

Andrew Wakefield

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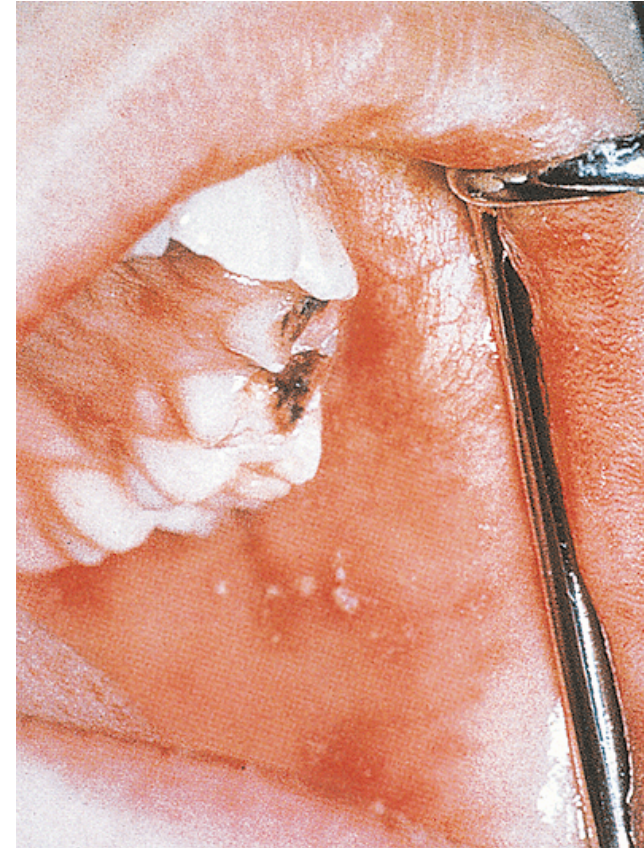
Measles

- Highly contagious
- Caused by the measles virus
- Initial signs and symptoms
 - Fever (often greater than 40°C)
 - Cough/Bronchitis
 - Rhinitis
 - Conjunctivitis
- Koplik's spots
- Red, flat rash
- Complications (in ~30%)
 - Diarrhea
 - Blindness
 - Pneumonia
 - Otitis media
 - Encephalitis
- Infectious 4 days before to 4 days after start of rash
- No specific treatment

Measles



<http://www.enzyklopaedie-dermatologie.de/bilder?id=4566>



<http://www.gesundheit.de/lexika/medizin-lexikon/koplik-flecken>

Mumps

- = epidemic parotitis
- Highly contagious
- Caused by the mumps virus
- Initial signs and symptoms:
 - Fever
 - Muscle pain
 - Headache
 - Tiredness
- Painful swelling of one or both parotid glands
- Complications:
 - Meningitis
 - Pancreatitis
 - Permanent deafness
 - Painful testicular swelling
- No specific treatment

Mumps



<http://www.stepwards.com/misc/mumps/>

Rubella

- Caused by the rubella virus
- Often mild
- Maybe rash 2 weeks after exposure
- Symptoms:
 - Swollen lymph nodes
 - Fever
 - Sore throat
 - fatigue
- Complications:
 - Bleeding problems
 - Testicular swelling
 - Inflammation of nerves
 - Infection during early pregnancy: congenital rubella syndrome or miscarriage

Measles, mumps and rubella vaccine

- Mixture of live attenuated viruses of the 3 diseases
- Combination since 1963
- Adverse reactions:
 - 10%: fever, malaise, rash (5-21 days after the first vaccination), joint pain
 - Anaphylaxis: extremely rare

Alter→ ↓Impfung	1. Lebensjahr						2. Lebensjahr						3. Jahr	4. Jahr	5. Jahr	6. Jahr
	7. Wo	3. Mo	5. Mo	6. Mo	7. Mo	11. Mo	12. Mo	13. Mo	14. Mo	15. Mo	16. Mo	20.-24. Mo				
Mumps Masern Röteln (MMR)							MMR 2 Impfungen, Abstand mind. 4 Wochen						MMR nachholen			

