I think it's the milk doctor…Reflux, colic, constipation and diarrhea in infants

Dr Warren Hyer

Consultant Paediatrician

Consultant Paediatric Gastroenterologist

- Which of the following statement is correct about the future of the NHS

  - It is safest in the hands of Labour
  - It is safest in the hands of the conservatives
  - It is safest in the hands of the LibDems
  - It is safest in the hands of the Wombles of Wimbledon.

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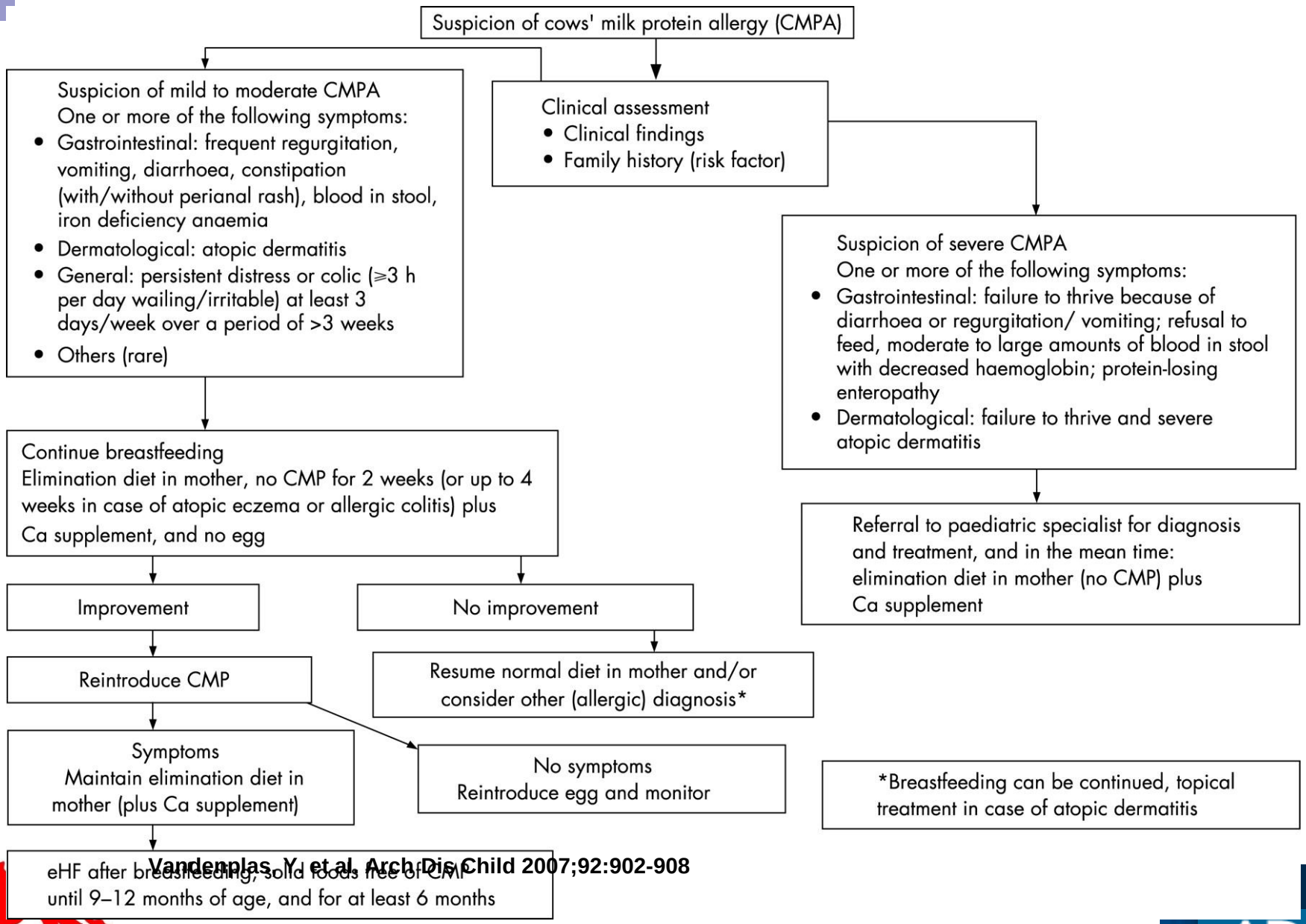
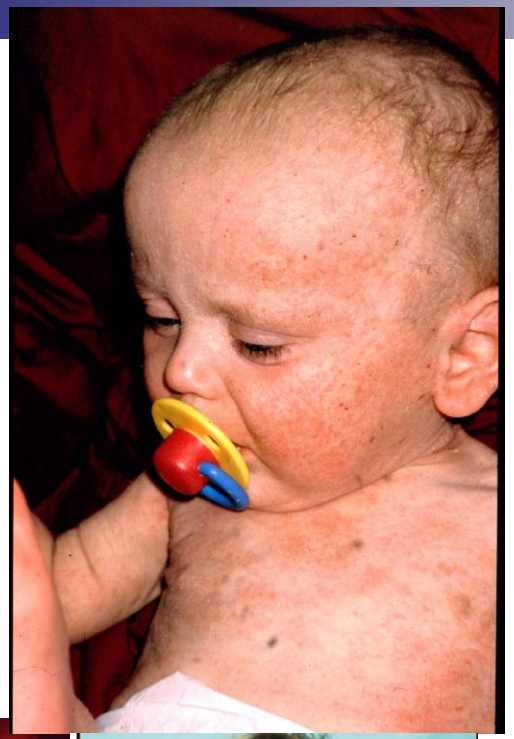
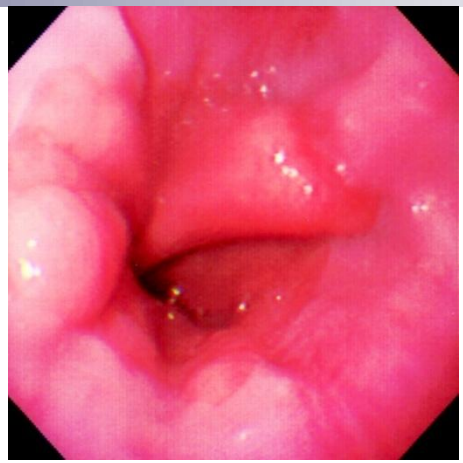
Prevalence of food allergy

