

Overlapping publications

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Scan Uncovers Thousands of Copycat Scientific Articles

Database search turns up research papers suspiciously similar to prior publications, prompting investigations.

By JR Minkel | January 30, 2008 | 5

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A new computerized scan of the biomedical research literature has turned up tens of thousands of articles in which entire passages appear to have been lifted from other papers. Based on the study, researchers estimate that there may be as many as 200,000 duplicates among some 17 million papers in leading research database Medline.

The finding has already led one publication to retract a paper for being too similar to a

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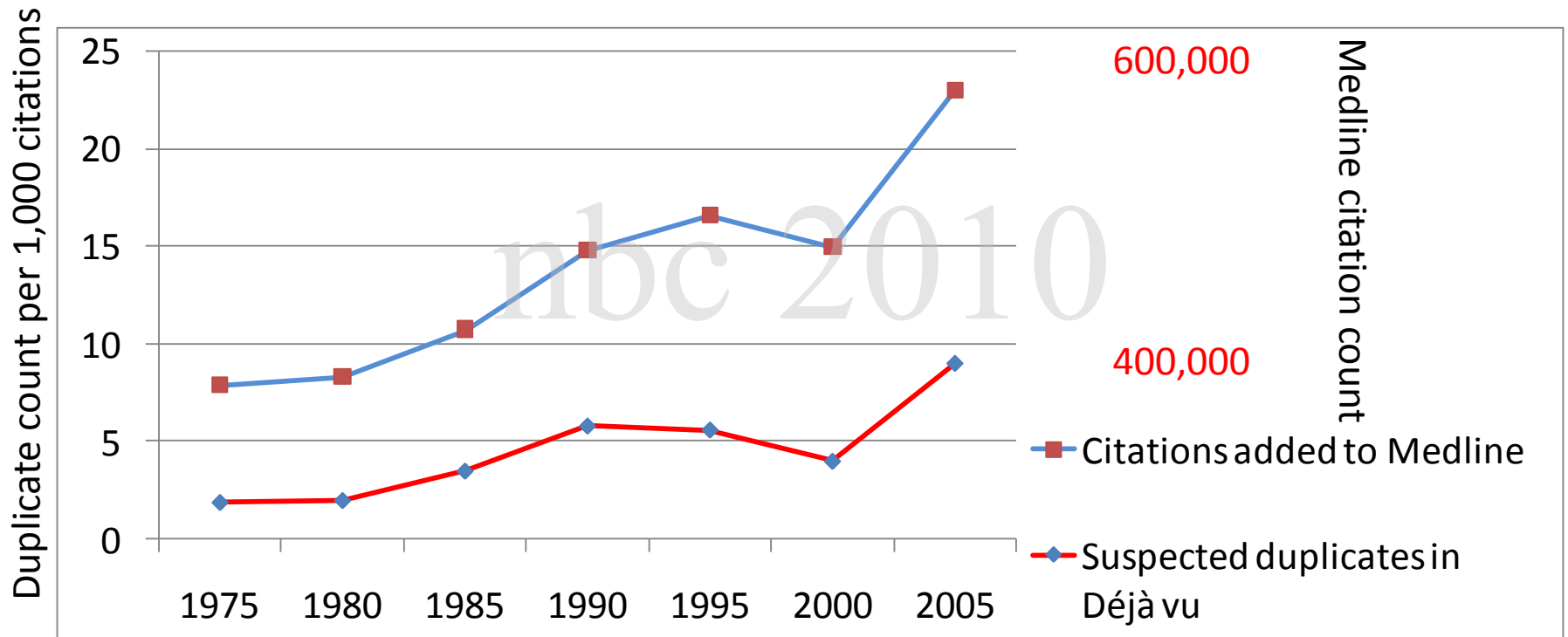
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- A tale of Two Cities “ It was the best of times, it was the worst of times.....”
 - A tale of two citations “ It is the best of times, it is the worst of times.....” Errami & Garner. Nature Jan 2008

Suspected duplicates in biomedical literature



- arXIV- 280,000 entries
- 0.2% plagiarized
- 10.5% duplicate
- Anonymous survey of 3247 US biomedical researchers
- 1.4% admitted to plagiarism and 4.7% to duplicate publications

The extent of the problem?

