Chronische / rezidivierende Bauchschmerzen bei Kindern

Markus Prenninger
Kinderabteilung

MedKongress
2017

Historie und Epidemiologie

RECURRENT ABDOMINAL PAINS: A FIELD SURVEY OF 1,000 SCHOOL CHILDREN

BY

JOHN APLEY and NORA NAISH

From the United Bristol Hospitals

(RECEIVED FOR PUBLICATION AUGUST 16, 1957)

What sort of children are they who complain of recurrent abdominal pains, and how do they compare with children who do not suffer from such pains? Because patients referred to hospital are inevitably pre-selected, we have tried to answer these questions by a survey of 1,000 unselected children at primary and secondary modern schools.

One of us throughout the survey, and sometimes both, attended routine school medical examinations at Bristol from January, 1955, to June, 1956. A few children not accompanied by a parent were excluded; the remainder were asked if they suffered from bouts of abdominal pain.

Nature of Investigation

Children with Pains. In our series we included every child who had had at least three bouts of pain, severe enough to affect his activities, over a period of not less than three months, with attacks continuing in the year preceding the examination. In taking the history, which was obtained from the mother as well as the child, we went into considerable detail regarding home life and the family as well as the child's personal history. The school headmasters and headmistresses helped greatly by providing reports on behaviour, intelligence and attainments.

to be next on the list after one with pains was chosen for the control series. The numbers were, however, considerably increased by adding further children as often as time permitted, and by including a small number of those below school age who by chance had come with their mothers.

Incidence

When 1,000 children with their mothers had been questioned the investigation was stopped. The numbers obtained are summarized in Table 1.

TABLE 1
CASE MATERIAL

	Total	Boys	Girls
Preliminary Questioning	1,000	528	472
Detailed Questioning and Examination:			
Recurrent abdominal pains*	108	50	58
Controls	312	155	157

* Thirteen children whose pains had ceased more than a year previously have been excluded here and from the calculations of incidence.

Of the total, 10·8% had recurrent abdominal pains fulfilling our criteria. Girls were affected more often than boys (12·3% to 9·5%).

Arch Dis Child. 1958 Apr; 33(168): 165–170.

Epidemiology of FAP

Apley's original survey **10,8%**; subsequent studies 0.3-25%

Apley reported f:m 1.3:1; no difference <8yr, sharp inc in girls after 8yr

FAP accounts for **2-4%** of ped clinic visits and almost **25%** of tertiary gastroenterology clinics

Manu R. Sood: FAP.
In: Faure, DiLorenzo, Thapar: Pediatric Neurogastroenterol. 2013.

ROME IV

Pediatric Functional Gastrointestinal Disorders

Disorders of Gut-Brain Interaction

FIRST EDITION

Guest Editors
Carlo Di Lorenzo, MD, and Samuel Nurko,
and the Rome IV Pediatric Committee

A Rome IV Book
Douglas A. Drossman, MD, Senior Editor
Lin Chang, MD — John Kellow, MD
William D. Chey, MD — Jan Tack, MD, PhD
William E. Whitehead, PhD

Table 1. Functional Gastrointestinal Disorders

A. Esophageal Disorders
- A1. Functional chest pain
- A2. Functional heartburn
- A3. Reflux hypersensitivity
- A4. Globus
- A5. Functional dysphagia

B. Gastroduodenal Disorders
- B1. Functional dyspepsia
  - B1a. Postprandial distress syndrome (PDS)
  - B1b. Epigastric pain syndrome (EPS)
- B2. Belching disorders
  - B2a. Excessive supragastric belching
  - B2b. Excessive gastric belching
- B3. Nausea and vomiting disorders
  - B3a. Chronic nausea vomiting syndrome (CNVS)
  - B3b. Cyclic vomiting syndrome (CVS)
  - B3c. Cannabinoid hyperemesis syndrome (C
- B4. Rumination syndrome

C. Bowel Disorders
- C1. Irritable bowel syndrome (IBS)
  - IBS with predominant constipation (IBS-C)
  - IBS with predominant diarrhea (IBS-D)
  - IBS with mixed bowel habits (IBS-M)
  - IBS unclassified (IBS-U)
- C2. Functional constipation
- C3. Functional diarrhea
- C4. Functional abdominal bloating/distension
- C5. Unspecified functional bowel disorder
- C6. Opioid-induced constipation

