Uptake of No-Biopsy Approach to Diagnosing Paediatric Coeliac Disease in a Regional Tertiary Centre
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Background:
Coeliac disease (CD) is an immune mediated systemic disorder strongly associated with HLA DQ2 and DQ8 haplotypes.

In 2012 the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) recommended serology based No-Biopsy Approach to the diagnosis of CD if the following criteria are met:
- Serum levels of IgA antibodies against type-2 (tissue) transglutaminase (TGA-IgA)
- >10 times the upper limit of normal (>10x ULN)
- Positive endomysial antibodies (EMA-IgA) in a second serum sample
- Positive coeliac HLA risk alleles DQ2 and/or DQ8
- Symptoms suggestive of CD (particularly malabsorption)

These guidelines were modified in 2020 recommending:
- HLA testing and presence of symptoms are not obligatory criteria for a serology based diagnosis without biopsies.

Aim:
To review the practice in a Regional Paediatric Gastroenterology Centre of the uptake of No-Biopsy Approach to the diagnosis of CD comparing the 2012 and 2020 guidelines.

Design/Methods:
A 6 year retrospective study of all children who attended coeliac clinic at The Great North Children Hospital, Newcastle.

Data obtained using electronic patient records included TGA-IgA, EMA-IgA, symptoms at initial presentation and histopathological reports.

HLA typing results were obtained from the Regional NHS blood and transplant laboratory. 346 children with CD were reviewed in the coeliac clinic from July 2013 to July 2019. Age range 0.9 - 16.5 years (median 9.5 years) and 54% female.

Exclusion criteria include: Diagnosis outside study period or the UK, TGA-IgA at initial presentation unavailable for review.

Results:
66% of cases had TGA-IgA ≥10xULN at initial presentation. 48% were diagnosed by serology based No-Biopsy Approach.

Duodenal biopsies were performed in 82 cases. Biopsies were performed for type 1 diabetes - 8.3% and asymptomatic patients with first-degree relative with CD - 8.5%.

EMA-IgA positivity was reported in 65 of 68 cases with symptoms attributed to CD in 62 cases in the cohort.

A total of 13 of 62 cases had HLA risk alleles DQ2 and/or DQ8 performed.

Conclusions:
- HLA screening uptake was 63%. The low uptake of HLA typing may have contributed to the increased number of cases undergoing duodenal biopsies.
- Based on ESPGHAN 2012 guidelines 19% of cases had duodenal biopsies for diagnosis of CD despite meeting the criteria for No-Biopsy approach.
- Based on ESPGHAN 2020 guidelines 96% of cases had duodenal biopsies for diagnosis of CD despite meeting the criteria for No-Biopsy approach.

On review of all cases TGA-IgA ≥10xULN at initial presentation, undergoing duodenal biopsies, the changes in the ESPGHAN guidelines from 2012 to 2020 could potentially result in an increase from 16% to 96 % of cases benefitting from serology based No-Biopsy Approach to the diagnosis of CD.

A unifying approach to the diagnosis of the CD will reduce the variability in investigations.

The current restrictions to Aerosol Generating Procedures due to SARS-CoV-2 pandemic will have a positive impact on establishing a No-Biopsy Approach to the diagnosis of CD.

References:
2) Joint ESPGHAN and Coeliac UK Guidelines for the diagnosis and management of coeliac disease. Simon Munsch, Huw Jenkins, Marcus Auth et al. Archives of Disease in Childhood, October 2013, 98 806-811

Authors:
No conflicts of interest