- 17 million citations in Medline: 800,000 to 1.8 million duplicate/redundant publications

-
- Who made me the genius I am today,
Who is the Professor that made me that way?
One man deserves the credit
One man deserves the blame,
and Nicholai Ivanovich Lobachevsky is his name
In one word, he told me the secret of success:
Plagiarize! Plagiarize! Plagiarize!
Let no one else's work evade your eyes
Only be sure to always call it research.... Tom Lehrer

Outline

- Taxonomy
- Prevalence
- Why do redundant publications occur?
- Levels of redundant publications
- Consequences
- Measures to prevent/minimize
- Way forward
- Summary

1- Taxonomy of publications

- Plagiarism
- Redundant/ duplicate
- Salami slicing
- Secondary

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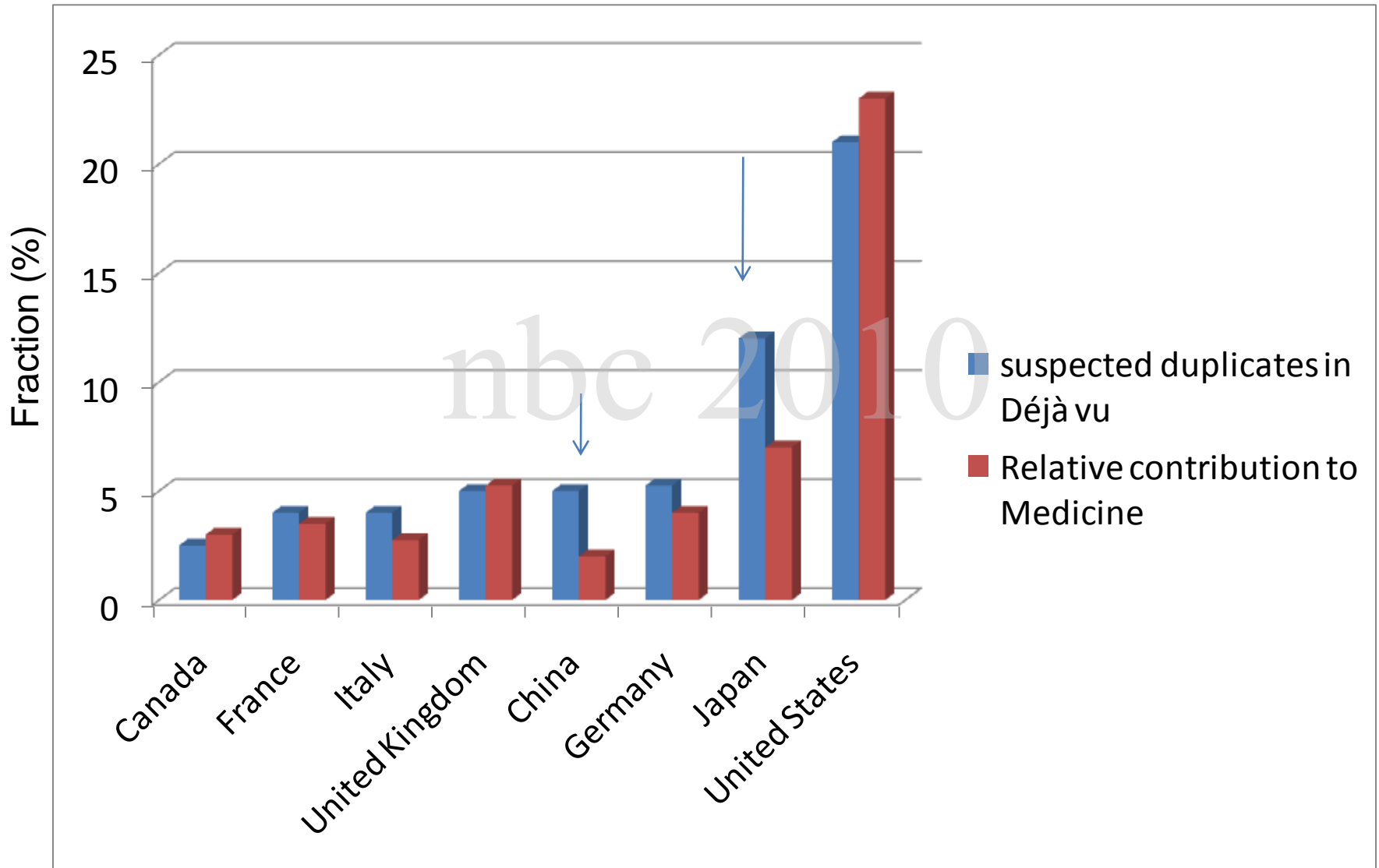
-
- **Plagiarism:** Using someone else's words, ideas or results without attribution.
 - **Redundant/Duplicate:** the publication of a paper that overlaps substantially with one already published (Uniform requirements for manuscripts submitted to biomedical journals)