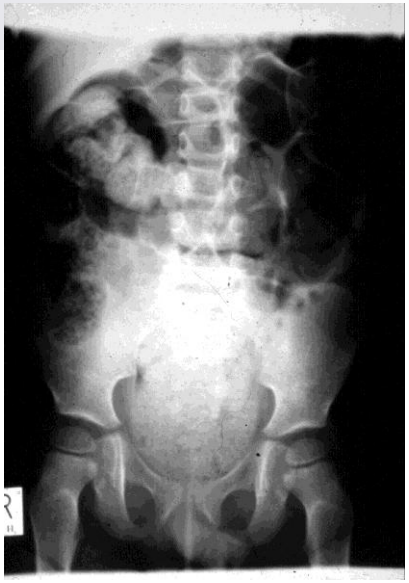
Authors	Year of study	n	Age years	Prevalence food allergy
Jakobsson and Lindberg [3]	1979	1,079	<1	Cow's milk 1.9%
Høst and Halken [4]	1985	1,749	<1	Cow's milk 2.2%
Schrander et al. [5]	1993	1,158	<1	Cow's milk 2.8%
Hill et al. [6]	1997	620	0–3	Cow's milk 2.0% Egg 3.2% Peanut 1.9%
Tariq et al. [7]	1989	1,218	4	Peanut 0.5%
Grundy et al. [8]	1994–1996	1,246	4	Peanut 1.5%
Sicherer et al. [9]	1999	12,032	Children and adults	Peanut 1.1%

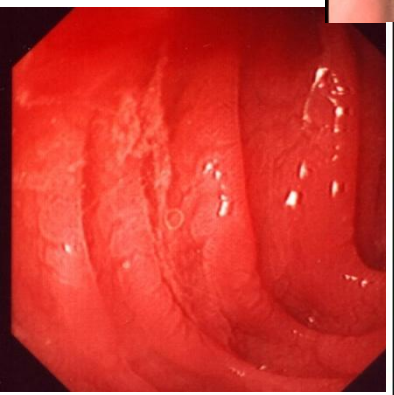


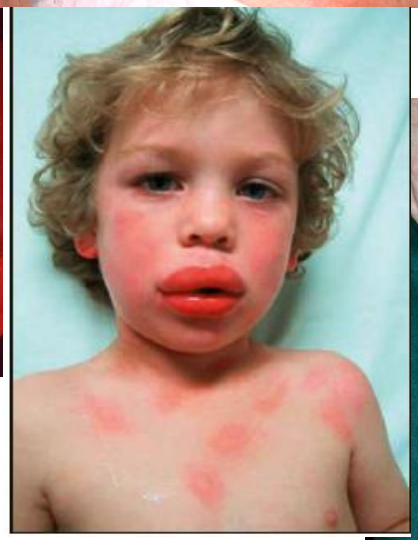
Vandenplas, Y. et al. Arch Dis Child 2007;92:902-908

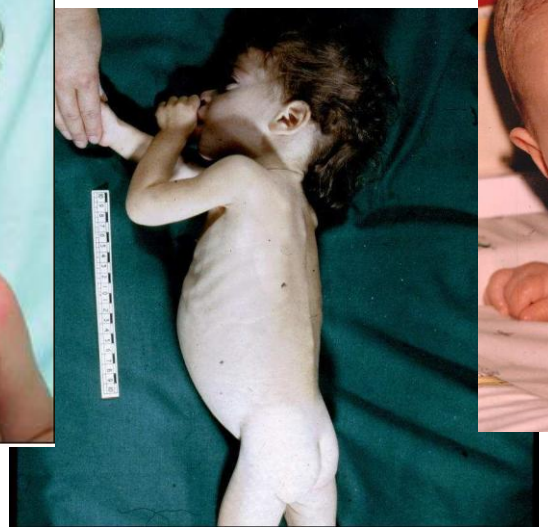


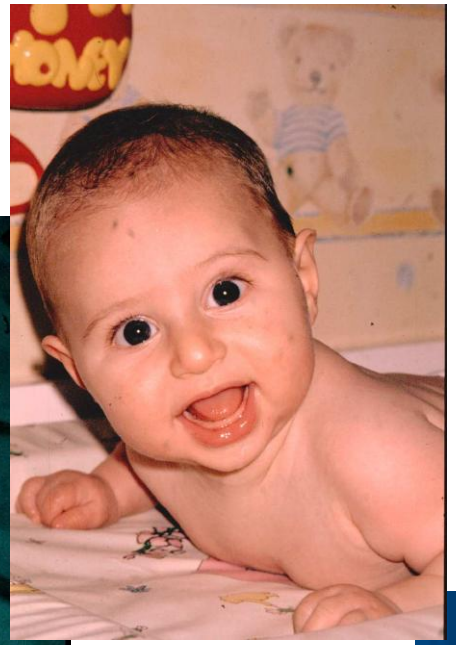












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Ruler | Gridlines | Message Bar | Document Map | Thumbnails — Show/Hide

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New Window | Arrange All | Split | View Side by Side | Synchronous Scrolling | Reset Window Position | Switch Windows — Window

Macros — Macros

Thank you for seeing this neonate who is screaming excessively.

