>
<td>Dept of Anesthesiology, MD Anderson</td>
</tr>
<tr>
<td>Jack Brooker</td>
<td>2nd Place, resident research</td>
<td>Ohio Society of Anesthesia</td>
</tr>
<tr>
<td>Brian Ilfeld</td>
<td>Labat Award</td>
<td>American Society of Regional Anesthesia</td>
</tr>
<tr>
<td>Priya A. Kumar</td>
<td>Outstanding Service Award</td>
<td>UNC Anesthesiology</td>
</tr>
<tr>
<td>Athanasios Chalkias</td>
<td>Associate Editor</td>
<td>Frontiers in Medicine, Intensive Care &amp; Anesthesiology</td>
</tr>
</tbody>
</table>
Consortium Research Awards

The Gladys Sessler Prize is an endowed award that is given yearly. All members of the OUTCOMES RESEARCH Consortium are eligible. This year’s award was to Prof. Kamal Maheshwari.

The Best Fellow Award is given to the Department of OUTCOMES RESEARCH fellow who is voted by the faculty to have performed at the very highest level. This year’s award was given to Mauro Bravo who was Chief Fellow before starting anesthesia residency at the Cleveland Clinic.

Publications

Contribution to the World’s Literature

An article by Pagel and Hudetz (BMC Anesthesiology 12:5, 2012) evaluated anesthesia publication trends. In 2010, the last year they report, there were 665 clinical research articles published in the most influential anesthesia journals: Anesthesiology, the British Journal of Anaesthesia, Anesthesia & Analgesia, Anaesthesia and the European Journal of Anaesthesia. The Consortium publishes about 40 papers per year in the 14 journals they considered. The OUTCOME RESEARCH Consortium thus publishes more than at least 4% of the clinical research in high-profile general anesthesia journals. Of note, the Consortium also publishes nearly as many papers in specialty journals ranging from pain to critical care to neuroscience, and in major multi-specialty journals. Overall, the Consortium publishes a full paper every 2.5 days.

Since inception, the Consortium has published 1,600 full papers and more than 80 editorials.
This Year’s Featured Paper


BACKGROUND

Experimental and observational research suggests that combined epidural-general anesthesia may improve long-term survival after cancer surgery by reducing anesthetic and opioid consumption and by blunting surgery-related inflammation. This study therefore tested the primary hypothesis that combined epidural-general anesthesia improves long-term survival in elderly patients.

METHODS

This article presents a long-term follow-up of patients enrolled in a previous trial conducted at five hospitals. Patients aged 60 to 90 yr and scheduled for major noncardiac thoracic and abdominal surgeries were randomly assigned to either combined epidural-general anesthesia with postoperative epidural analgesia or general anesthesia alone with postoperative intravenous analgesia. The primary outcome was overall postoperative survival. Secondary outcomes included cancer-specific, recurrence-free, and event-free survival.

RESULTS

Among 1,802 patients who were enrolled and randomized in the underlying trial, 1,712 were included in the long-term analysis; 92% had surgery for cancer. The median follow-up duration was 66 months (interquartile range, 61 to 80). Among patients assigned to combined epidural-general anesthesia, 355 of 853 (42%) died compared with 326 of 859 (38%) deaths in patients assigned to general anesthesia alone: adjusted hazard ratio, 1.07; 95% CI, 0.92 to 1.24; P = 0.408. Cancer-specific survival was similar with combined epidural-general anesthesia (327 of 853 [38%]) and general anesthesia alone (292 of 859 [34%]): adjusted hazard ratio, 1.09; 95% CI, 0.93 to 1.28; P = 0.290. Recurrence-free survival was 401 of 853 [47%] for patients who had combined epidural-general anesthesia versus 389 of 859 [45%] with general anesthesia alone: adjusted hazard ratio, 0.97; 95% CI, 0.84 to 1.12; P = 0.692. Event-free survival was 466 of 853 [55%] in patients who had combined epidural-general anesthesia versus 450 of 859 [52%] for general anesthesia alone: adjusted hazard ratio, 0.99; 95% CI, 0.86 to 1.12; P = 0.815.

CONCLUSIONS

In elderly patients having major thoracic and abdominal surgery, combined epidural-general anesthesia with epidural analgesia did not improve overall or cancer-specific long-term mortality. Nor did epidural analgesia improve recurrence-free survival. Either approach can therefore reasonably be selected based on patient and clinician preference.

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