

The Retraction of Published Research

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Agenda

Overview of Retracted Articles

Consequences of Flawed Studies and Misleading
Information

Strategies for Increasing Student Awareness

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Cases of Scientific Retraction

Research findings disseminated in the scientific literature help people make informed decisions.

Yet, the number of **retracted** publications continues to rise (Vuong, 2020).

This underscores the need for more transparency in research and publication practices.

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What is a Retraction?

- Even when a journal has a peer review process in place, issues may be identified **post-publication**.
- These concerns can lead to an article being investigated and retracted.
- Purpose of a **retraction** is to correct the literature and to ensure scientific integrity (COPE, 2019).

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Scholarly Publishing Ethics

• International guidelines for journal editors on how to handle **retractions** are provided by various groups, including:

- ❖ Committee on Publication Ethics (COPE, 2019)
- ❖ International Committee of Medical Journal Editors (ICMJE, 2020)



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ETHICAL
MISCONDUCT



SCIENTIFIC
ERRORS



PUBLISHER
ISSUES

Reasons
for
Retracted
Articles

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Wakefield et al. (1998)

- High-profile example: 1998 article published in *Lancet* linked Measles, Mumps, and Rubella (MMR) vaccine to an increased prevalence of autism in children.
- Study led to widespread confusion and **vaccination skepticism** especially among parents and caregivers.
- Study was investigated and retracted by publisher in 2010.
- Flawed studies and **misinformation** can have important public health consequences.

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Retracted article

See the [retraction notice](#)

> *Lancet*. 1998 Feb 28;351(9103):637-41. doi: 10.1016/s0140-6736(97)11096-0.

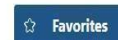
Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield ¹, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dhillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

FULL TEXT LINKS



ACTIONS



SHARE



Retraction Notice

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EARLY REPORT

Early report

Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children

A J Wakefield, S H Murch, A Anthony, J Linnell, D M Casson, M Malik, M Berelowitz, A P Dillon, M A Thomson, P Harvey, A Valentine, S E Davies, J A Walker-Smith

Summary

Background We investigated a consecutive series of children with chronic enterocolitis and regressive developmental disorder.

Methods 12 children (mean age 6 years [range 3-10], 11 boys) were referred to a paediatric gastroenterology unit with a history of normal development followed by loss of acquired skills, including language, together with diarrhoea and abdominal pain. Children underwent gastroenterological, neurological, and developmental assessment and review of developmental records. Ileocolonoscopy and biopsy sampling, magnetic resonance imaging (MRI), electroencephalography (EEG), and lumbar puncture were done under sedation. Barium follow-through radiography was done where possible. Biochemical, haematological, and immunological profiles were examined.

Findings Onset of behavioural symptoms was associated by the parents, with measles, mumps, and rubella vaccination in eight of the 12 children, with measles infection in one child, and otitis media in two. All 12 children had intestinal abnormalities ranging from lymphoid nodular hyperplasia to patchy colitis. Histology showed patchy chronic inflammation in 11 children and reactive ileo-lymphoid hyperplasia in seven, but no granulomas. Behavioural disorders included autism (nine), disintegrative disorder (one), and possible postviral or vaccinal encephalitis (two). There were no focal neurological signs, seizures and EEG foci were normal. Abnormal laboratory results included significantly raised urinary pyruvic acid compared with age-matched controls (10/12), low haemoglobin in four children (4/12), and low albumin in two children (2/12).

Interpretation We identified associated gastrointestinal disease and developmental regression in a group of previously healthy children, which was generally associated in time with possible environmental triggers.

Lancet 1998; 351: 637-41
See Commentary page

Introduction

We saw several children who, after a period of apparent normality, lost acquired skills, including communication. They all had gastrointestinal symptoms, including abdominal pain, diarrhoea, and vomiting and, in some cases, food intolerance. We describe clinical signs and gastrointestinal features of these children.

Patients and methods

12 children, consecutively referred to the department of paediatric gastroenterology on suspicion of a pervasive developmental disorder with loss of acquired skills and intestinal symptoms, were referred to the department. All children were referred to the department by their parents.

Statistical investigations

Each child's history, including details of immunisations and exposure to infectious diseases, and assessed the children. In 11 children, the histories obtained by the senior clinician (JW-S). Neurological and psychiatric assessments were done by consultant paediatric (PH, MB) with HMS-4 criteria. Developmental milestones were reviewed of prospective developmental records from parents, health visitors, and general practitioners. Four children did not undergo psychiatric assessment in hospital; all had been assessed professionally elsewhere, so these assessments were used as the basis for their behavioural diagnosis.

After bowel preparation, ileocolonoscopy was performed by SHM or MAT under sedation with midazolam and pethidine. Paired frozen and formalin-fixed mucosal biopsy samples were taken from the terminal ileum, ascending, transverse, descending, and sigmoid colons, and from the rectum. The procedure was recorded by video or still images, and were compared with images of the previous seven consecutive paediatric colonoscopies (four normal colonoscopies and three in children with ulcerative colitis), in which the physician reported normal appearance in the terminal ileum. Barium follow-through radiography was possible in some cases.

Also, under sedation, cerebral magnetic-resonance imaging (MRI), electroencephalography (EEG) (including visual, brain stem auditory, and awake evoked potentials (where compliance made these possible)), and lumbar puncture were done.

Laboratory investigations

Thyroid function, serum long-chain fatty acids, and cerebrospinal fluid levels were measured in children known causes of childhood neurodegenerative disease. Urinary

Watermark
on full-text
article

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Consequences

- Flawed and fabricated studies can be **misleading**.
- Misinformation can result in confusion, anxiety, and mistrust.
- Lead to avoidance or delay of timely vaccinations.
- Also, an opportunity to learn and improve research studies.

Locating Other Examples

Search
Electronic
Databases

Retraction
Watch

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Student-Centered Strategies

FOR INCREASING RETRACTION AWARENESS

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Recommendations

Educate students about scholarly publishing processes, including retractions:

- **Incorporate retractions** into instruction, suitable for all student audiences, and all disciplines.
- Use examples to highlight plagiarism, research ethics, misconduct, data literacy, errors, scientific integrity, etc.
- Discuss the limits of the peer review process.
- Evaluate research studies through a critical lens (study designs, levels of evidence).

(Thielen, 2018)

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Recommendations

Build student searching skills across platforms:

- Illustrate the variability in how retracted articles and retraction notices are represented in databases.
- Demonstrate the lack of full adherence to guidelines.
- Discuss challenges in discovering the retracted status of an article.
- Examine **accessibility** and **visibility** of retracted publications.



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Summary

- Retracted articles highlight issues of ethical misconduct and scientific errors.

- Publishing guidance available for reporting retractions.

- Flawed studies, unreliable conclusions, and misinformation have consequences.

- Importance of educating students about **retracted articles**.

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Resources

- **Examples of publishing guidelines:**
 - Committee on Publication Ethics (COPE) publicationethics.org/node/19896
 - International Committee of Medical Journal Editors (ICMJE) www.icmje.org/journals-following-the-icmje-recommendations
- Consult your librarian liaison colleagues
- Check LibGuides for database search strategies, publication filters, etc.
- Retraction Watch (retractionwatch.com)

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Thank you!

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