D. Centrally Mediated Disorders of Gastrointestinal Pain
- D1. Centrally mediated abdominal pain syndrome (CAPS)
- D2. Narcotic bowel syndrome (NBS) / Opioid-induced GI hyperalgesia

E. Gallbladder and Sphincter of Oddi (SO) Disorders
- E1. Biliary pain
  - E1a. Functional gallbladder disorder
  - E1b. Functional biliary SO disorder
- E2. Functional pancreatic SO disorder

F. Anorectal Disorders
- F1. Fecal incontinence
- F2. Functional anorectal pain
  - F2a. Levator ani syndrome
  - F2b. Unspecified functional anorectal pain
  - F2c. Proctalgia fugax
- F3. Functional defecation disorders
  - F3a. Inadequate defecatory propulsion
  - F3b. Dyssynergic defecation

G. Childhood Functional GI Disorders: Neonate/Toddler
- G1. Infant regurgitation
- G2. Rumination syndrome
- G3. Cyclic vomiting syndrome (CVS)
- G4. Infant colic
- G5. Functional diarrhea
- G6. Infant dyschezia
- G7. Functional constipation

H. Childhood Functional GI Disorders: Child/Adolescent

OTHER ROME FOUNDATION EDUCATIONAL PRODUCTS

- Rome IV Functional Gastrointestinal Disorders: Disorders of Gut-Brain Interaction, 4TH EDITION*
- Rome IV Multidimensional Clinical Profile (MDCP) for Functional Gastrointestinal Disorders, 2ND EDITION*
- Rome IV Diagnostic Algorithms for Common GI Symptoms, 2ND EDITION*
- Rome IV Diagnostic Questionnaires and Tables for Investigators and Clinicians*
- Rome IV Functional Gastrointestinal Disorders for Primary Care and Non-GI Clinicians*
- The Rome IV Computer-Based Learning Program
- Rome III: The Functional Gastrointestinal Disorders, 3RD EDITION
- Rome III: Multi-Dimensional Clinical Profile, 1ST EDITION
- Rome III: Diagnostic Algorithms, 1ST EDITION
- Understanding the Irritable Gut: The Functional Gastrointestinal Disorders
- Rome II: The Functional Gastrointestinal Disorders
- The Functional Gastrointestinal Disorders: Diagnosis, Pathophysiology, and Treatment—A Multinational Consensus (Rome I)

