Worcestershire Acute Hospitals NHS Trust

Failure to Thrive/ Faltering growth (PIP)

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The following guidance is taken from the Partners In Paediatrics (PIP)

FALTERING GROWTH

Always follow your local safeguarding policies and procedures.
The safety of children is everyone's responsibility

RECOGNITION AND ASSESSMENT

- An infant or older child who fails to gain weight as expected without an apparent cause
- Growth below the 2nd percentile or a change in growth that has crossed downwards 2 major growth percentiles in a short time (approximately 4 months, or longer period in older child)
- Associated features include:
- developmental delay
- apathy
- misery

Symptoms and signs

- Gastrointestinal problems
- vomiting
- voracious appetite
- anorexia
- diarrhoea
- Full physical examination
- dysmorphic features
- heart murmurs
- abdominal distension
- wasting
- bruising
- examine mouth for cleft palate

Patient and family history

Child

- Take a full feeding history
- type of milk given (breast milk, formula milk, cow's milk)
- volume given at each feed
- frequency of feeding
- method of making up feeds (correct strength)
- introduction of solids: age and type of solid
- any difficulty with feeding process (e.g. breathless, uncomfortable)
- Perform direct observation of child at mealtimes:
- oral, motor, co-ordination, behaviour (e.g. crying, tantrums), appetite, family interaction

Family

- Family history of siblings/children with unexplained growth faltering or early onset diarrhoea
- Ask about socio-emotional factors
- family composition (other children, age?)
- ask parental ages, health, educational status
  - was either parent in care during childhood?
  - do parents have a history of psychiatric illness or depression (including post-natal depression) or have a learning disability?
  - parents with inadequate social or problem solving skills?
- has the family any support network (e.g. grandparents)?
- social isolation?
- is there a lack of money in the home or unemployment?
- other sources of stress (e.g. divorce)?
- substance abuse?
- domestic violence?

Measurements

Measurements must be checked if there is doubt

- Record birth weight and gestation
- some 'light-for-dates' infants fail to catch up, and grow parallel but below the 2nd percentile
- Measure and plot
- weight (unclothed)
- head circumference
- length or height
- body mass index and plot on chart (useful if height or weight below 0.4th centile)
- Infant may be a small, normal child growing below but parallel to the 2nd percentile
- parents are often also small
- record height of parents and grandparents
- calculating midparental height, height velocity can be helpful – see Fact sheet: UK 2–18 years Growth Chart available at: www.rcpch.ac.uk/child-health/research-projects/uk-who-growth-charts/uk-growth-chart-resources-2-18-years/school-age%232-18
- review 'Red Book' growth charts for more information
- pubertal staging is helpful for teenagers

Single set of measurements of limited value and does not justify complex investigations. Serial measurements of more value and should be plotted on percentile charts

Investigations

First-line tests (as indicated) where cause of poor growth is not obvious

- Blood gas
- Faeces: culture and sensitivity, microscopy for ova, cysts and parasites (if diarrhoea)
- Urinalysis for protein, nitrites and blood
- Hb, blood film (for signs of iron deficiency), WBC and ESR
- Biochemical profile including U&E, liver and bone profile, CRP, B12, folate, ferritin, thyroid function, creatinine, bicarbonate, calcium and albumin
- Coeliac screen (anti-tTG and IgA) – only useful if having gluten in diet, i.e. after weaning commenced

Further tests

- If underlying pathology indicated by history, clinical examination or results of routine investigations, request further tests, such as:
- CXR
- bone age (X-ray of non-dominant hand and wrist)
- if head size is increasing, ultrasound of head before aged 6 months
- Vitamin A, D, E, trace metals, faecal elastase
- sweat test/cystic fibrosis (CF) gene
- Further gastrointestinal investigation or management of malabsorption disorders should be undertaken by referral to specialist gastroenterology team as appropriate:
- endoscopy
- gastrointestinal imaging
- genetic testing appropriate to clinical features, e.g. Di George and Turners syndromes

Differential diagnosis

- Low genetic growth potential:
- familial
- 'light-for-dates' baby
- genetic syndrome
- Social factors:
- maternal depression
- poor parenting skills
- abuse
- Malabsorption:
- pancreatic insufficiency: CF, Swachman-Diamond syndrome
- enteropathy: coeliac, cow's milk protein allergy
- inflammatory bowel disease (IBD)

- infective: Giardia, bacterial overgrowth
- others (rarer): abetalipoproteinaemia, lymphangiectasia
- Vomiting/severe regurgitation
- Any chronic underlying disorder:
- renal failure
- liver disease
- congenital heart disease
- severe asthma
- immunodeficiency
- other rare conditions e.g. endocrine, chromosomal or metabolic conditions if dysmorphic features present

MANAGEMENT

- Most patients can be managed as an outpatient
- record height and weight at each visit
- seek dietitian opinion
- if treatable cause identified, treat
- If social problems responsible, consider:
- admission to ward to demonstrate good weight gain out of home environment
- significant weight gain after admission (>180 g/week in infant) supports parenting issues as cause
- health visitor support
- social work support
- child psychology consultation, referral and/or intervention (evaluation of: child's cognitive development, food refusal etc; parents' perception of the child; family/child disturbances of affect expression and family dynamics)
- day care and nursery provision
- case conference
- care proceedings