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- **Redundant publication** occurs when two or more papers share the same hypothesis, data, discussion points and conclusions without full cross reference (COPE)
 - **Salami slicing**: The practice of fragmenting single coherent bodies of research into as many publications as possible
 - **Auto/self plagiarism**: Using data from another paper (usually your own) – a special case of redundant publication

- Secondary publication

A publication where the author obtains permission from the original publisher to submit the work elsewhere, informs the editor at the new journal of the previous publication and if accepted, indicates the existence of the previous publication (ICMJE)

2a - Prevalence of the problem - top 8 contributing countries to Medline



2b - Prevalence of the problem

Specialty	Percentage
ENT	8.5
Anesthesiology	5.3
Orthopedics	8.0
Br J Surg(1998)	17.0

3a - Why do overlapping publications happen?

- 99 authors and editors surveyed
- Authors : don't know, don't understand, or ignore editorial policies
- Pressure to publish/ Think it is justified
- 50% do not even read "Instructions to authors"
- 45% of editors – no stance/definition of redundant publication
- Confusion between unjustified and acceptable redundancy
- *Yank & Barnes J Med Ethics 2003; 29: 109-114*

3b - Why do overlapping publications happen?

- Why wouldn't it happen? It happens in all other human activities.
- Publish or perish
- The number of biomedical journals have increased- odds of escaping detection have improved
- Inadequate training. Not taught good practice. Indeed, sometimes taught the opposite.
- Does sloppy behaviour spill over to fraud?
- You can get away with it. The system works on trust.

4 - Case study

- Kearney PA, Smith W, Johnson SB, Barker DE, Smith MD, Sapin PM. Use of transesophageal echocardiography in the evaluation of traumatic aortic injury. J Trauma 1993; 34: 696-701.

Both TEE and aortography revealed no evidence of aortic injury in 61 patients. There was one false-positive and 4 false negative aortograms. TEE accurately predicted the presence or absence of aortic injury in each case, for a diagnostic sensitivity and specificity of 100%. TEE can be performed safely and efficiently on the multiple-injury patient. We conclude that TEE is useful in the evaluation of suspected aortic injury.

- Buckmaster MJ, Kearney PA, Johnson SB, Smith MD, Sapin PM. Further experience with transesophageal echocardiography in the evaluation of thoracic aortic injury. J Trauma 1994; 37: 989-95.
- This prospective study sought to further define the role of transesophageal echocardiography (TEE) in diagnosing thoracic aortic injury. We performed TEE, aortography, or both on 160 consecutive patients suspected of having blunt thoracic aortic injury. Aortograms yielded one false positive result and four false negative results, for a sensitivity of 73% and a specificity of 99%. We conclude that TEE is a rapid, safe, and accurate bedside method for evaluating the heart and thoracic aorta for blunt trauma.

- Smith MD, Cassidy JM, Souther S, Morris EJ, Sapin PM, Johnson SB, Kearney PA. *New Engl Jr Med* 1995; 332: 356-62.
- Transesophageal echocardiography was attempted in 101 patients. The study was successfully performed in 93 patients, yielding a sensitivity of 100 percent and specificity of 98 percent for the detection of injury to the aorta. There was one false positive echocardiogram. Transesophageal echocardiography is a highly sensitive and specific method of detecting injury to the thoracic aorta. This technique can be used safely and quickly in critically injured patients with suspected traumatic rupture of the aorta and compares favorably with arch aortography.

