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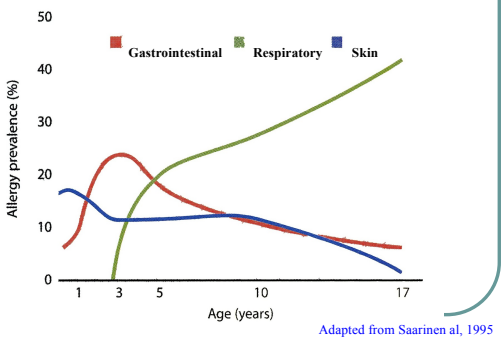
Are you allergic to allergies?

The problem

- Allergic disorders are becoming increasingly common in the UK, with serious and life threatening allergies on the increase (*Burton 2009*).
- Allergies currently affect an estimated 30% of all children in Scotland (SMASAC 2009).
- Allergic disorders account for more than 4% of GP consultations and 1.5% of hospital admissions (*Anandan et al 2009*).
- Food is the most common trigger for anaphylactic reactions in children (*Akeson et al 2007*)

The Allergy March



Adapted from Saarinen al, 1995

Definitions

- **Food Intolerance**
  - Reproducible adverse reactions to a specific food
    - Allergy
    - Biochemical
    - Physical property of food
    - Toxic
- Food Allergy
  - An adverse reaction to food protein which is immune mediated

Signs and Symptoms of possible Food Allergy

Acute urticaria	Eczema	Atopic eczema
Angioedema		
Pruritis		
Associated respiratory symptoms		Pruritis
IgE ←		→ Non IgE
Anaphylaxis		
Diarrhoea		Diarrhoea
	Eosinophilic	Colitis
Vomiting	Oesophagitis	Enteropathy
		GORD
Abdominal Pain		

References

- Food allergy in children and young people
  - Diagnosis and assessment of food allergy in children and young people in primary care and community settings NICE 2011
- Care pathways for children with allergies
- RCPCH project,Arch Dis Child Vol 96,Supp2, November 2011
  - Anaphylaxis
  - Drug allergies
  - Excema
  - Food allergy
  - Latex
  - Asthma/rhinitis
  - Urticaria
  - Venom

How common is food allergy?

- About 1 in 20 children (5%) under 2 years will react to something they eat.
  - In NHSG and the Northern Isles
  - Around 500,000 under 16s
  - Giving ? 2500 children.
- Food allergy is uncommon in adults (? 1%)
- Most food allergies in children are not anaphylactic
- Majority achieve tolerance by school age
- Nut allergies more likely to be life long.

Types of food allergy (1)

IgE mediated

- Reactions within 2 hours of ingestion
- Resolution of symptoms within 12 hours
  - GI,vomiting,pain,diarrhoea
  - Skin,urticaria,angioedema,pruritis
  - Respiratory,acute rhinoconjunctivitis,wheeze,cough,stridor
  - Anaphylaxis and collapse
- **RAST and skin prick tests may be helpful**

How to use serum specific IgE measurements in diagnosing and monitoring food allergy
Arch Dis Child Educ Pract Ed 2012:97; 29-36

Types of Food allergy (2)

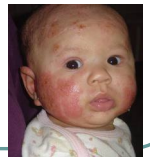
- Non IgE mediated
  - Symptoms develop over hours or days
  - Symptoms may last for many days
  - Often non-specific/multi system
    - eg vomiting,diarrhoea,abdo.pain,GO reflux,food aversion/refusal,abdo pain failure to thrive,eczema
    - Tests are unhelpful,
  - Clinical suspicion and empirical trial of elimination diet

Mixed picture

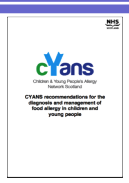
- eg breast fed baby with eczema,non specific GI symptoms who has an urticarial reaction to cows milk at weaning

Atopic eczema and diet

- NICE clinical guideline 2007
  - "healthcare professionals should offer a 6-8 week trial of an extensively hydrolysed or amino acid formula to bottle fed infants<6 months with moderate to severe eczema that has not been controlled by optimal topical treatment particularly if associated with GI symptoms and FTT.
  - Children on a milk free diet for more than 8 weeks should be referred to a dietitian



Guideline frenzy !



bsaci
improving allergy care

THE MAP GUIDELINE
Milk Allergy in Primary Care

NHSG

Which foods?

- Allergic reactions to food usually start in early childhood
  - Top offenders
  - **Cow's milk (2 - 2.5% of all children)**
  - Egg
  - Soya
  - Peanuts
  - Tree nuts
  - Wheat
  - Fish
  - Shellfish

Diagnosis

- Initial recognition
  - Allergy focused clinical history
  - Any current exclusions?
  - Will tests add anything?
  - Trial of exclusion diet
  - Additional treatment required?
  - Input from other specialities?

