Tsöliaakiahaigus ja piimatalumatus

Kristjánsson G, Venge P, Hällgren R. **Mucosal reactivity to cow's milk protein in coeliac disease**. Clin Exp Immunol. 2007 Mar;147(3):449-55.

Limaskesta reaktiivsus lehmapiimale tsöliaakiahaiguse (CD) korral.

CD *(coeliac disease)* haiged võivad omada gastrointestinaalseid ehk mao-sooletrakti sümptomeid ka gluteenivabal dieedil olles. Kliinilisel alusel võib kahtlustada piimavalgule tundlikkust. Uurisime kohalikku põletikureaktsiooni pärasooles, kasutades gluteeni ja lehmapiima valku tsöliaakiahaigusega remissioonis olevatel täiskasvanutel (20 CD-ga patsiendil ja 15 kontrollgrupi isikul). 15 t pärast **vaadeldi limaskesta reaktsiooni (limaskesta *patch*-tehnikaga, määrates kohalikku neutrofiilide vabastamist ja eosinofiilsete graanulite sisaldust - müeloperoksüdaasi (MPO) ja eosinofiil-katioonset valku (ECP). Samal ajal määrati ka limaskesta poolt NO tootmist (lämmastikoksiidi).**

6 patsiendil, kes reageerisid lehmapiimale, teostati alfa-laktalbumiini ja kaseiini provokatsioon. 18-l 20-st tekitas gluteen neutrofiilide aktivatsiooni, defineeritud kui tõusnud MPO vabastamine ja tõusnud NO süntees. **10 kahekümnest omasid sarnaselt tugevat põletikulist reaktsiooni lehmapiima väljakutsele.** Kuuel lehmapiimale tundlikul isikul tekitati kaseiini ja alfa –laktalbumiini väljakutse. **Kaseiin kontrastina alfa-laktalbumiinile kutsus esile gluteeni poolt tekitatud muutustele sarnaseid põletikulisi vastuseid**.

Pooltel (50%-l) CD-ga isikutel kutsub lehmapiim esile gluteeniga sarnaseid põletikulisi vastuseid limaskestal ja sellesse reaktsiooni on kaasatud just piimavalk kaseiin.

Patients with coeliac disease (CD) on a gluten-free diet may still have gastrointestinal symptoms. On clinical grounds cow's milk (CM) protein sensitivity may be suspected. Here, using rectal protein challenge, we investigated the local inflammatory reaction to gluten and CM protein in adult patients with CD in remission. Rectal challenges with wheat gluten and dried CM powder were performed in 20 patients with CD and 15 healthy controls. Fifteen hours after challenge the mucosal reaction was recorded by the mucosal patch technique with measurements of local release of neutrophil and eosinophil granule constituents; myeloperoxidase (MPO) and eosinophil cationic protein (ECP). We measured the mucosal production of nitric oxide (NO) simultaneously. Six of the patients who reacted to CM were also challenged with alpha-lactalbumin and casein. In 18 of 20 patients gluten challenge induced neutrophil activation defined as increased MPO release and increased NO synthesis. Ten of these 20 patients showed a similarly strong inflammatory reaction to CM challenge. Six of the CM sensitive patients were challenged with specific CM proteins: casein and alpha-lactalbumin. Casein, in contrast to alpha-lactalbumin, induced an inflammatory response similar to that produced by CM. A mucosal inflammatory response similar to that elicited by gluten was produced by CM protein in about 50% of the patients with coeliac disease. Casein, in particular, seems to be involved in this reaction.

Cabrera-Chávez F, de la Barca AM. **Bovine milk intolerance in celiac disease is related to IgA reactivity to alpha- and beta-caseins.** Nutrition. 2009 Jun;25(6):715-6.

Lehmapiimaga seotud talumatus CD korral on seotud IgA reaktiivsusega alfa- ja beeta-kaseiinile.