She was born by planned LSCS because of delayed labour (Term + 12). In the immediate post natal period her mother tels me she needed mucous aspiration several times. Since discharge she has been very snuffly but has not responded to saline drops. She is on bottle milk and her parents have tried different milk, including lactose free milk, with no effect. On examination I can detect no abnormailities.

Her parents arer clearly a little fraugh and I would appreciate your opinion on whetehr you feel there is anything which can be done to help.

She has an oldder sibling, a 19month old sister you have seen and diagnosed lactose intolerane.

Thank you for yoru help.

Page: 1 of 1 | Words: 169 | English (United States) | 200%

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- What would you do for this child?
  - Commence anti reflux therapy
  - Start colief for lactose intolerance
  - Change formula to a bitter hydrolysate feed and possibly make the feed difficulties worse
  - Suggest start solids at the very earliest moment and keep going to then

IgE mediated immediate reaction

- Food allergy like urticaria or anaphylaxis
- Oral allergy syndrome

Non IgE mediated – delayed manifestation

- eczema
- Allergic colitis
- Infantile colic
- GORD
- Allergic dysmotility
- Enteropathy

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Cows milk formulae

- Allergic
- Cheap
- tastes nice

Partially hydrolysed

- Soy not an option
- Questionable effectiveness

Whey hydrolysate

- Palatable but allergic
- e.g. Pepti

Caesin hydrolysate

- First line for food allergy
- e.g. nutramigen

Elemental

- Unpalatable
- Expensive
- First line if breast feeding
  - e.g.neocate
  - Nutramigen AA

What new evidence do I need to know about?

- Should she carry the child more?
  - One RCT (66 infants) – no difference
- Should she reduce stimulation
  - One RCT (42 infants)- beneficial effect
- Cranial osteopathy
  - No data
- Crib vibrator/ car ride stimulation/infant massage
  - One RCT – no difference

What new evidence do I need to know about?

- Simethicone (infacol) vs placebo
  - 3 RCT's – no good evidence, and not likely to be new evidence forthcoming

- Caesin hydrolysate
  - Anecdotally, very effective for select cases
  - But who will benefit? – those from atopic families
  - RCT 122 infants, active diet (low allergic) had a beneficial effect on crying

Interventions

Likely to be beneficial:

Whey hydrolysate milk

Trade off between benefits and harms:

Anticholinergic drugs

Unknown effectiveness:

Soya substitute milk

Casein hydrolysate milk

Low lactose milk

Sucrose solution

Herbal tea

Reduction of stimulation of the infant

Unlikely to be beneficial:

Simethicone

Increased carrying

Extracts from "Clinical Evidence"

Infantile colic

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Option Replacement of cows' milk with casein hydrolysate

Summary Two RCTs comparing cows' milk formula against casein hydrolysate found insufficient evidence.

Casein hydrolysate milk or hypoallergenic diet for breastfeeding mother compared with cows' milk or control diet for mother Giving casein hydrolysate milk to bottle-fed babies or a hypoallergenic diet for breastfeeding mothers, may reduce the duration of crying compared with giving bottlefed babies cows' milk-based formulae or a control diet for breastfeeding mothers (very low-quality evidence).

Try caesin hydrolysate feeds before whey

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Pediatric Gastroesophageal Reflux Clinical Practice Guidelines: Joint Recommendations of the North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition (NASPGHAN) and the European Society for Pediatric Gastroenterology, Hepatology, and Nutrition (ESPGHAN)

4.1. History and Physical Examination In infants and toddlers, there is no symptom or symptom complex that is diagnostic of GERD or predicts response to therapy. In older children and adolescents, as in adult patients, history and physical examination may be sufficient to diagnose GERD if the symptoms are typical.

No discriminating aspect to history

6.1.3. Infants With Unexplained Crying and/or Distressed Behavior Reflux is not a common cause of unexplained crying, irritability, or distressed behavior in otherwise healthy infants. Other causes include cow's milk protein allergy, neurologic disorders, constipation, and infection (especially of the urinary tract). Following exclusion of other causes, an empiric trial of extensively hydrolyzed protein formula or amino acid–based formula is reasonable in selected cases, although evidence from the literature in support of such a trial is limited. There is no evidence to support the empiric use of acid suppression for the treatment of irritable infants.

Screaming ≠ reflux

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(206,207). Studies support the use of extensively hydrolyzed or amino acid formula in formula-fed infants with bothersome regurgitation and vomiting for trials lasting up to 4 weeks (206–208). Cow's milk protein and other proteins pass into human breast milk in small quantities. Breast-fed infants with regurgitation and vomiting may therefore benefit from a trial of withdrawal of cow's milk and eggs from the maternal diet (209,210). The symptoms of infant reflux are almost never so severe that breast-feeding should be discontinued. There are no

There is a role for change in formula
Trial of withdrawal of cows milk from mothers diet

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(336). A meta-analysis of 7 RCTs of metoclopramide in developmentally healthy children 1 month to 2 years of age with symptoms of GER found that metoclopramide reduced daily symptoms and the RI but was associated with significant side effects (215). Metoclopramide com-

recent systematic review of studies on domperidone (341) identified only 4 RCTs in children, none providing "robust evidence" for efficacy of domperidone in pediatric GERD. Domperidone occasionally causes extrapyramidal central nervous system side effects (342).