* Available in print and online

ROME FOUNDATION

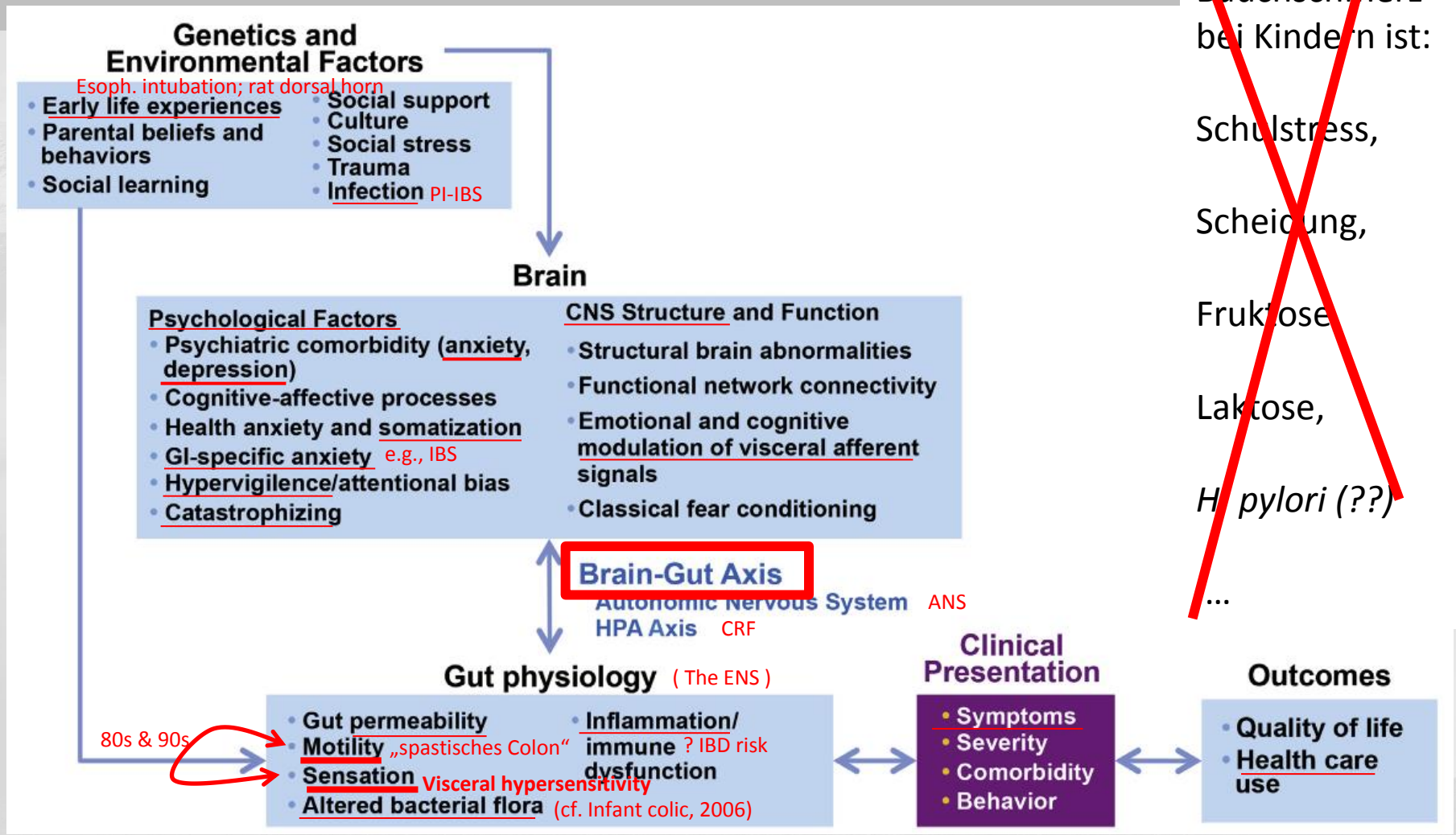
H. Childhood Functional GI Disorders: Child/Adolescent

- H1. Functional nausea and vomiting disorders
  - H1a. Cyclic vomiting syndrome (CVS)
  - H1b. Functional nausea and functional vomiting
    - H1b1. Functional nausea
    - H1b2. Functional vomiting
  - H1c. Rumination syndrome
  - H1d. Aerophagia
- H2. Functional abdominal pain disorders
  - H2a. Functional dyspepsia
    - H2a1. Postprandial distress syndrome
    - H2a2. Epigastric pain syndrome
  - H2b. Irritable bowel syndrome (IBS)
  - H2c. Abdominal migraine
  - H2d. Functional abdominal pain—NOS
- H3. Functional defecation disorders
  - H3a. Functional constipation
  - H3b. Nonretentive fecal incontinence

Aetiologie und Pathophysiologie

Pathophysiologie

Biopsychosoziales Modell, Rome IV, **2016**



„Die“ Ursache des chron. Bauchschmerz bei Kindern ist:

Schulstress,

Scheidung,

Fruktose

Laktose,

H. pylori (??)

...

Figure 1. Biopsychosocial Model of IBS. Genetic and environmental factors, such as early life experiences, trauma, and social learning, influence both the brain and the gut, which in turn interact bidirectionally via the autonomic nervous system and the HPA axis. The integrated effects of altered physiology and the person's psychosocial status will determine the illness experience and ultimately the clinical outcome. Furthermore, the outcomes will in turn affect the severity of the disorder. The implication is that psychosocial factors are essential to the understanding of IBS pathophysiology and the formulation of an effective treatment plan. Figure adapted from Drossman et al,[109] with permission.

Doug. Drossman, Rome IV, May 2016.

A dysregulation of this brain-gut communication plays an important role in the pathogenesis of functional abdominal pain. Most of theresearch on childhood visceral pain in the 1980s and early 1990s focused on the role of motility disorders and psychiatric abnormalities. NASPGHAN Report **2005**

Einteilung des funktionellen Bauchschmerz

und spezifische pathogenetische Faktoren, Rome IV, 2016

FD (PDS + EPS)

(Postprandial Distress Syndrome
Epigastric Pain Syndrome)
„nervöser Magen“
„Reizmagen“

Genetics

Early Life Events

Motility

Visceral Hypersensitivity

Inflammation, Gut Barrier, and Microbiome
Duodenal Eos and MC‘s

Psychology

IBS (-C, -D, -M, -U)

„Colon spasticum“
„Reizdarm“

Genetics
low producer IL-10 alleles.

