Celiac Disease

• “Collaboration amongst three medical profession.”
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Content

• Introduction
• Definition
• Case study: Vague complaints & food intolerance
• Epidemiology/ prevalence (known data for Curacao?)
• Celiac disease in the family practice/ primary care
• From the family physician’s (FP) office to diagnostics: Laboratory analysis
• Diagnostics to further treatment: Pediatrician
• Agreements/ Take Home message
Celiac disease

• An immune-mediated inflammatory disease of the small intestine caused by sensitivity to dietary gluten and related proteins in genetically predisposed individuals.

• Differs from food allergies, which are mediated by immunoglobulin E (IgE) or immunoglobulin G (IgG)
Epidemiology

- Underdiagnosed
  - Majority (85%) not diagnosed neither receiving treatment
- Often Caucasian race
- Prevalence: 0.5-1% Caucasian West European (Netherlands)
- Primary care/family physician: of the 2500 people: approximately 12-25 people
- Occurs 2 to 3 times more often in women than men
- First-degree relatives greater chance of being diagnosed with Celiac: 5-10%
Prevalence

- Consumption of gluten is widely seen in North Africa, South America, parts of Asia, such as Punjab, Delhi and others (Yachha, 2006)
- Frequent in South America amongst the population with a European background
- Brazil: 1:681 blooddonors (Gandolfi et al., 2000)
- Africa: not well documented; estimated to be 5.6% in children of the Berbers tribe from West-Sahara.
- Frequently seen in Algeria (clinical celiac disease) (Mediene et al., 1995) and Libya (al-Tawaty en Elbargothy, 1998)
- Quite frequent amongst North African migrants in Europe
- Middle- East: Iran, Iraq, Arabic Emirates and Kuwait (Rawashdeh, Khalilen Raweily, 1996).
Family Practice
when do you consider celiac disease??

- Food intolerance?
- Abdominal pain?
- Loose stool?
A 15-year old girl (patient A) visits your office together with her mother to get acquainted with her new family physician.

She has a normal to low hemoglobin level 6.5 (10.4g/dl)

History:

- prematurity, cry baby (food intolerance), recurrent bronchitis at 10yr
- Iron deficiency anemia at 10 & 13yrs → iron supplement
- Puberty at 15yrs: first menstruation
- Pfeiffer disease at 14yrs with severe anemia → referral to pediatrician → severe anemia due to iron deficiency related to menstruation or malabsorption.
Vague complaints…(cont’d)

- Present moment: no complaints, except for tiredness/fatigue, constipation tendencies, no extreme menstruation complaints
- Twin sister of patient A. also known with mild anemia, mother relates it to possible genes factor. (hereditary)
- Previous FP: bowel complaints: anti-tTG, calprotectine and for anemia- thalassemia lab. diagn.
- Referral to pediatrician…
Your analysis/ the symptoms?

- Prematurity
- Cry baby/ Food intolerance
- Recurring bronchitis
- Iron deficiency anemia
- Late onset puberty
- Fatigue
- Obstipation
Symptoms

• Asymptomatic
• Often occurring symptoms:
  • Malabsorption with chronic diarrhea (infants)
  • Abdominal pain, flatulence, anorexia, vomiting, failure to thrive, fatigue, growth retardation, weight loss, anemia, late onset puberty, infertility, high risk for miscarriages, non-specific arthritis, elevated serumtransaminase (ALAT/ ASAT), depression, neurological symptoms (epilepsia, ataxia, neuropathy), low bone density, tooth enamelhypoplasia, dermatitis herpetiformis.
Complications

- Osteoporosis
  - Due to malabsorption
- Children vs adults (gluten-free diet)
- Higher risk for auto-immune diseases: adults: 20%
- High risk for non-Hodgkin lymphoma, Enteropathy associated T-cell Lymphoma (EATL), squamous cell (plaveiselcel) carcinoma (oropharyngeal, esophageal), adenocarcinoma of the small intestine.
What is your next step?

• Bloodtest?
  • Hb, MCV, Iron, vit B12, folic acid,
  • Anti tTG (immunoglobulin A antibodies against tissue transglutaminase)
  • Calprotectine

• Referral? Internal medicine or Pediatrician?

• Pediatrician!
Lab results

- Hb 5.4 mmol/l (9 g/dL)
- MCV 80fL
- Ferritine 9 ng/mL
- Vit. B12: 50 pg/mL
- Anti-tTG: 12 times URL
- Calprotectine: Normal
Stroomdiagram aanvullend onderzoek bij anemie

- in alle gevallen: Hb, MCV, ferritine
- bij verminderen van vitamine B₁₂ en/of foliumzuur: onderzoek van vitamine B₁₂, foliumzuur, reticulocytopenie, LDH
- bij verminderen van vitamine B₁₂ en/or foliumzuur: onderzoek via serumvitamine B₁₂, serumfoliumzuur, leukocyten, trombocyten
- bij verhoogde reticulocytopenie en/of dysplasie hemoglobineopathie: Hb-alkalisofielchromatografie, en DNA-onderzoek, eisenbogen

MCV = mean corpuscular volume; BSE = beta-2-microglobulin; eGFR = estimated glomerular filtration rate; HbP = hemoglobinopathie; LDH = lactaatlijdaffage; N = normale trends

* Dit artikel is een hulp bij patiënten bij wie in de praktijk of in het laboratorium een anemie is vastgesteld, met onvermoeidheid van enkele maanden tot een Hb < 8 mmol/l en de afwezigheid van andere in infectieziekte liggen die kunnen worden gemaakt.

1. Afwezigheid van voedingsstofwisselingsstoringen, dikwijls via bloedonderzoek, veiligheid in een stofwisselingsafnemende (metabile) en/of tumorderivaten (eisenbogen, eisenbogen)
2. Anamnese die een anemie door (chronische) ziekte kan geven aan hebben (inflicte, ovarionaal, chronische ziekte, anamnese, anamnese, anamnese, anamnese, anamnese, anamnese)
Diagnostics

- Lab tests
  - Primary care: Family physician (FP)
    - Serology: **High sensitivity and specificity**!
      - Anti- tTG
      - Total serum IgA
  - Specialist: secondary care/ pediatrician
    - Further diagnostics
And now?

- Medication/supplement
  - Iron tablet (ferrous fumarate)
  - Folic acid
  - Vitamin B12 injection
- Follow up: pediatrician or FP?
Treatment

- Gluten free diet: lifelong
  - No contamination with
  - wheat (tarwe),
  - barley (gerst),
  - rye (rogge),
  - Caution: sometimes oats are contaminated with gluten.
Take Home Message

- Celiac disease occurs more often than is considered.
- Usually underdiagnosed due to less specific symptoms. The symptoms may vary widely, such as, a mild anemia without complaints that can go unnoticed.
- The malabsorption and chronic inflammation can increase the complication risk, e.g. osteoporosis. Important to diagnose as early as possible.
- Serology test for IgA antibody against tTG (tTG-IgA) is often the most valuable test for most patient. Biopsy of the small intestine (??) is necessary to confirm the diagnosis.
- First degree relatives of celiac patients have a 5 à 10% chance of getting the disease. It is of dire importance to screen these family members with an IgA-test.
Take Home message

• Persistent anemia without other complaints
  • Cave: celiac
• Vitamin B12 deficiency: malabsorption
  • Be alert!
• Pregnant women with anemia:
  • Early stage of the pregnancy
    • Hb, MCV, Iron status
References

• Up-to-date
• www.NHG.org
• BSL.nl: Huisarts & Wetenschap
• Bijbliven
• Praktische huisartsgeneeskunde
• Thuisarts.nl
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