Evidence does not support use of domperidone

group (46). A large double-blind study of 162 infants randomized to 4 weeks of placebo or lansoprazole showed an identical 54% response rate in each group, using an endpoint of >50% reduction of measures of feeding-related symptoms (crying, irritability, arching) and other parameters of the I-GERQ questionnaire (9). Furthermore, this study showed a small but significant increase in the numbers of infants that experienced lower respiratory symptoms during the treatment trial.

Lack of evidence for PPI in infantile agitation

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Orenstein SR, Hassall E, Furmaga-Jablonska W, et al. Multicenter, double-blind, randomized, placebo-controlled trial assessing efficacy & safety of proton pump inhibitor lansoprazole in infants with symptoms of gastroesophageal reflux disease. *J Pediatr* 2009; 154:514–20.

PCT asked me to explain about all those expensive milks.....

- They are probably of value if they fail the rule of 3's
- Always be prepared to rechallenge
- Thickened milks may be better than medicines
- Change in formula may be superior to anti reflux medicines

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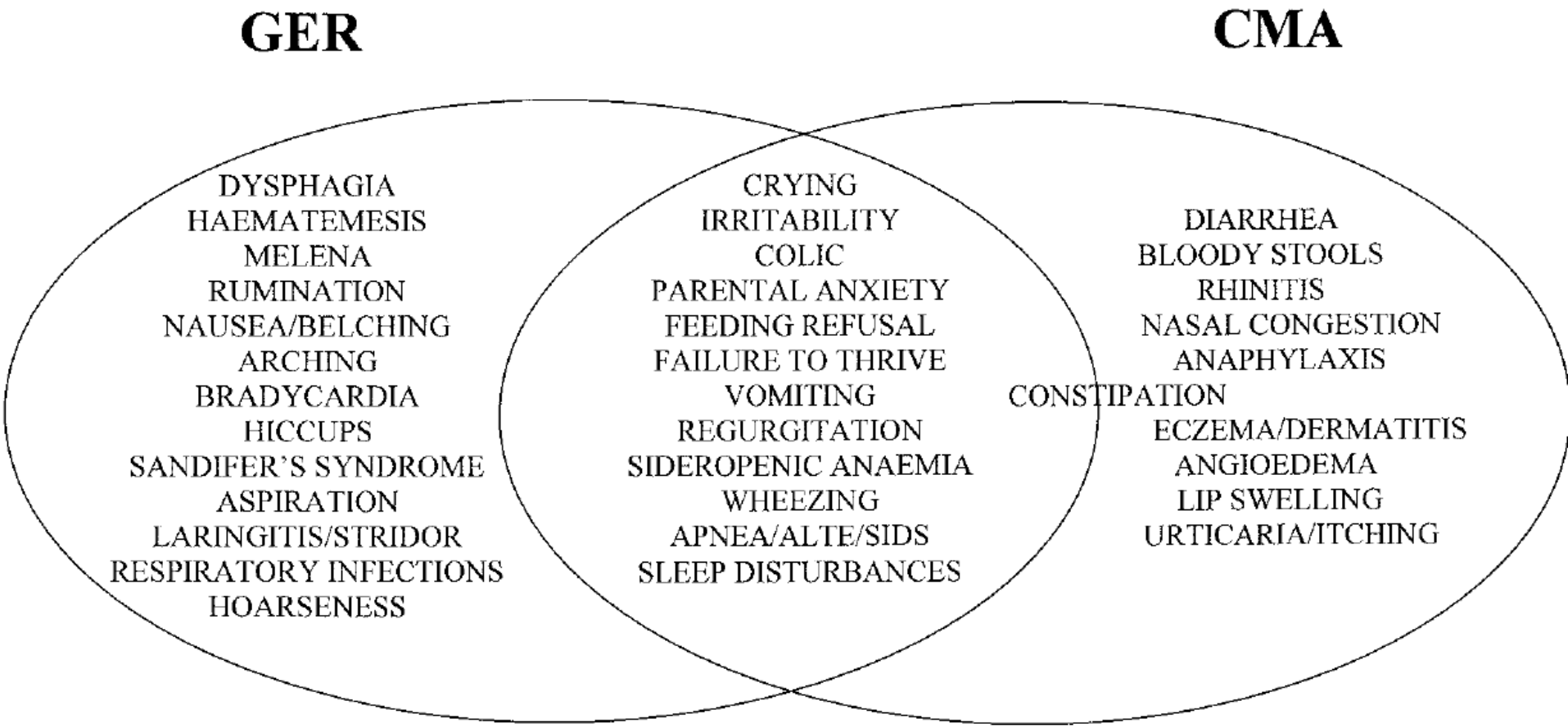
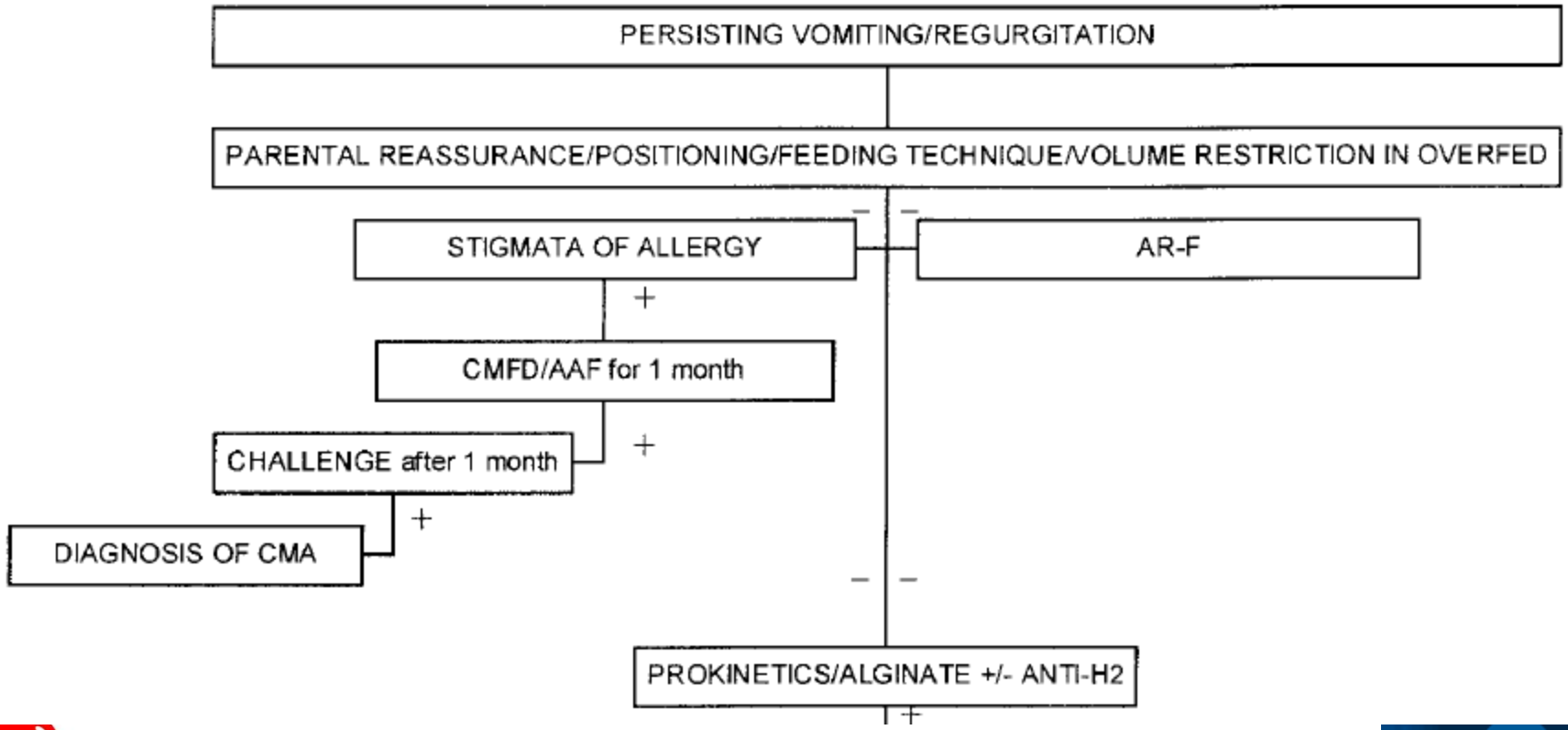