Author/Editor Response

The authors reply:

To the Editor: We wish to acknowledge substantial redundancy of patients in our 1995 *Journal* study¹ of 93 patients with suspected aortic injury. Seventy-six of these patients, 8 of whom had positive results on transesophageal echocardiography, had been included in a study of 160 patients with the same condition published in the *Journal of Trauma* in 1994.² The 1994 study also included many patients described one year earlier in our initial report of the successful use of transesophageal echocardiography to diagnose thoracic aortic injury.³ Although we cited the 1993 report in our article in the *Journal*, we neglected to cite the larger 1994 study² and failed to inform you that that study had been accepted for publication. We sincerely apologize for any confusion about the total number of patients studied and any duplication of data.

In response to Drs. Smith and Bansal, we have reviewed our four-year experience with injuries to arch vessels. Of 6158 patients admitted because of blunt trauma, 251 had suspected aortic injuries, 172 underwent angiography, and none had injuries to the arch vessels. We have evaluated three injuries to the subclavian artery, which involved a pulse deficit in one case, a brachial plexopathy in the second, and both conditions in the third. We have not seen any patients with blunt trauma who had injuries to the innominate or proximal carotid arteries.

The available studies support our conclusions. In an autopsy series of 275 patients⁴ and a clinical study of 73 patients with blunt thoracic injury,⁵ there was only 1 patient with an injury to an arch vessel, and that injury was contiguous with an aortic injury. A collective review⁶ showed that with the exception of the brachiocephalic trunk, other clinical and radiographic signs usually accompany injuries to the arch vessels. Thus, our experience and those reported confirm that injuries to these vessels are "rare and usually apparent clinically."

4a- Classic characteristics of redundant publications

- The list of authors is almost never identical
- Submission and publication within a year
- Cross referencing to the original rare or hazy
- The second and third papers are generally in lesser impact journals
- Likely to contain favorable conclusions and side effect profiles (drug trials)

4b- Levels of overlapping publications

- Level Description
- 1 Identical articles/identical paragraphs
- 2 Highly similar (data, patients, settings)
- 3 Segmented articles
- 4 Sequential articles (only patients have increased)
- 5 Articles conveying the same message for a different discipline

5- The challenges

- Violates international copyright laws
- Distorts the academic reward system
- Overloads editors, overburdened peer reviewers
- Fills medical literature with inconsequential material
- Overemphasizes the importance of findings
- Compromises patient safety

Limited contact dynamic compression plate

Firefox browser window showing a PubMed search result for the article: "[Expandable cages: biomechanical comparison of different cages for ventral spondylodesis in the thoracolumbar spine]".

URL: <http://www.ncbi.nlm.nih.gov/pubmed/15258751>

Display Settings: Abstract

Chirurg. 2004 Jul;75(7):694-701.

[Expandable cages: biomechanical comparison of different cages for ventral spondylodesis in the thoracolumbar spine]

[Article in German]

Khodadadyan-Klostermann C, Schaefer J, Schleicher P, Pflugmacher R, Eindorf T, Haas NP, Kandziora F.

Unfall- und Wiederherstellungschirurgie, Universitätsklinikum Charité der Humboldt Universität Berlin, Campus Virchow-Klinikum, Berlin. cyrus.khodadadyan@charite.de

Abstract

INTRODUCTION: Due to a recent increase in the commercial availability of expandable cages for vertebral body replacement, this study was designed to gain more information about their biomechanical properties. All three expandable cages evaluated in this study are approved for clinical use, but little knowledge about their biomechanical properties exists.

MATERIAL AND METHODS: Human thoracolumbar spines (T11 to L3) (n=32) were tested in flexion, extension, axial rotation, and lateral bending with a nondestructive stiffness method. Three-dimensional displacement was measured using an optical measurement system. All motion segments were tested intact. After L1 corpectomy, cages were implanted and the following groups (n=8 each) were tested: (1) meshed titanium cage (nonexpandable cage, DePuy Acromed), (2) X-tenz (expandable cage, DePuy Acromed), (3) Synex (expandable Cage, Synthes), and (4) VBR (expandable cage, Ulrich). Finally, posterior stabilization and posterior-anterior stabilization, both using USS (Synthes), and anterior plating (LCDCP, Synthes) was applied. The mean apparent stiffness values, ranges of motion, and neutral and elastic zones were calculated from the corresponding load/displacement curves.

