**Introduction:**

Coeliac disease affects 1% of the population in the United Kingdom (U.K.) but is often under-diagnosed (West *et al.*, 2003). Complications of coeliac disease include detrimental effects on bone health and increased fracture risk (Heikkilä *et al*., 2015). Currently, evidence supporting routine serological testing for coeliac disease in adults with fractures is limited.

**Methods:**

This cross-sectional observational study was performed at a single U.K. fracture clinic with 800 adults (≥16 years) with a fracture recruited between April 2023 and September 2024. Patients under 16 or unable to provide consent were excluded. Patients with known coeliac disease were included. Demographic data (age, gender, ethnicity) and fracture sites were recorded. Anti-tissue transglutaminase antibody (tTG-IgA) tests were performed unless known to have coeliac disease. Equivocal tTG-IgA results were reviewed by a gastroenterologist, and repeat testing was conducted if needed. Seropositive participants were invited for biopsy. Laboratory processing issues were treated as negative results. Statistical analyses included descriptive demographic analyses and prevalence calculations.

**Results:**

Baseline characteristics of the study and coeliac populations are shown in Table 1. 783 participants underwent tTG-IgA testing, with 4 participants testing positive, and therefore a seroprevalence of 0.5%. Biopsy confirmed coeliac disease in 2 participants (0.25%), 1 did not attend biopsy, and 1 was biopsy negative. 19 participants were treated as having negative results, including untested samples (n=11), equivocal results (n=3), and known coeliac disease (n=5). The coeliac population was predominantly white, and upper limb fractures were most common, aligning with prior studies (Thomson *et al.*, 2003; Mardini *et al.,* 2015).

**Conclusions:**

This is one of the largest studies to evaluate the prevalence of coeliac disease in fracture patients. The observed new seroprevalence was lower than the expected UK prevalence of coeliac disease. These findings suggest that routine screening in fracture clinics may not be necessary. However, the results highlight the importance of targeted approaches for high-risk groups.

**Table 1**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Variable | Categories | Frequency (%) | Known coeliac disease (n=5) (%) | New seropositive patients (n=4) (%) |
| Age in years (mean ± SD, median, range) | - | 55.2 ± 17.8, 56, 17-89 | 50.0 ± 29.7, 34, 23- 84 | 51.2 ± 20.0, 50, 30-74 |
| Gender | Male | 298 (37.3) | 2 (40.0) | 2 |
| Female | 501 (62.6) | 3 (60.0) | 2 |
| Non-binary | 1 (0.1) | 0 | 0 |
| Ethnicity | White | 760 (95.0) | 5 (100) | 4 (100) |
| Asian or Asian British | 22 (2.8) | 0 | 0 |
| Mixed or multiple | 5 (0.6) | 0 | 0 |
| Black, Black British, Caribbean, or African | 10 (1.3) | 0 | 0 |
| Other ethnic group | 3 (0.4) | 0 | 0 |
| Fracture site | Upper limb | 508 (63.5) | 4 (80.0) | 3 (75.0) |
| Lower limb | 284 (35.5) | 1 (20.0) | 1 (25.0) |
| Spinal | 3 (0.4) | 0 | 0 |
| Other | 5 (0.6) | 0 | 0 |
| Known to have coeliac disease | Yes | 5 (0.6) | - | - |
| No | 795 (99.4) | - | - |
| TTG test result | Positive | 4 (0.5) | - | - |
|  | Negative | 796 (99.5) | - | - |