REVIEW ARTICLE

Gastroesophageal Reflux and Cow Milk Allergy: Is There a Link?

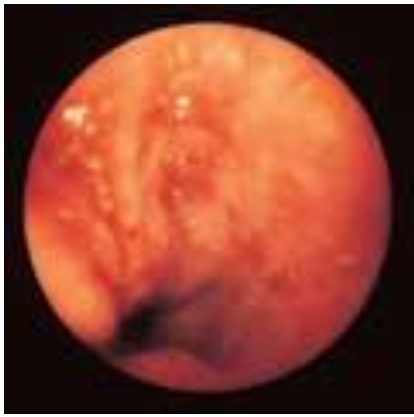
Silvia Salvatore, MD*, and Yvan Vandenplas, MD, PhD‡



Learning points in GOR and infantile colic

Treating reflux when there is little evidence to support the use of anti reflux therapy in infantile colic

Realise that infantile colic is not the same as feed phobia



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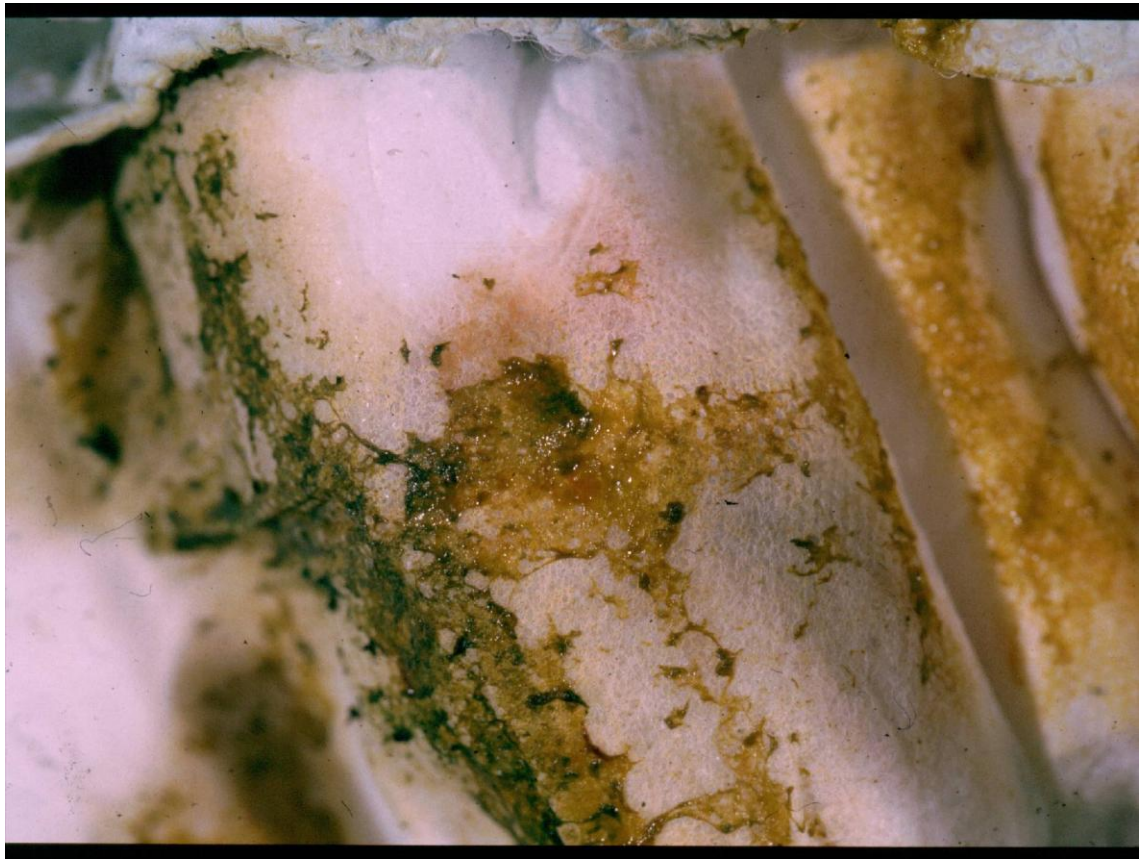
- Breast feed induced proctitis
- Do I need to change mothers diet?
- What should I remove?
- What happens when they get older