Autism

- Neurodevelopmental disorder
- Heritable
- Boys: girls = 4-5:1
- 1-2/1000 worldwide

- Impaired social interaction, verbal and non-verbal communication
- Restricted interests and repetitive behavior

- Diagnostic criteria:
 - Manifestation of symptoms in early childhood (<3 years)

Crohn's disease

- Type of inflammatory bowel disease
- May affect any part of the GI-tract
- 3,2/1000 in Europe and USA
- Symptoms:
 - Abdominal pain
 - Diarrhea
 - Fever
 - Weight loss



<http://www.naspghan.org/content/99/en/stomach>

Andrew Jeremy Wakefield (*1956)

- British former surgeon and medical researcher
- Married, 4 children



<http://vaxinfostarthere.com/andrew-wakefield-timeline/>

Timeline

- studied medicine at St Mary's Hospital Medical School
- 1985:
 - became fellow of the Royal College of Surgeons
- 1986-1989:
 - University of Toronto
- 1990-2001:
 - Royal Free Hospital, London

Timeline

- 1993:
 - Published report: measles virus might cause Crohn's disease
- 1995:
 - Approach by Rosemary Kessick
- 1996:
 - Research on possible connections between MMR vaccine and autism

- During MMR research study
 - Senior lecturer and honorary consultant in experimental gastroenterology at the Royal Free Hospital School of Medicine

• February 28th, 1998

- Fraudulent research paper in „The Lancet“
- Link between MMR-vaccine administration and appearance of autism and Crohn's disease

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 Banerlowitz, A P Dhillo, M A Thomson, P Harvey, A Valente, 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 one. All 12 children had intestinal abnormalities ranging from lymphoid nodular hyperplasia to granulomatous colitis. Histology showed patchy chronic inflammation in seven, but no granulomas. Behavioural disorders included autism (nine), disintegrative psychosis (one), and possible postviral or vaccinal encephalitis (two). There were no focal neurological abnormalities and MRI and EEG tests were normal. Abnormal laboratory results included raised urinary thymidine acid compared with age-matched controls (10/130), low haemoglobin in four children, and low serum IgA in 11 children.

Interpretation We identify associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time to possible environmental triggers.

Lancet 1998; **351**: 637-41
See Commentary page

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EARLY REPORT

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 the clinical findings, and gastrointestinal features, of these children.

Patients and methods

12 children, consecutively referred to the department of paediatric gastroenterology, as a result of a pervasive developmental disorder with loss of acquired skills and intestinal symptoms (abdominal pain, bloating and food intolerance), were investigated. All children were admitted to the ward for study, accompanied by their parents.

Clinical investigations

We took histories including details of immunisations and exposure to infectious diseases, and assessed the children. In 11 cases the history was obtained by the senior clinician (JW-S). Neurological and psychiatric assessments were done by a paediatrician (PH, MB) with HMS-4 criteria.¹ Developmental records included a review 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. Faecal flora 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 was compared with images of the previous seven consecutive paediatric colonoscopies (four normal colonoscopies and three on children with ulcerative colitis), in which the physician reported normal appearances in the terminal ileum. Barium follow-through radiography was possible in some cases.

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

Laboratory investigations

Thyroid function, serum long-chain fatty acids, and cerebrospinal-fluid lactate were measured to exclude known causes of childhood neurodegenerative disease. Urinary methylmalonic acid was measured in random urine samples from eight of the 12 children and 14 age-matched and sex-matched normal controls, by a modification of a technique described previously.² Chromatograms were scanned digitally on computer, to analyse the methylmalonic-acid areas from cases and controls. Urinary methylmalonic-acid concentrations in patients and controls were compared by a two-sample *t* test. Urinary creatinine was estimated by routine spectrophotometric assay.