What a dietitian does

- Assess growth and current intake
- Explain the exclusion diet
- Label reading
- Ensure diet is nutritionally adequate
- Ideas for meals and snacks
- ? Need for vitamin/mineral supplements
- Practical issues eg nursery,travel
- Follow up and reassessment re tolerance/challenge plans

NHSG guidance April 2014

Avoiding Cow's Milk Protein:

Advice for children with suspected Cow's Milk Protein Allergy (CMPA)

Some children are allergic to the protein in cow's milk (cow's milk protein allergy, CMPA). They usually have a combination of symptoms such as diarrhoea, vomiting, skin rashes / eczema, and poor weight gain.

Most children grow out of this by about the age of 2 or earlier.

There are no reliable tests to diagnose CMPA and a trial of a milk free diet is often the best way to decide whether your child has an allergy to cow's milk protein.

An allergy to cow's milk is not the same as lactose intolerance. Products which are lactose free are not necessarily free from cow's milk protein.

To test if your child is reacting to the protein in cow's milk all food and drink containing cow's milk should be avoided.

It is very important that you always read the labels on products no matter how often you use them as manufacturers can change the ingredients at any time without prior notice.

Formula frenzy!

- 3 brands (5 milks) in 2011
- 5 brands (9 milks) by 2014

- All slightly different
  - Daltons
  - ? lactose
  - Calcium
- and of course different price

Definitions

- 90% of children with proven CMPA should tolerate an eHF(95% confidence interval)
  - ESPGHAN and EACCI1999

  - Produced by heat treatment,enzymatic hydrolysis and ultrafiltration
  - Majority of peptides<1kDa
  - Does not predict clinical reactivity.

EHF ALL £9-10 /400 g tin

Amino acid feeds £ 25 - 30

Nutramigen
Puramino

Neocate LCP

Alfamino

Cows milk protein allergy: feed choice

- First line feeds
- Hydrolysed protein feeds are recommended
  - palatability a problem in older babies
  - Aptamil Pepti 1 and 2 (contains lactose)
  - Nutramigen LGG 1 and 2

Nutramigen LGG

- Added probiotic
- Evidence to suggest it reduces time to achieve tolerance
- Must be made with cool water,not 70C

Second line feeds

- Amino acid based feeds
- 10% of babies react to hydrolysates
  - Also used for babies with severe colitis/enteropathy
  - Are over prescribed
  - In Scotland >50% of market
  - Cost issues

Breast feeding mums

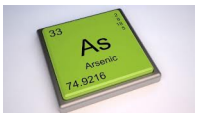
- 2-3 week trial of cow's milk exclusion in mother
- Dietary advice
- Calcium and vitamin D supplements
- Discourage complex maternal exclusion diets

Reflux and milk allergy

- 16-40% of children with reflux may be milk allergic
- No or poor response to anti-reflux medications
- Aversive feeding
- Personal of family history of atopy
- Merit trial of milk free diet

Rice Milks

- Not advised for children under 5 years
- All rice contains inorganic arsenic
  - Young children may drink relatively large amount
  - Levels in baby rice and cooked rice are not concerning



Other milks

- Oat
  - Widely available
- Nut milks
  - Coconut
  - Almond
- Soya

Other milks

- Goats' and sheeps' milk
- Not suitable for under 1's
- Many children will react.
- Can be considered in older children with persisting allergy,discuss with dietitian
- Can allow cheese/yoghurt in diet
  - eg Manchego made from sheep's milk

Soya Update

- Phytoestrogens
  - March 2003 report from COT and SACN
  - Most concern in under 6 months
- Cross reactivity with cows milk
- Soya indications
  - Milk allergy when hydrolysed formulae refused
  - vegan infants ,if not breast fed

Calories and calcium

- Full fat milk 65kcal/100ml
  120 mg calcium/100ml

Organic/ unsweetened milk substitutes often low in calories

Need 400-500ml of a calcium fortified "milk" to meet calcium requirements

Calcium supplements

- If less than 500ml calcium fortified milk substitute taken
- Well Kid calcium liquid
- Haliborange calcium vitamin D softie
- ½-1 Calcium Sandoz
- Calcichew D3
  - 1 /day for older children
  - 2 for breast feeding mums.

All pregnant and lactating women and children under 5 are now advised to take Vitamin D

Food Challenges

- Essential to assess tolerance .
- If the reaction was serious and involved breathing difficulties, swelling or collapse this must be done in hospital
- Repeat IgE and skin prick tests and history of any accidental exposure help inform the plan
- Only challenge when we believe the child will tolerate the food.

→ DAY CASE UNIT

Milk Ladder Challenge at home

- Where initial symptoms were of eczema, poor weight gain ,diarrhoea etc
- Consider around 1 year
  - Start with cooked milk in biscuit/pancake
  - Then cooked milk as custard
  - Then yogurt,build up over a week
  - Then relax all solids
- Finally stop milk substitute
- Give guidance on adequate calcium intake

How common is egg allergy ?