- What would you do for this new born who is exclusively breast feeding?
  - Advise mother to stop dairy in her diet
  - Advise mother to stop breast feeding
  - Give lactase drops to help break down the lactose
  - Give neocate to the mother

Diarrhoea – sugar or protein

- Don’t use the word lactose intolerance
- There is 7g of lactose in breast and formula milk
- Mucous +blood = colitis

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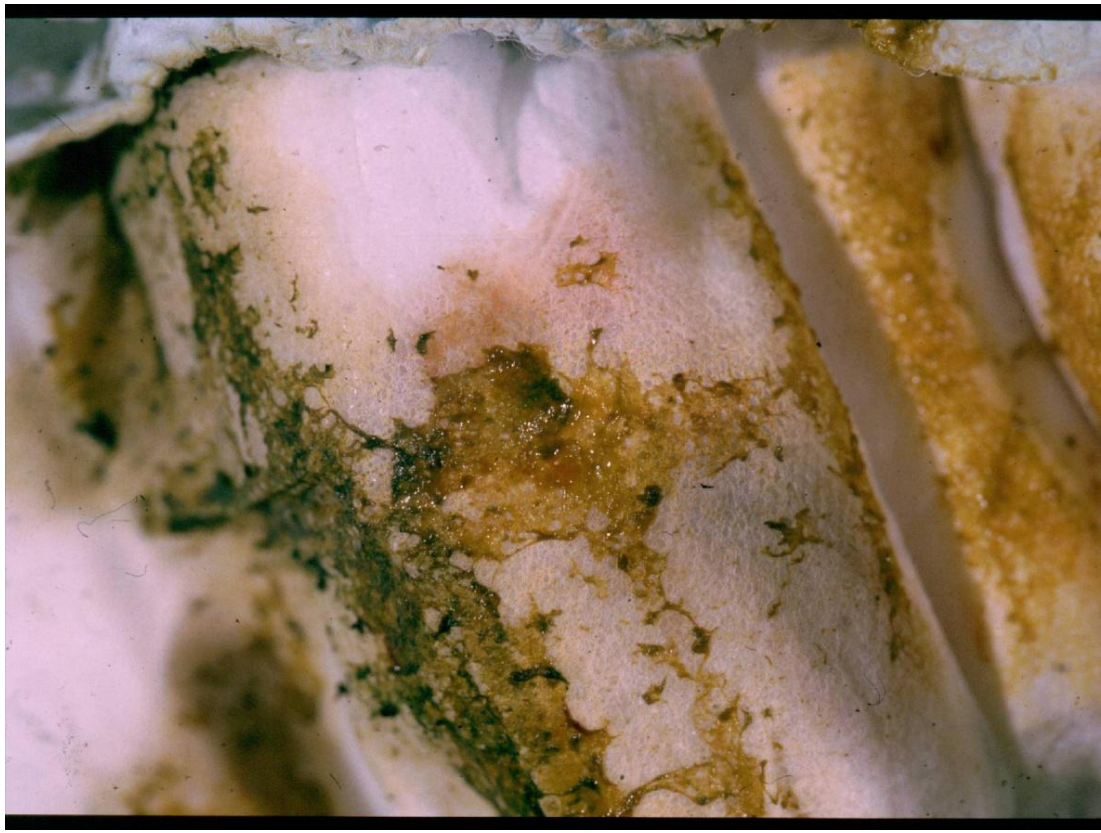
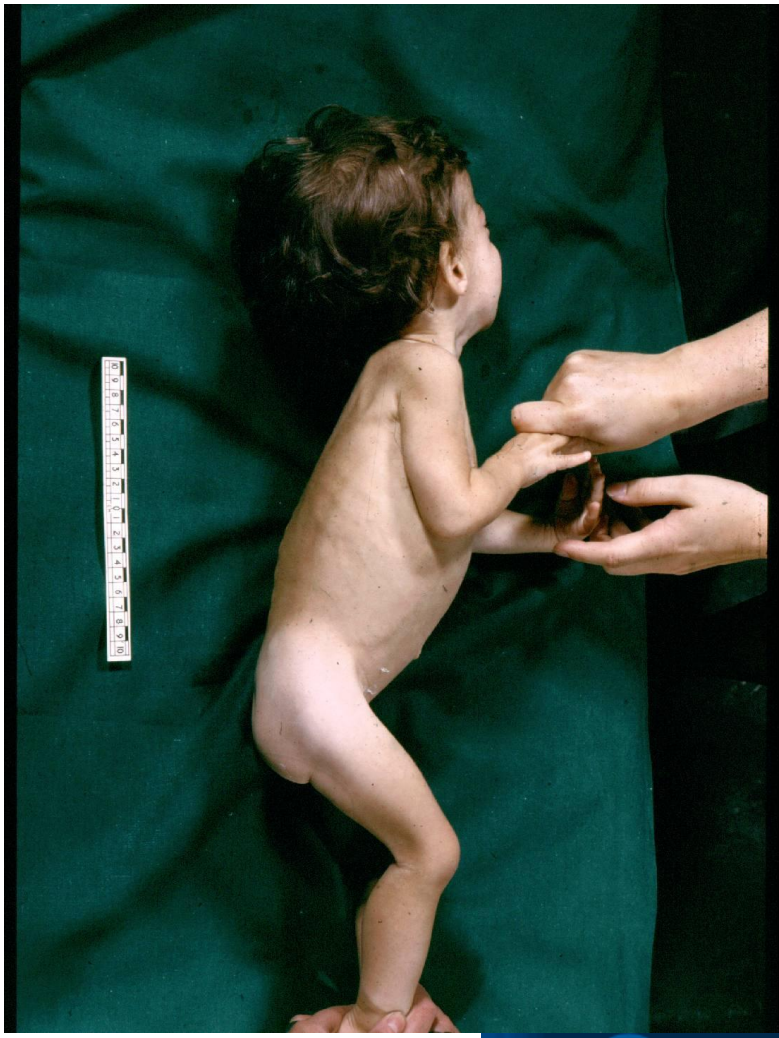
- IS this a normal variant?
- Is a little inflammation good for you?
- Not always dietary protein induced proctocolitis
  - May be infection….