Children were screened for antiretroviral antibodies and boys were screened for fragile-X if this had not been done

The fraudulent „The Lancet“-Paper

- Wakefield & 12 other authors
- About 12 children with autism
- New syndrome: „autistic enterocolitis“

“We identified associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers”

The press conference

- Before publication
- Called for suspension of the MMR vaccine until more research could be done

"If you give three viruses together, three live viruses, then you potentially increase the risk of an adverse event occurring, particularly when one of those viruses influences the immune system in the way that measles does."

Consequences

- Decline in vaccination rates in the United States, United Kingdom and Ireland
 - UK: 92% → 73%
 - 1998: 56 measles cases
 - 2008: 1348 cases, 2 confirmed deaths
 - US: 125 000 children born in the late 1990s did not get the MMR vaccine
- Climate of distrust of all vaccines
 - Reemergence of other previously controlled diseases

Brian Deer

- Sunday Times reporter
- Investigation in 2004 and 2006
 - Undisclosed financial conflicts of interest
 - 2004: Public statement by The Lancet



Deer's findings

- Children with autism were subjected to unnecessary invasive medical procedures
- Acted without required ethical approval
- Nicholas Chadwick had failed to find measles virus in the children reported on in *The Lancet*
- Wakefield planned a rival vaccine and products (such as a diagnostic kit based on his theory)
- Wakefield ignored laboratory data that conflicted with his hypothesis

- Interpretation:
 - We identified associated gastrointestinal disease and developmental regression in a group of previously normal children, which was generally associated in time with possible environmental triggers.
- Retraction statement:
 - We wish to make it clear that in this paper no causal link was established between (the) vaccine and autism, as the data were insufficient. However the possibility of such a link was raised, and consequent events have had major implications for public health. In view of this, we consider now is the appropriate time that we should together formally retract the interpretation placed upon these findings in the paper, according to precedent.

Survey

- June 2005
 - BBC programme Horizon
 - 100 children with and 200 without autism
 - 99% of the blood samples contained no trace of the measles virus
 - the samples that did contain the virus were just as likely to be from non-autistic children
- Investigations and reviews

British General Medical Council (GMC)

- 2007-2010:
 - Conducted inquiry against Wakefield and two former colleagues
- January 28th, 2010
 - Five-member statutory tribunal of the GMC
 - found three dozen charges proved, including four counts of dishonesty and 12 counts involving the abuse of developmentally challenged children

- February 2nd, 2010
 - The Lancet fully retracted the publication from 1998 on basis of GMC's findings
- *The Lancet's* editor-in-chief Richard Horton: the paper was "utterly false" and the journal had been "deceived"

Timeline

- 2001: moved to the US
 - Joined Jeff Bradstreet at the International Child Development Ressource Center
- 2004: Wakefield helped to establish and served as the executive director of „Thoughtful House Center for Children“
 - Studies autism in Austin, Texas
 - Resigned in February 2010
- 2010: Barred from practising as a physician in the UK
 - Not licensed in the US
- Set up non-profit Strategic Autism Initiative
- Director of companies „Medical Interventions for Autism“ and „Autism Media Channel“

Autobiography (2010)



- January 2011
 - editorial accompanying an article by Brian Deer in *BMJ* identified Wakefield's work as an "elaborate fraud"
- November 2011
 - Report in *BMJ* by Brian Deer revealed original raw data

„How the case against the MMR vaccine was fixed“

(2011, BMJ)

- 1) 3/9 reported with regressive autism did not have autism diagnosed at all. Only one child clearly had regressive autism
- 2) 5 with documented pre-existing developmental concerns
- 3) records documented behavioural symptoms as starting some months after vaccination
- 4) 9 cases with unremarkable colonic histopathology results
- 5) Patients were recruited through anti-MMR campaigners

- Wakefield has continued to defend his research and conclusions
- February 2015
 - Wakefield publicly repeated his denials and refused to back down from his assertions

Vaxxed

- Documentary film directed by Wakefield (2016)
- Withdrawal from New York's 2016 Tribeca Film Festival