Early Life Events

Motility

Visceral Hypersensitivity
8-60% (rectal barostat)

Inflammation, Gut Barrier, and Microbiome
PI-IBS: strongest known risk factor;
esp. prolonged, wt. loss, rectal bleeding

Psychology

FAP-NOS

Einfacher/**“normaler“ funkt. Bauchsschmerz**

Genetics

Early Life Events

Motility

Visceral Hypersensitivity

Inflammation, Gut Barrier, and Microbiome

Psychology
Anxiety, depression,
Somatization, Abuse Hx.
Catastrophizing coping style: cont‘d FAP at 9yr
Appraisal of pain:
attention vs distraction
(Lynn Walker 2006)

Abdominal migraine

Adult:
CAPS
(Centrally Mediated ..)

Adult:
FGBD & SOD

* HpD (Adult): HP-associated dyspepsia, Kyoto Consensus 2014; Eradication → Response at 6-12mo → HpD vs. FD. (Rome IV Book, p928)

See Rome IV vs. III !

Abdominelle Migräne: ein Fallbericht

R., 15 J:

- **Gastro** am 17.8.17: fleckiges SH-Erythem im Antrum – Relevanz?

- **Nochmaliege Anamnese:** immer wieder ca 3Uhr nachts Erwachen mit starken medianen Bauchschmerzen, immer der gleiche Ablauf! («stereotyp»); früher fast immer paar mal Erbrechen dabei, zuletzt meist nur mehr Übelkeit; immer auch mäßiger Kopfschmerz; und lt Vater: «weiss wie die Wand», geht ihr dabei dann rapide extrem schlecht; Dauer ca 2-3h (Pat vermutet nur knapp 1h aber 2-3h lt. Eltern); Intervall variabel aber ca 1x im Monat; davor jeweils gesund.
- Mutter/Familie: keine GI Erkrankungen wie CED, keine Migräne, gesund

? ?

- **Klinische Dg:** abdominelle Migräne

- **DD.:** Darm-, Gallen-, Nieren-koliken; Porphyrie; rez. Pancreatitis; … (Rome IV Bk, p1336)
  Overlap: CVS, abdominal migraine, migraine headaches [median 5,9,11 yr; Faure p391]

- **Histo:** Magen-SH: entzündlicher Minimalbefund, Duodenum: uncharakterist. Befund

- Dg: **abdominelle Migräne.**

- **Th:** anti-migränöse Medikamente; ev. Prophylaxe mit Amitrityline, Cyproheptadine [<5yr; 0,25mg/kg/d, qsh rather then bid-tid], Propranolol; ev. Sumatriptan

See Rome IV vs. III !

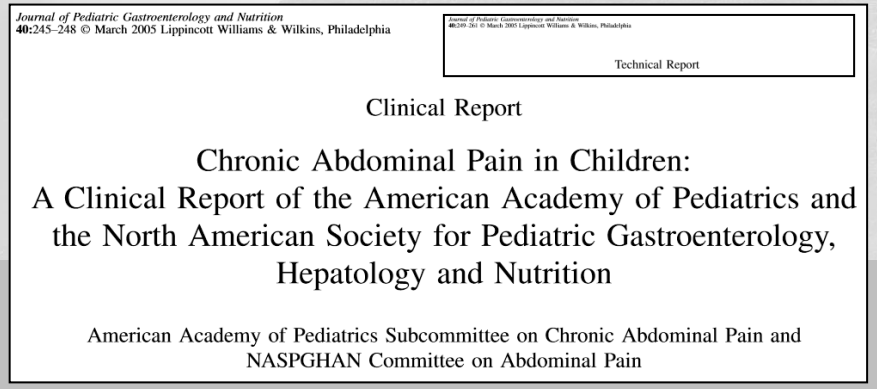
Diagnostik

„Bauchschmerzabklärung“ in der Praxis

S. P.

Grundprinzipien der Bauchschmerzabklärung

- Chronic abdominal pain (**CAP**) .. long-lasting [>1-2mo; Apley >3mo] intermittent [cf. RAP, Apley] or constant abdominal pain that is *functional* or *organic*
- Functional abdominal pain (**FAP**) .. is the **most common** cause of CAP
- FAP can generally be diagnosed by the primary care physician in children **4-18yr** when there are no alarm Sx [??], the physical exam and stool occult blood [??] is negative .. without additional diagnostic evaluation
- The presence of alarm Sx generally is an indication to pursue diagnostic testing
- Testing may also be performed to reassure the patient, parent, or physician



