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| Serology screening in Cystic Fibrosis for early detection of Coeliac disease |
| *Nathan Lieu1,2, Carla Rowe3, Andrew Williams4,5, Melanie Wong4, Shoma Dutt2,6, Hiran Selvadurai1,2*  |
| *1Respiratory Medicine, 3Dietetics, 5Allergy and Immunology, 6Gastroenterology, The Children’s hospital at Westmead, Sydney.**2Discipline of Paediatrics and Child Health, 5Central Clinical School, University of Sydney.* |
| **Introduction/Aim:** Coeliac disease (CD) has a global incidence of approximately 1.4%, however studies have identified 1.8-2.3% of patients with cystic fibrosis (pwCF) to have concurrent CD. The underlying gastrointestinal symptoms associated with CF make it difficult to diagnose CD based on clinical features alone. Our CF clinic does not routinely assess for CD. Therefore, we aim to evaluate the role of annual serology screening in pwCF in detection of CD. **Methods:** A prospective analysis was performed on children seen in CF clinic at a tertiary paediatric hospital between 2022-2023. Coeliac serology including transglutaminase IgA (tTg-IgA), deamidated gliadin IgG (DGP-IgG), total IgA and anti-endomysium antibody levels (AEA) as well as clinical symptoms and, where available biopsy results, were assessed. **Results:** One hundred and eighty-eight children underwent coeliac serology screening. The median age was 9 years (SD ±5.5; 1-20). F508 was the most common gene mutation (homozygous 72/188; 38%, heterozygous 90/188; 48%). Over half (100/188; 53%) were on modulator therapy. Majority were pancreatic insufficient (141/188; 75%) and had clinical symptoms (156/188; 83%). Eighteen patients were flagged following elevated DGP-IgG, tTg-IgA, IgA and/or AEA levels (Table 1). Three had known CD, 2 were newly diagnosed on biopsy, of which one was asymptomatic, one patient had a negative biopsy, 3 await gastroenterology review and the remainder are being monitored. This gives a prevalence of 2.6% (5/188) of CD in this cohort of pwCF. Table 1: Summary of patients with raised serology markers and CD on biopsy

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|  | Elevated tTg-IgA (n=9/188) | Elevated DGP-IgG (n=10/188) | Elevated AEA (n=3/4) |
| Symptomatic | ***Yes*** | ***No*** | ***Yes*** | ***No*** | ***Yes*** | ***No*** |
| 7 | 2 | 9 | 1 | 2 | 1 |
| Coeliac confirmed biopsy  | 4/5^ | 1/5 | 4/5\* | 1/5 | 2/2˚ | 0/2 |
| Awaiting review +/- biopsy  | 3 |  | 3 |  | 1 |  |

^1 case of CD had normal tTg-IgA; \*1 case of CD had normal DGP-IgA; ˚1 patient awaiting biopsy**Conclusion:** The prevalence of CD was 2.6% in this cohort, with 2 newly diagnosed patients on biopsy and 3 awaiting review, following elevated serology levels. Annual CD serology screening is therefore useful for early detection of CD in pwCF and has been instituted as a standard of care in our clinic.**Grant Support/Declaration of Interests:** Nil to declare**Key words:** Cystic Fibrosis, Coeliac disease, children  |

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