

Cream Hill Estates Ltd. - Summary of Studies on Oats and Celiac Disease



Lead author/year (reference)	Number of study subjects	Study duration	Amount of oats consumed	Control	Method of investigation	Findings	Conclusion	Drop out rate
Holm K. et al 2006	32 children over 7 years old with celiac disease: 23 in remission, 9 newly diagnosed	2 year controlled trial with followed up to 7 years	43g daily (range of 13-81g) day of pure oats	none	23 in remission were given a gluten challenge (20g gluten/day) to give them mucosal relapse; small bowel mucosal biopsies, serology	In the children in remission oats had no detrimental effects on intestinal histology or serology during the 2 year trial. The gluten-challenged group had relapsed after 3-12 months. Complete recovery from the disease was accomplished in all relapsed and newly detected patients on an oat-containing diet	Pure oats can be safely included in the GFD in the majority of children with CD	2 dropped out due to severe abdominal symptoms
Scrivasan U. et al, 2006	10 adults with celiac disease	3 months	50g daily	none	Small intestinal histological sections – before and after oat challenge	Detailed immunohistological studies of biopsies did not reveal evidence of immune activation; no adverse symptoms observed	Strengthens the view that oats can be included safely in the diet of most gluten sensitive people	None

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Arentz-Hansen et al, 2004	9 adults with celiac with history of oats exposure	5 – 12 weeks Lundin study 4 – not indicated	50g not indicated	In vitro	T cell responses	Avenin can cause intolerance and mucosal inflammation Avenin reactive T-cells	Oats intolerance may result in villous atrophy and inflammation in CD pts eating oats	None
Högberg et al, 2004	92 children newly diagnosed	12 months	25-50 g	Parallel control group	Small bowel biopsy	No difference in the serological markers or architecture in both groups	Moderate amounts of oats in GFD does not prevent clinical or small bowel mucosal healing	Total - 22 15/57 GF/oats – 5 GI symptoms 1 failure to thrive GFD 7/59 2 GI symptoms
Peraaho, Kaukinen et al, 2004	39 celiac patients: 23 – oat containing diet 16- GFD	12 months	30 g	Parallel group control	Small bowel mucosal villous architecture (biopsy)	No difference in the QOL between groups More GI symptoms with oats group No difference in villous structure between groups, but density of intraepithelial lymphocytes higher in the oats group.	Oat containing GFD caused more intestinal symptoms than the traditional diet. Oats can be included in the celiac diet	3 oats group GI pain and abdominal distension

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Peräaho, Collin et al, 2004	710 celiac patients 494 consuming oats	N/A	Regular 1-3 times / wk	None – looking at current practice	Qualitative study	75% consumed oats ~1-3 times/wk Oats was more frequently consumed in children and those diagnosed after 1997. Fear of oats contamination main reason for avoiding oats However most thought oats important constitute of diet	Given a source oats supply, celiac patients prefer to consume oats. Appears to be well tolerated and diversifies diet	Not indicated
Størsrud et al, 2003	15 adult celiac pts in remission	2 years	93 g/day (mean)	None	Small bowel endoscopy with biopsy	No significant difference in GI symptoms, with flatulence most pronounced No changes in nutritional status and BMI No change in villous architecture and grade inflammation. Increase in the daily intake of fibre	Adults with celiac in remission can include controlled wheat free oats in diet for extended periods without adverse effects	Total = 5 2 GI symptoms (distention and flatulence) 3 non medical reason

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Lundin et al, 2003	19 adults	12 weeks	50 g	Self control	Biopsy	Initial abdominal discomfort with starting of oats consumption. No changes or improvement in histology negative EMA 5 had detectable levels of mRNS for IFN- γ after oats consumption	Celiac patients can tolerate oats in their diets In some patients, even pure oats can induce villous atrophy and dermatitis.	2 GI symptoms (diarrhea, bloating)
Janatuinen et al, 2002	51 adults with celiac disease	5 yrs	34 g/day (mean)	Parallel group control	Biopsy	No significant differences in villous architecture or cell infiltration between the oat group and control group	Long term consumption of moderate amounts of oats is safe for adults with celiac disease	28 (1 st phase 6-12 months) 12 stopped eating oats (no reason)
Hoffenberg et al, 2000	10 children newly diagnosed with celiac disease	6 months	24 g/d	Self control only	Biopsy	Significant decrease in biopsy score and intraepithelial lymphocyte count	Commercially available oat cereal can be safely eaten for 6 months by children newly diagnosed with celiac disease	3 non compliant with gluten free diet

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Janatuinen et al, 2000	52 adults with celiac disease in remission	6 months	49.9 g/day (mean)	Parallel control group	Biopsy	No significant change in the intraepithelial lymphocyte count in either the oat group or control group	Moderate amounts of oats can be consumed by adults with celiac disease without adverse immunologic effects	11 in total 2 control with dermatitis 2 with itching without signs of dermatitis 2 due to odd working (non medical) 5 with abdominal symptoms
	40 adults newly diagnosed with celiac disease	12 months	46.6 g/day (mean)	Parallel control group	Biopsy	Intraepithelial lymphocyte count decreased at a similar rate in both the oat group and control group	Moderate amounts of oats can be consumed by adults with celiac disease without adverse immunologic effects	

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Reunala et al, 1998	11 adults with dermatitis herpetiformis	6 months	53.2 g/d (mean)	Self control only	Biopsy	No significant changes in the mean villous height to crypt depth ratio or density of intraepithelial lymphocytes	The daily intake of 50 g of oats for a period of 6 months is not toxic to the small intestinal mucosa of adults with dermatitis herpetiformis	Complaints of persistence of mild rash developed 6 weeks after trial
Hardman et al, 1997	10 adults with dermatitis herpetiformis	12 weeks	62.5 g/d (mean)	Self control only	Biopsy	Villous architecture remained normal	Moderate amounts of oats are not harmful to the small intestine of adults with dermatitis herpetiformis	None
Srinivansan U. et al, 1996	10 adults with celiac disease	12 weeks	50 g/d	Self-control only	Biopsy	No significant change in intraepithelial lymphocyte count or enterocyte height	Oats are not toxic to adults with celiac disease	None

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Dissanayake et al, 1974	4 adult celiac patients	1 month	40-60 g oats + GFD	Self control	Biopsy	No difference in biopsy specimen before and after oats	Oats harmless to celiac patients and can be included on GFD	Not indicated