Journal of Pediatric Gastroenterology and Nutrition
40:245–248 © March 2005 Lippincott Williams & Wilkins, Philadelphia

Technical Report

Clinical Report

Chronic Abdominal Pain in Children:
A Clinical Report of the American Academy of Pediatrics and the North American Society for Pediatric Gastroenterology, Hepatology and Nutrition

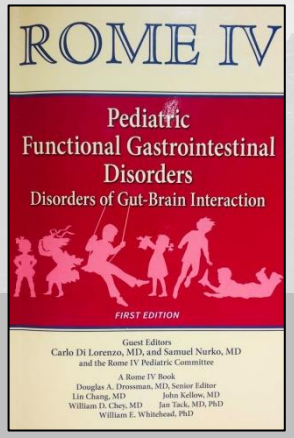
American Academy of Pediatrics Subcommittee on Chronic Abdominal Pain and NASPGHAN Committee on Abdominal Pain

NASPGHAN Reoprt, Di Lorenzo et al., 2005

Alarmsymptome

Table 5. Potential Alarm Features in Children with Chronic Abdominal Pain*

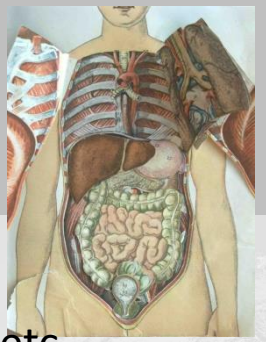
Family history of inflammatory bowel disease, celiac disease, or peptic ulcer disease	Gastrointestinal blood loss
Persistent right upper or right lower quadrant pain	Nocturnal diarrhea
Dysphagia	Arthritis
Odynophagia	Perirectal disease
Persistent vomiting	Involuntary weight loss
	Deceleration of linear growth
	Delayed puberty
	Unexplained fever



* Critical, prospective assessment of alarm features which may prompt further evaluation in children who may have FAP-NOS or IBS is lacking (see text). Current evidence suggests that an alarm sign will not differentiate organic from functional disease in children with a reassuring degree of sensitivity or specificity. Some evidence suggests that the greater the number of alarm symptoms present, the greater the likelihood of organic disease. Clinical judgment should be exercised, putting what might be considered an alarm sign into the whole context of the history and physical examination.

Rome IV Book, 2016

Vorschlag: Checkliste Bauchschmerzabklärung I



Anamnese, insbesondere:

- Schmerz: Periumbilikal; prandial/postprandial (typisch); mind. 1x/Woche; etc.
- Beginn/Auslöser/Ernährung/Periodik/Verlauf
- Begleitsymptome GI (Übelkeit, …) und sonstige (Kopfschmerz, …)
- Umgang mit dem Schmerz (Hinlegen, …), Einschränkungen, Schulfehltage /Monat
- Eklärungsmodell bzw. Sorgen des Patienten/der Familie
- Vorerkrankungen GI und sonstige; Familienanamnese

- Sonstige Alarmsymptome?

- Screeningfragen: **Chronische Obstipation?**
  Phys. od. sexueller Missbrauch?
  Schlafhygiene?

Status:

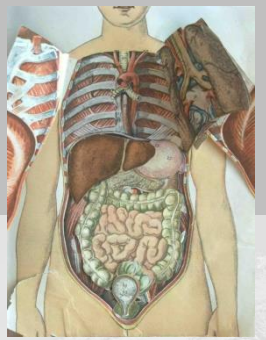
- Somatogramm
- Ev. Perianalinspektion (NASPGHAN 2005), frgl. DRU (Rome IV)

See also **Doug Drossman: An Approach to the Care of Patients with Functional GI Disorders.** Rome IV Bk 2016, p822. *12 Steps to Enhance Therapeutic Relationship; Severity as Guide to Treatment; Antidepressant Treatment, for impaired functioning.*

Carlo DiLorenzo; Des Yacob; Marc Benninga; Jennifer Schurman; Nikil Thapar. WCPGHN, Montreal **2016**

Manu R. Sood: FAP. In: Faure, DiLorenzo, Thapar: Pediatric Neurogastroenterol. 2013.