- 2% at 2 years
- Natural history is gradual resolution

Egg Allergy

Advice on egg avoidance

Obvious egg and :

Cakes,mayonnaise,fish in crumbs,meringues,egg noodles, chocolate mousse,some chocolates,some ice cream, pancakes.....

Home challenge with egg

Mild reactions only and not asthmatic
eg skin reaction to scrambled egg

Well cooked egg in a cake at 2-3 years old

↓

Lightly cooked eg scrambled egg

↓

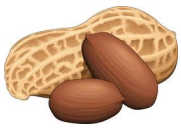
Raw egg

Molly

- 5 years old,referred by school doctor
  - When 18 months old ,ate a cashew nut at Christmas
  - Developed a red facial rash,no swelling or wheeze,did not vomit and all resolved within an hour with no treatment.
  - Family avoid all nuts
- What next ?

Molly

- Not all nut allergies are anaphylactic
  - We do advise avoiding all nuts initially
    - Cross reactivity with other nuts
    - Labelling
    - Simple message for child



- Up to 20% of these children do grow out of their allergy
  - Investigate with RAST /SPT around 7 years
  - If negative proceed to challenge
  - Important to include the nut in the child's diet to maintain tolerance

LEAP Study NEJM March 2015

- Over 600 children between 4 and 11 months of age at high risk for peanut allergy* were randomized to either consume or avoid peanut until age 5 in order to compare the incidence of peanut allergy between the two groups. Children in the peanut consumption arm of the trial ate a peanut-containing snack-food at least three times each week, while children in the peanut avoidance arm did not ingest peanut-containing foods.
- * severe eczema+/- egg allergy

Conclusions

- Of the children who avoided peanut, 17% developed peanut allergy by the age of 5 years
- . Remarkably, only 3% of the children who were randomized to eating the peanut snack developed allergy by age 5.
- Therefore, in high-risk infants, sustained consumption of peanut beginning in the first 11 months of life was highly effective in preventing the development of peanut allergy.

No car park challenges!!

FSA March 2011
Guidance on Allergy and miscellaneous labelling provision (First Published 2004)

- Cereals containing gluten
- Crustaceans and molluscs
- Eggs
- Fish
- Soybeans
- Milk
- Nuts
- Celery
- Mustard
- Sesame seeds
- Sulphites
- Lupin

Food Standards Agency

Removal of the 25% compound ingredient rule

"May contain" labelling

- Advisory labelling on possible cross-contamination with allergens should be justifiable only on the basis of a risk assessment applied to a responsibly managed operation. Warning labels should only be used where there is a demonstrable and significant risk of allergen cross contamination,and they should not be used as a substitute for Good Manufacturing Practices
  - from FSA Voluntary Best Practise Guidance 2006

Interface with Primary care

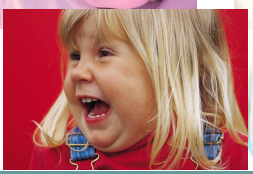
- Prescribing guidelines for milk allergy
- About to launch milk allergy pathway
- Teaching for community dietitians,HVs and some GPs
- Dietitians and Allergy Nurse available to discuss patients
- Limited outreach work by Allergy Nurse

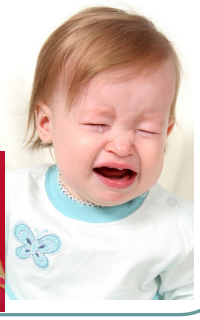
Allergy service at RACH

- Most seen within general paediatric, dietetic and specialist clinics eg gastroenterology,dermatology.
- Some funding from NDP
  - Mustafa Osman : Consultant
  - Lorraine Clark : Specialist Allergy Nurse + new post
  - Dietetics Elsie Carnegie,Kathleen Ross and others
- Monthly complex allergy clinic
- Nurse led clinic/ education/support
- Nurse led skin prick/IgE testing service
- Food challenges in Day case unit
- Reasonable access to dietetics

Any questions?

Scenarios





Ruby

- Breast fed ,troublesome eczema
  - First bottle of formula at 5 months
  - Immediate vomit,generalised erythema and angioedema,wheezy and collapsed
  - 999 call,nebulised in ambulance, steroids and antihistamine in A&E
- What next ?

Ruby

- From history she has an immediate type reaction to cow's milk protein
- Underlying delayed reaction causing eczema is likely
  - Advise on milk free "careful" weaning,
  - Trial in hospital of Neocate LCP
- Training on use of Junior Epipen
- Referral to dermatology
- Medical /Dietetic FU

RAST and SPT at 1 year
Egg challenge successful
Remains very allergic to cows milk
Several admissions with viral induced wheeze

Callum

- Presented at 3 months ,bottle fed,poor weight gain,loose stools and several vomits a day
  - Older brother had asthma and mum had eczema
  - HV asking about changing the milk.

What next?

Callum

- Suggestive of cow's milk protein allergy
  - Symptoms
  - Family history
- Tests won't help
  - 6 week trial of hydrolysed formula
  - Clinical improvement?
  - Continue with milk free weaning ,and challenge at home around 1 year