Dietary protein induced enteropathy

- Cows milk more likely than coeliac



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Does breast feeding prevent allergy though?

BMJ

Effect of prolonged and exclusive breast feeding on risk of allergy and asthma: cluster randomised trial

Michael S Kramer, Lidia Matush, Irina Vanilovich, Robert Platt, Natalia Bogdanovich, Zinaida Sevkovskaya, Irina Dzikovich, Gyorgy Shishko, Bruce Mazer and the Promotion of Breastfeeding Intervention Trial (PROBIT) Study Group

BMJ 2007;335;815-; originally published online 11 Sep 2007;

WHAT IS ALREADY KNOWN ON THIS TOPIC

Evidence is conflicting as to whether prolonged and exclusive breast feeding increases, decreases, or has no effect on the risks of asthma and allergy

All of the available evidence is based on observational studies

WHAT THIS STUDY ADDS

Prolonged and exclusive breast feeding had no protective effect on allergic symptoms and diagnoses or on positive skin prick tests

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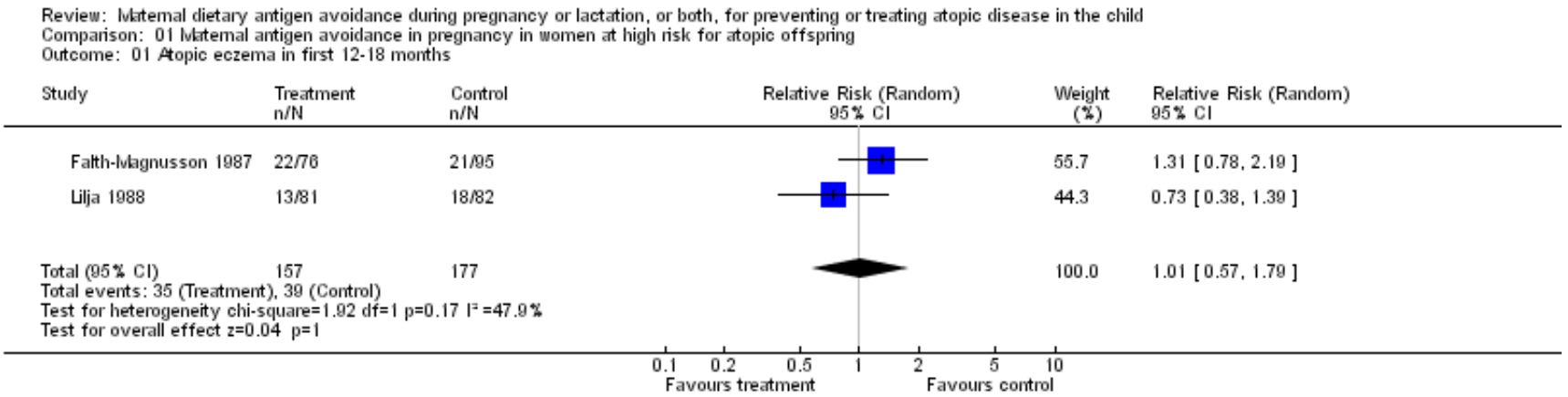
What should I tell a breast feeding mother?