CD e tsöliaakiahaigus on autoimmuunne haigus, mille vallandab peamiselt gluteeni tarbimine. Kuid paljud teised valgud, sellised nagu piimavalk, indutseerivad samuti tsöliaakiataolisi sümptoome osadel tsöliaakiahaigetel. Erinevaid lähenemisi on kasutatud selleks, et selgitada välja, missugune

valgu komponent selle eest vastutab, k.a. gluteenipeptiidide esinemise võimalus lehmapiimas. Lehmapiima talumatus tsöliaakiahaigetel ei esine tänu gluteeni epitoopide T-rakke stimuleerivale toimele.

Celiac disease is an autoimmune disease triggered mainly by ingestion of wheat gluten proteins. However, some other dietary proteins, such as those of cow's milk, induce celiac disease-like symptoms in some patients with celiac disease. Different approaches have been done to detect the component responsible for this problem, including the possibility of gluten peptides present in cow's milk. Intolerance of celiac disease patients to bovine milk is not due to the presence of T-cell stimulatory epitopes of gluten.

Cabrera-Chávez F, Rouzaud-Sández O, Sotelo-Cruz N, Calderón de la Barca AM. **Bovine milk caseins and transglutaminase-treated cereal prolamins are differentially recognized by IgA of celiac disease patients according to their age**. J Agric Food Chem. 2009 May 13;57(9):3754-9.

Lehmapiima kaseiinid ja transglutaminaas-töödeldud teravilja prolamiinid tuntakse tsöliaakiahaigetel patsientidel IgA poolt erinevalt ära vastavalt nende eale.

Tsöliaakihaiguse (CD) esinemissagedus tõuseb kogu maailmas. See võib olla seotud imikutoidus sisalduvate valkude ja /või uute toidu töötlemise meetoditega, mõjutades erinevalt CD-le eelsoodumusega imikuid, vanemaid lapsi ja täiskasvanuid. IgA reaktiivsust inimese ja veise kaseiinidele, samuti jogurti kaseiinidele ja prolamiinidele nisu- või maisileibadest (mikrobiaalselt transglutaminaas-töödeldud või mitte (*microbial transglutaminase (mTG)-treated)*) hinnati kolmel patsientide grupil. G1 <2 a vanad; G2 umbes 3-aastased ja G3 >8 a vanad. Inimese kaseiini ei tuntud ära IgA poolt samal ajal kui IgA reaktiivsus G2 ja G3 gruppides oli kõrgem lehmapiima kaseiinile. Immunoreaktiivsus G1-s oli jogurtile madalam ja kontrollidega võrreldes ei omanud toimet mTG-töötlemine. Samas tõstis mTG töötlemine G3-s reaktiivsust nisu ja maisi prolamiinidele. CD patsientide IgA immunoreaktiivsus kaseiinile ja mTG-töödeldud või mittetöödeldud prolamiinidele oli east sõltuv, mis viitab sellele, et nende proteiinide mõju limaskesta barjäärile on eri eas erinev.

The prevalence of celiac disease (CD) has increased worldwide, which could be related to some dietary proteins in infant regimens and/or new food processes, affecting CD-predisposed infants and older children or adults differentially. IgA reactivity to human and bovine caseins, as well as yogurt caseins and prolamins from wheat or maize breads, microbial transglutaminase (mTG)-treated or not, was evaluated in three patient groups: G1, <2 years old; G2, approximately 3 years old; and G3 >8 years old. Human caseins were not recognized by IgA, whereas IgA reactivity of G2 and G3 was higher to bovine milk caseins. Immunoreactivity of G1 to yogurt caseins was lower and comparable to controls, with no effects due to mTG treatment. However, mTG treatment increased reactivity of G3 to wheat and maize prolamins. IgA immunoreactivity of CD patients to caseins and mTG-treated or not prolamins was age-dependent, which could reflect a differential manifestation of the effects of such proteins on the intestinal barrier.