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Letter to the Editor

Implications for screening in the hypothyroid presentation of autoimmune polyglandular syndrome

The "hypothyroid" presentation of the recently reported case of autoimmune polyglandular syndrome [1] generates unique insights into the potential role of screening for related autoimmune disorders such as coeliac disease (CD), in patients with Autoimmune Addison's Disease (AAD) and/or Autoimmune thyroiditis (AIT).

Firstly, there is a recognised association between AAD and CD [2,3]. In the latter study the clinical, silent or latent form of CD was present in six out of 109(5.4%) patients with AAD [3]. Furthermore, individuals with Addison's disease have an 8-fold increased risk of subsequent coeliac disease (Hazard Ratio 8.6; 95% Confidence Interval 3.4 to 21.8 [4]). Over and above this association, thyroiditis (presumably of the autoimmune subtype) was ranked in the top three of a number of disorders characterised by the highest degree of co-occurrence with CD, even outranking AAD in that respect [5]. In the latter study co-morbidities were retrieved for 741 patients with CD. The three most prevalent comorbidities associated with CD were thyroiditis, 12.6%(95% Confidence Interval 10.1 to 14.9), type 1 diabetes, 2.3%(95% CI 1.2 to 3.4), and dermatitis herpetiformis, 2.0%(95% CI 1.0 to 3.0) [5]. In another study, based in the United States, the focus was on the co-occurrence of CD and hypothyroidism, insulin dependent diabetes, rheumatoid arthritis, juvenile rheumatoid arthritis, and alopecia aerate, respectively, in CD patients and in their first degree relatives [6]. The study compared the prevalence of those disorders among CD patients, and among their relatives, respectively, with the expected prevalence based on available population data. Among the 408 CD cases aged > 12, 40 cases of hypothyroidism were observed compared to 17.5 expected cases (Standardised Ratio of 2.3, Confidence Interval 1.6 to 3.0). Due to insufficient data the authors could assign an unequivocal diagnosis of Hashimoto's thyroiditis in only six cases. Nevertheless they believed that the vast majority of the 34 remaining cases of hypothyroidism were likely to be of the Hashimoto subtype "as it has been reported that 90% of hypothyroid cases in an iodine sufficient area are due to Hashimoto's thyroiditis" [6]. In a meta analysis which included English-language as well as non English-language publications from 1994 to 1st December 2014(27 relevant studies; 6024 individuals with auto immune thyroid disease)it emerged that about 1/62 patients with autoimmune thyroid disease had biopsy-verified CD [7].

The consequences of diagnostic delay between diagnosis of AIT and CD were exemplified by a 56 year old man experienced a 12 months delay between an initial diagnosis of autoimmune hypothyroidism and the subsequent recognition of CD. In that interim the patient suffered severe diarrhoea, dyspepsia, important weight loss with malnutrition, and anaemia. After initiation of a gluten-free diet diarrhoea ceased, he gained weight, his haemoglobin increased, and his quality of life improved greatly [8].

Comment

Although pilot studies have been published on screening for CD in AIT [9] and in AAD [10], respectively, guidelines are silent on the utility of screening for CD in either of those two disorders [11,12]. Nevertheless, in the opinion of the authors of one meta-analysis, the 1/62 prevalence of CD in AIT justifies screening for CD in the context of that disorder [7]. The coexistence of AAD should, if anything, reinforce the case for screening for CD, not only at the time of diagnosis of AAD but also in subsequent years, given the fact that individuals with AAD have an 8-fold increase in risk of subsequent CD [4]. Accordingly the management of reported case of the coexistence of hypothyroidism and AAD [1] could be optimised by pre-discharge screening for CD. In the event of a non diagnostic result at the present time, screening should be repeated in subsequent years, bearing in mind the caveat that Immunoglobulin A(IgA)-based screening kits may generate false negative results in IgA deficient patients, and also bearing in mind the 6–22% prevalence of seronegative CD [13].

Conflict of interest

None.

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