Recurrent diarrhoea and weight loss associated with cessation of smoking in a patient with undiagnosed coeliac disease

Case report—A 56 year old otherwise healthy male tried to quit his habit of smoking up to 16 cigarettes a day on four occasions. Each time approximately 3–6 weeks after he stopped smoking, watery non-bloody diarrhoea developed which also occurred at night. Frequency was 4–6 times per 24 hours. It was associated with a weight loss of at least 4.5 kg. There were no other symptoms. All of his symptoms subsided as soon as he resumed smoking. The diarrhoea also developed when he tried to quit smoking using either nicotine chewing gum or nicotine patches. The rest of his medical history was unremarkable.

On close questioning the patient volunteered that he was never able to put on weight despite a very healthy appetite. He also mentioned that he suffered from excessive gassiness. Physical examination was unremarkable. Stool volumes or stool weights were not measured. Blood work showed a haemoglobin concentration of 124 g/l (normal 140–180) with a normal mean corpuscular volume, white blood cell count, and platelet count. Serum folate was 4.2 nmol/l (normal 5.1–23.4) and ferritin 6 µg/l (normal 25–200). Antiendomysial IgA antibodies were strongly positive. Endoscopic biopsies obtained from the second part of the duodenum showed severe villous atrophy.

A clinical diagnosis of coeliac disease was made and a gluten free diet instituted. Over the next six months the patient gained 9 kg in weight and his bothersome flatulence disappeared. Subjectively he also noticed a marked improvement in his energy level.

All laboratory abnormalities subsequently normalised and repeat biopsies of the second part of the duodenum six months later revealed normalisation of villous atrophy. Five months after he started the gluten free diet he successfully quit smoking without the occurrence of watery diarrhoea or weight loss.

Snook and colleagues¹ showed in a case control study that the proportion of newly diagnosed coeliac disease

patients who were smokers was significantly lower than a healthy control group (7% *v* 33%, odds ratio 0.15 (95% confidence interval 0.06–0.4)). This difference was not explained by differences in social class. Interestingly, a similar observation of a lower prevalence of smoking has also been made in patients suffering from dermatitis herpetiformis. It is well known that there is an association between villous atrophy in the duodenum and dermatitis herpetiformis.²

There are two possible explanations for the findings in these two studies. Either smoking protects against the development of coeliac disease or alternatively smoking may mask the clinical manifestations of the disease.³ This case strongly suggests that the latter is the case. This patient was only able to successfully quit smoking following institution of a gluten free diet. This case shows that coeliac disease should be considered in the rare instances where patients develop watery diarrhoea while attempting to quit smoking. It is noteworthy that addition of nicotine patches or chewing gum did not prevent the development of diarrhoea. This suggests that it is not just the nicotine in cigarettes that masks the symptoms of coeliac disease.

S J O VELDHUYZEN VAN ZANTEN

Dalhousie University, Department of Medicine,
Queen Elizabeth II Health Sciences Center,
Room 928, Centennial Building, 1278 Tower Road,
Halifax, NS B3H 2Y9, Canada
Zanten@Is.Dal.Ca

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2 Lear JT, English JSC. Adult coeliac disease, dermatitis herpetiformis and smoking. *Gut* 1997;40:289.

3 Merrett MN. Selected summaries, smoking benefits celiac sprue and pouchitis: Implications for nicotine therapy? *Gastroenterology* 1997;112: 1048–50.