RESULTS: No significant differences were found between the in vitro biomechanical properties of expandable and nonexpandable cages. Compared to the intact motion segment, isolated anterior stabilization using cages and anterior plating significantly decreased stiffness and increased range of motion in all directions. Additional posterior stabilization significantly increased stiffness and decreased range of motion in all directions compared to the intact motion segment. Combined anterior-posterior stabilization demonstrated the greatest stiffness results.

CONCLUSION: Design variations of expandable cages for vertebral body replacement do not show any significant effect on the

SpringerLink FULL-TEXT ARTICLE

Related citations

- Biomechanical comparison of expandable cages for vertebral [Spine (Phila Pa 1976). 2004]
- Biomechanical comparison of cervical spine interbody fusion ca [Spine (Phila Pa 1976). 2001]
- Biomechanical comparison of expandable cages for vertebral body repl [J Neurosurg. 2003]
- Review [Multi-segment ventral stabilization of the lumbar spine [Z Orthop Ihre Grenzgeb. 1995]
- Review [Vertebral body replacement in spine surgery] [Unfallchirurg. 2004]

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- Redundant publications in surgery: a threat to patient safety? [Patient Saf Surg. 2008]

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Spine (Phila Pa 1976). 2004 Jul 1;29(13):1413-9.

Biomechanical comparison of expandable cages for vertebral body replacement in the thoracolumbar spine.

Pflugmacher R, Schleicher P, Schaefer J, Scholz M, Ludwig K, Khodadadyan-Klostermann C, Haas NP, Kandziora F.
Unfall- und Wiederherstellungschirurgie, Universitätsklinikum Charité der Humboldt Universität Berlin, Campus Virchow-Klinikum, Berlin, Germany.
robert.pflugmacher@charite.de

Abstract

STUDY DESIGN: An in vitro biomechanical study of expandable cages for vertebral body replacement in the human thoracolumbar spine.

OBJECTIVES: The purpose of this study was to compare the in vitro biomechanical properties of 3 different expandable cages with a nonexpandable cage.

SUMMARY AND BACKGROUND DATA: Recently, there has been a rapid increase in the use and the commercial availability of expandable cages for vertebral body replacement in the thoracolumbar spine. Although all 3 expandable cages, evaluated in this study, are approved for clinical use in Europe, little information is available concerning the biomechanical properties of these implants.

MATERIAL AND METHODS: Thirty-two human thoracolumbar spines (T11 to L3) were tested in flexion, extension, axial rotation, and lateral bending with a nondestructive loading technique using an unconstrained testing apparatus. Three-dimensional displacement was measured using an optical measurement system. First, all motion segments were tested intact. After complete corpectomy of L1, cages were implanted according to producer's information. The following implants (n = 8/group) were tested: 1) meshed titanium cage (nonexpandable cage, DePuy AcroMed); 2) X-tenz (expandable cage, DePuy AcroMed); 3) Synex (expandable Cage; Synthes); and 4) VBR (expandable cage, Ulrich). Finally, posterior stabilization using the Universal Spine System (Synthes), posterior-anterior stabilization using the Universal Spine System (Synthes), and anterior plating (Locking Compression Plate, Synthes) was applied to each test specimen. The mean apparent stiffness values, range of motion, and neutral and elastic zone were calculated from the corresponding load-displacement curves.

RESULTS: No significant differences could be determined between the in vitro biomechanical properties of expandable and

Related citations

[Expandable cages: biomechanical comparison of different cages for ventral spon [Chirurg. 2004]

Two in vivo surgical approaches for lumbar corpectomy using allograft and a [Spine J. 2006]

Biomechanical comparison of cervical spine interbody fusion ca [Spine (Phila Pa 1976). 2001]

Review [Vertebral body replacement in spine surgery] [Unfallchirurg. 2004]

Review [Multi-segment ventral stabilization of the lumbar spine [Z Orthop Ihre Grenzgeb. 1995]

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Cited by 2 PubMed Central articles

Redundant publications in surgery: a threat to patient safety? [Patient Saf Surg. 2008]

En bloc spondylectomy reconstructions in a biomechanical in-vitro study. [Eur Spine J. 2008]

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Related Citations

Compound (MeSH Keyword)

Substance (MeSH Keyword)