Vorschlag: Checkliste Bauchschmerzabklärung II



Psychologie Konsil, z.B.:

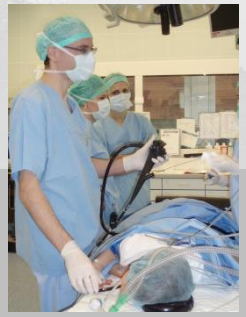
- Aktuelle Belastungen (Schule etc.), frühere life events
- Screening auf: **Angst, Depression** (prognost. langwierig), **Mißbrauch** (z.B. wh. auf Schultoilette geschlagen) und **Schlafgewohnheiten** (Handy …)?

Apparative Diagnostik (meist spätestens in Spezialambulanz):

- Großes BB; ev. CRP, BSG; frgl. TSH (bei IBS-D, ev. -C lt. AWMF Internisten)
- Zöliakie Ak
- Stuhl HCC
- **Calprotectin**; frgl. HP PCR Stuhl
- Blutchemie (inkl. Pankreas), Harnstreifen, StuKu, Parapak
- H2-Atemtests (häufig gewünscht)
- Sono Abdomen, Darmwand (v.a. im deutschsprachigen Raum)

- **Endoskopie** (ev. auch ohne Alarmsymptome künftig häufiger?)

Kein Konsens!



Carlo DiLorenzo; Des Yacob; Marc Benninga; Jennifer Schurman; Nikil Thapar. WCPGHN, Montreal **2016**

Manu R. Sood: FAP. In: Faure, DiLorenzo, Thapar: Pediatric Neurogastroenterol. 2013.

Take your time,

take a deep breath,

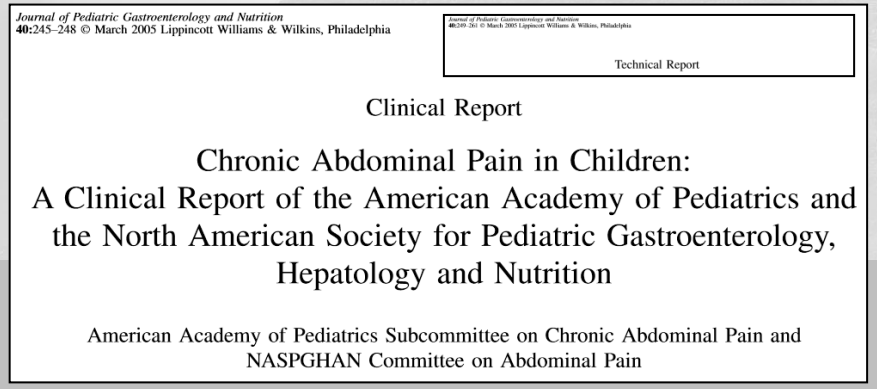
and listen to the whole story

Therapie

S. P.

Funktioneller Bauchschmerz
Grundprinzipien der Behandlung

- FAP is best treated in a biopsychosocial context; addressing psychological factors
- Explain that the pain is real; eg, linked to headache; most likely no severe organic disease
- Set reasonable treatment goals – return to normal function, return to school rather than complete disappearance of pain
- It is reasonable to consider time-limited medications – acid reduction, antispasmodics, psychotropics, laxatives, anti-diarrheals



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NASPGHAN Reoprt, Di Lorenzo et al., 2005

Funktioneller Bauchschmerz
3 prinzipielle therapeutische Modalitäten

I. Verhaltensmaßnahmen /Psychologie

z.B. den Schmerz kenne ich, das ist mein empfindlicher Bauch

z.B. mal nur 10min hinlegen statt 1h, in der Schule bleiben, dennoch Spielen gehen

Psychologie (1st line)

Gut-directed hypnotherapy

Schulrehabilitation
(in sehr schweren Fällen)

II. Ernährungsmaßnahmen

Laktose/Fruktose Reduktionsversuch
(1-2Wo)

Gluten Reduktion
(Cave: Zöliakie-Dg; Risiken)

Low FODMAP Diät

III. Medikamente

IMODIUM (situativer Durchfall)
IBEROGAST
COLPERMIN, CALMODULIN
CIRCADIN (sleep-wake cycle .. descending pain modulation)
PPI-Test (1-2Wo)
BUSCOPAN (empowering pts)
SINGULAIR
COLIDIMIN (V.a. SIBO), Metronidazol, Probiotika
QUANTALAN (V.a. BAM)
PERITOL (Gewicht überwachen)
SAROTEN (Neuromodulatoren)
Citalopram
NEURONTIN