- **Maternal dietary antigen avoidance during pregnancy or lactation, or both, for preventing or treating atopic disease in the child**
  MS Kramer, R Kakuma



Evidence is inadequate to advise women to avoid specific foods during pregnancy or breastfeeding to protect their children from allergic diseases like eczema and asthma

Trials of mothers' avoidance of milk, eggs, and other potentially "antigenic" foods during pregnancy or breastfeeding, or both, provide inadequate evidence about whether such avoidance helps prevent atopic eczema or asthma in the child.

What formula should she feed her child if I want to decrease the chance of allergy

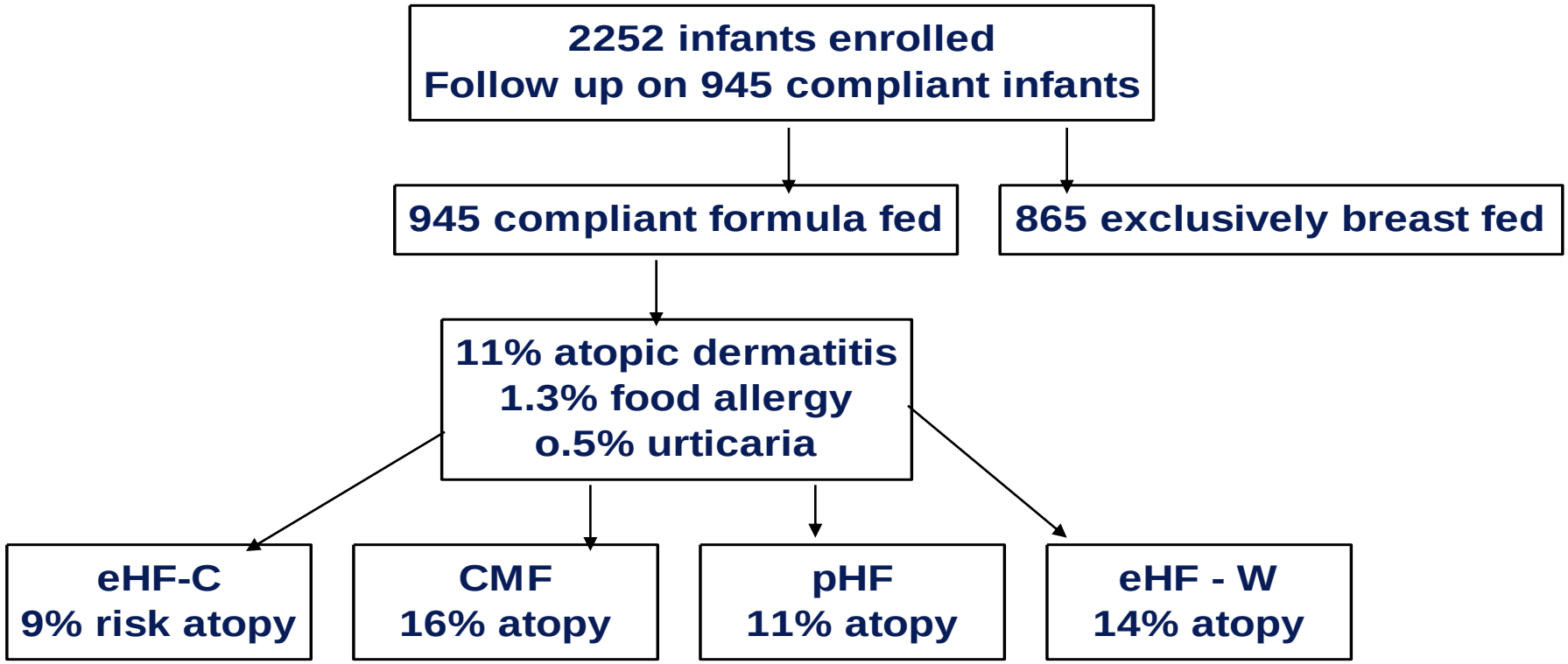
Effect of breast–feeding on the development of atopic dermatitis during the first 3 years of life––results from the GINI–birth cohort study.

Accession number & update

15126993 Medline 20060101.

Source

The Journal of pediatrics, {J–Pediatr}, May 2004, vol. 144, no. 5, p. 602–7, ISSN: 0022–3476.



Better protection was achieved in infants without genetic risk

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Learning point for prevention:

- At risk infants should
  - breast feed until 4- 6 months
    - consider maternal diet in conjunction with a dietician
  - alternative should be a non cow's milk formula
    - eHF > pHF > soy
  - avoid smoking

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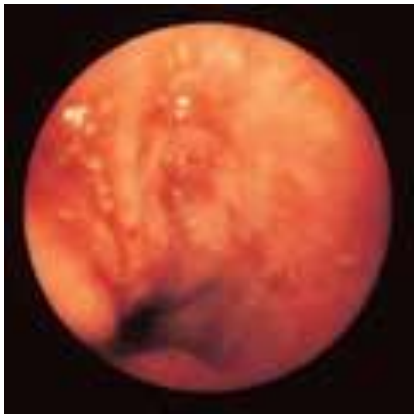

Learning points in infantile diarrhoea

Lactose intolerance is exceptional rare

Consider the role of cows milk protein

Do you need to withdraw cows milk