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- 9 RCTs, 7 funded by the maker of ondansetron
 - 2 RCTs published at least twice
 - Significant difference between ondansetron and placebo for both early and late efficacy
 - No difference between ondansetron and droperidol for early efficacy
 - No difference between ondansetron and metoclopramide for early and late efficacy

-
- “.....inclusion of these duplicates would have doubled the number of patients and overestimated ondansetron’s efficacy

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- Systematic reviews run the risk of failing to recognize duplicates.....
- *Tramer RM et al. Br Med Jr 1997; 314: 1088.*

Committee on Publication Ethics (COPE)

- Founded in 1997 as a response to growing anxiety about the integrity of authors submitting studies to medical journals.
- Founded by British medical editors--including those of the BMJ, Gut, and Lancet

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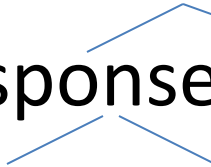

COPE flowchart - 1

- Submitted manuscript
- Informed by reviewer
- Investigate, check degree of overlap
- Major  Minor
- Contact author
- Response No response
- Sat Un-sat
- Reject submission with an explanation
- Informing superior and institution

COPE Flowchart- 2

Published manuscript

Check degree

- Major  Minor
- Contact author
- Response  No response
- Sat  Un-sat
- Consider- publishing statement (informing the reader)
- Informing superior and institution

Text similarity comparison tools

eTBLAST 3.0: a similarity-based search engine

Input your text

--OR--

Search Database

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- CRISP
- NASA
- Medical Cases
- Pubmed Central (sections)
- PMC Full Text
- PMC METHODS

News

eTBLAST-related public

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eTBLAST and D'eja' vu spotlight
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Deja vu

A study of scientific publication ethics

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Deja vu is a database of extremely similar **Medline** citations. Many, but not all, of which contain instances of duplicate publication and potential plagiarism. Deja vu is a dynamic resource for the community, with manual curation ongoing continuously, and we welcome input and

Latest News

2010-01-27 - Deja vu in Clinical Chemistry
An article about Deja vu has been published in Clinical Chemistry in January 2010. [Read it.](#)

2009-11-09 - Deja vu update
Deja vu database has recently been updated. A full text similarity ratio determined from manual examination has been assigned to each verified entry in the database. Users can filter the entries by specifying a range of full text similarity ratio. Classification of entries were also changed. Duplicate

Done

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The flip side - 1

- Publisher error
- Expanded abstracts
- Similar studies for a different analyte (drug, sex, knee, or hip)
- Two part articles (Part 1 and 2)
- Guidelines
- Articles republished in a different language
- Apparent duplicates due to a Medline error
- *Rifai N et al. Clin Chem 2008; 54: 5-6.*

The flip side - 2

- "I can't plagiarize myself -- those are my own words (Robert Barbato- Rochester Institute of Technology)
- Really, how many different ways can you say the same thing. Some text use is just unavoidable (Catriona Fennell – Elsevier)
- Multiple areas of duplicated verbatim or nearly verbatim text throughout often a judgment call (Editor Anesthesia & Analgesia, 2010)

When is it acceptable?

- The previous publication is in abstract form only
- The study is too large, too complex or addresses multiple research questions
- Publication in another language (ICMJE guidelines)
- Same dataset analyzed by different authors

The way forward

- Personal responsibility (difficult)
- Joint responsibility
- Change in the academic reward system (quality versus quantity)
- Registration of trials

-
- The Committee for the Reduction of Redundancy and the Antiproliferation of Repetition has decided not to meet until they have their first meeting and thus will not be meeting until the first time.

Their Pre-meeting Statement wanted to make this clear before they had their first meeting, so their first meeting will actually be their first meeting and they will not have a meeting before the first meeting.

This should avoid having people show up for their first meeting before it is held, since to do so would be confusing to those who did so and this is what they want to avoid by reducing the confusion and lessening the repetition.

Acknowledgements

- Peush Sahni
- Rakesh Aggarwal
- Neha Madhiwala
- Sandhya Srinivasan

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Extra slides

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- Redundant: Using text or data from an already published paper (auto or self plagiarism)
- Duplicate: Submission of or publication of the same paper or substantial parts of a paper in more than one place.