SUBCLINICAL CELIAC DISEASE IN THE AMERICAN-HISPANIC POPULATION: RESULTS FROM THE LOS ANGELES COUNTY DEPARTMENT OF HEALTH SERVICES

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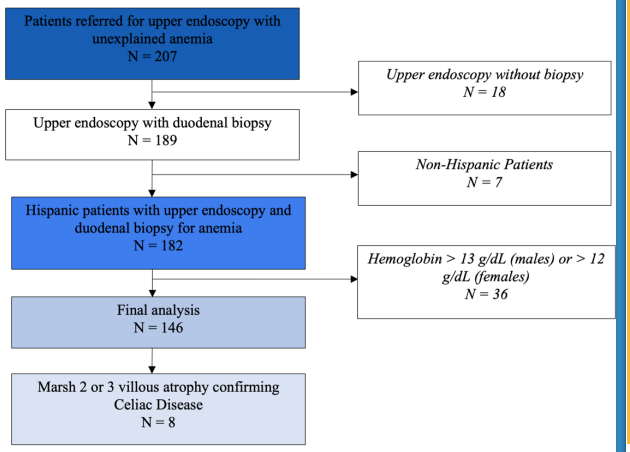
INTRODUCTON

- Celiac Disease (CeD) is a chronic autoimmune enteropathy presenting with symptoms of malabsorption (i.e., diarrhea, steatorrhea, weight loss) and/or non-classical symptoms (constipation, abdominal pain, bloating)
- Subclinical CeD due to unexplained anemia is a common extraintestinal manifestation due to impaired iron, folate, or B12 absorption, chronic blood loss due to mucosal inflammation, vitamin K deficiency, and/or hyposplenism
- ~10% of non-Hispanic patients with iron deficiency anemia (IDA) are diagnosed with CeD, while the prevalence of CeD in Hispanic-Americans with GI symptoms or anemia is ~1%
- **AIM**: assess the prevalence of subclinical CeD (without GI symptoms) in Hispanic patients presenting with unexplained anemia, via exploration of data from the Los Angeles County (LAC) Department of Health Services (DHS), the second largest safety-net healthcare system in the country, with a largely uninsured or underinsured, diverse population

STUDY POPULATION

Figure 1. Patient Selection Methods



METHODS

- This cross-sectional study included retrospective chart review of 207 Hispanic patients from the LAC DHS database with unexplained anemia undergoing duodenal biopsy between 2013 and 2020
- After exclusion per **Figure 1**, 146 patients were assessed with 8 patients (5.5%) diagnosed with CeD based on Marsh 2 or 3 findings on duodenal histology **(Table 1)**
  - Mean age of 54.5 years at time of endoscopic evaluation
  - 66% female

Table 1. Demographic, clinical & histologic characteristics of Hispanic patients with CeD in the setting of unexplained anemia without intestinal manifestations

Patient	Age	Sex	Hgb	Ferritin	AST/ ALT	Total Bilirubin	tTg-IgA	B12	TSH	Histology
Case 1	34	F	11.7	-	16/12	0.6	<1	325	-	**Marsh 3a**
Case 2	40	M	1.07	**5.1**	29/40	0.6	<1	481	0.83	**Marsh 3a**
Case 3	42	F	11.6	70.7	34/50	0.4	<1	576	1.76	**Marsh 3**
Case 4	44	F	7.8	**5.5**	23/17	0.9	<1	-	-	**Marsh 3**
Case 5	44	F	9.5	**3.1**	29/33	0.6	<1	-	1.01	**Marsh 2**
Case 6	49	F	8.5	-	17/17	0.5	-	652	12.81	**Marsh 3a**
Case 7	50	F	9.9	**5.4**	22/23	0.5	<1	291	2.10	**Marsh 3a**
Case 8	57	F	8.4	**7.6**	42/51	0.4	>100	-	3.74	**Marsh 3**

Hgb – hemoglobin, tTg-IgA – tissue transglutaminase IgA antibodies, TSH – thyroid stimulating hormone
Ferritin bolded if value <20 ug/L signifying iron deficiency anemia (IDA)
Marsh Criteria: 2 (crypt hyperplasia without villous blunting), 3a (partial villous blunting), 3 (unspecified degree of villous blunting)

RESULTS

- The overall prevalence of CeD was 5.5% (n=8/146) in patients undergoing duodenal biopsy for unexplained anemia
- In patients with IDA, the prevalence of CeD was 7.14% (n=5/70)
- Of the 8 patients with confirmed subclinical CeD, only 1 had diarrhea in retrospective review (not the indication for endoscopy)
- None of the patients had a family history of CeD
- Interestingly, 6 of 7 CeD patients were seronegative
- Other CeD-related findings included low vitamin B12 (2/5), transaminitis (3/8), and hypothyroidism (pre-existing diagnosis in 1/8)

CONCLUSIONS

- The prevalence of CeD in adult Hispanics with unexplained anemia (unspecified or IDA) without intestinal manifestations is only slightly lower than the prevalence in White patients
- Screening for CeD in Hispanics with unexplained anemia and IDA specifically, is of significant value
- Hispanic CeD patients often have higher rates of seronegative disease, thus necessitating endoscopic evaluation with duodenal biopsy for accurate diagnosis

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