Sam. Nurko, NASPGHAN, Atlanta, 2014

Carlo DiLorenzo; Des Yacob; Marc Benninga; Jennifer Schurman; Nikil Thapar. WCPGHN, Montreal **2016**

WIRTSCHAFT GLUTEN- UND LAKTOSEFREI

Das große Geschäft mit den unnötigen Lebensmitteln

Von Anette Dowideit | Stand: 23.10.2015 | Lesedauer: 7 Minuten

Starke Zunahme

Entwicklung der „Laktose freien“ Milchprodukte

	2007	2008	2009	2010	2011
Menge in Tonnen	26.325	32.837	44.229	60.618	78.946
Ausgaben in Tsd. Euro	39.418	51.263	65.678	82.605	100.541

Schauspielerin Jessica Alba tut es, ebenso Fußballer-Frau Victoria Beckham, Teenie-Sängerin Miley Cyrus und Supermodel Miranda Kerr – zumindest, wenn man der einschlägigen amerikanischen Klatschpresse glaubt. All die schlanken Schönheiten schwören demnach auf eine besondere Diät: Sie essen überwiegend glutenfrei.

Laut der US-Marktforschungsfirma Hartman Group tun ihnen dies in den Vereinigten Staaten insgesamt rund 60 Millionen Menschen gleich. Die meisten davon, obwohl sie es aus gesundheitlichen Gründen nicht müssten.

Glutenfrei, so scheint es, ist das neue fettfrei

Zusammenfassung: chronischer Bauschschmerz

- **Chronischer Bauchschmerz** (z.B. **2Mo**) tritt bei z.B. **10,8%** der Schulkinder auf
- Die häufigste Ursache ist ein **funktioneller Bauchschmerz** (inkl. Untergruppen)
- Viele Faktoren beeinflussen die **Schmerzverarbeitung** und **visc. Hypersensitivität**
- **Alarmsymptome** erfordern eine weitere, meist apparative organische Abklg.
  (z.B. Erbrechen, Blut im Stuhl, nächtliches Erwachen, Gewichtsverlust → **ins KH**)

- Art und Umfang der Diagnostik ist individuell zu entscheiden
- Ev. hilfreich sind Routineblutbefunde, Harn, StuKu, **HCC, Calprotectin,** Sono

- Das Konzept des „empfindlichen Bauchs“ gleich beim Erstkontakt erklären
- Primäres Ziel ist **Umgang mit** diesem empfindlichen Bauch (:: Heilung von)
- Die 3 prinzipiellen Therapie-Modalitäten sind: Verhaltensmaßnahmen/Psychologie, Ernährungsmaßnahmen und (durchaus auch unterstützend) Medikamente

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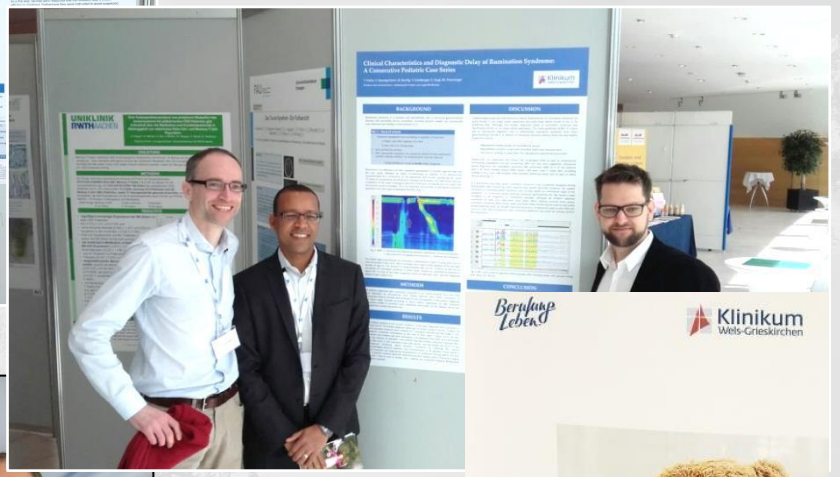

KLINIKUM WELS-GRIESKIRCHEN
Eine Einrichtung der Kreuzschwestern und Franziskanerinnen

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