Gastric Antral Vascular Ectasia: The Invaluable Role of the Gastric Biopsy in its Detection and Confirmation

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Background

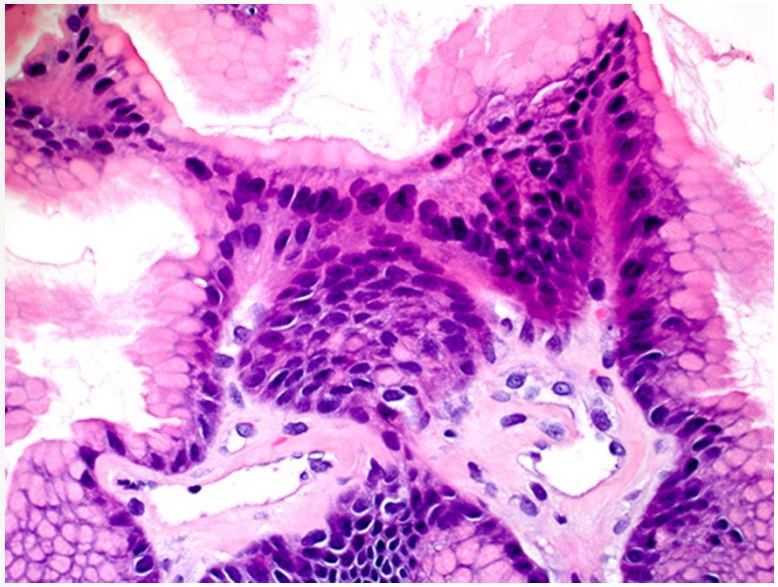
- Gastric vasculopathies consist predominantly of two entities:
  - **Gastric antral vascular ectasia (GAVE)**
  - Portal hypertensive gastropathy (PHG)

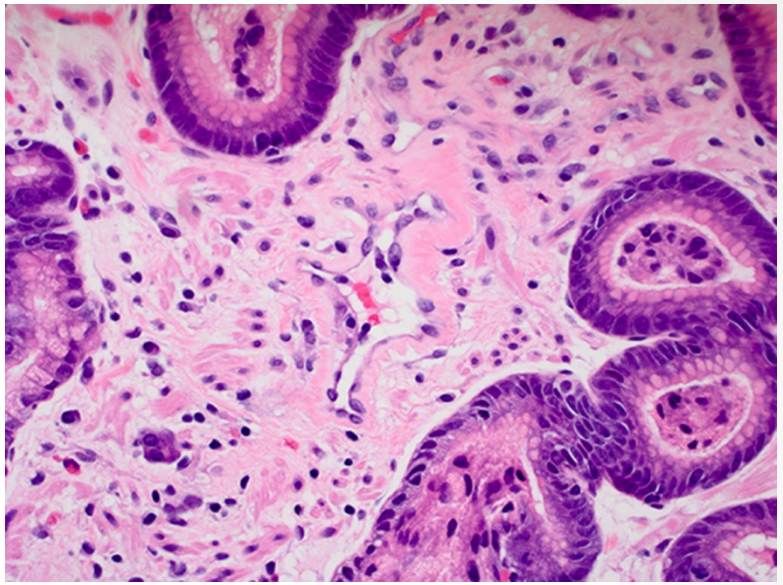
- The classically described GAVE patient is an elderly woman with iron-deficiency anemia and a “watermelon” appearance of the gastric mucosa on endoscopy.

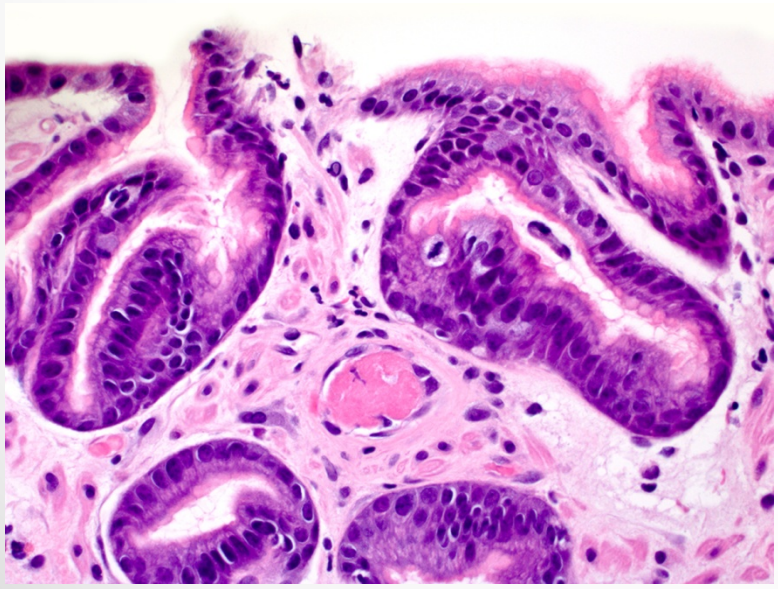
Background

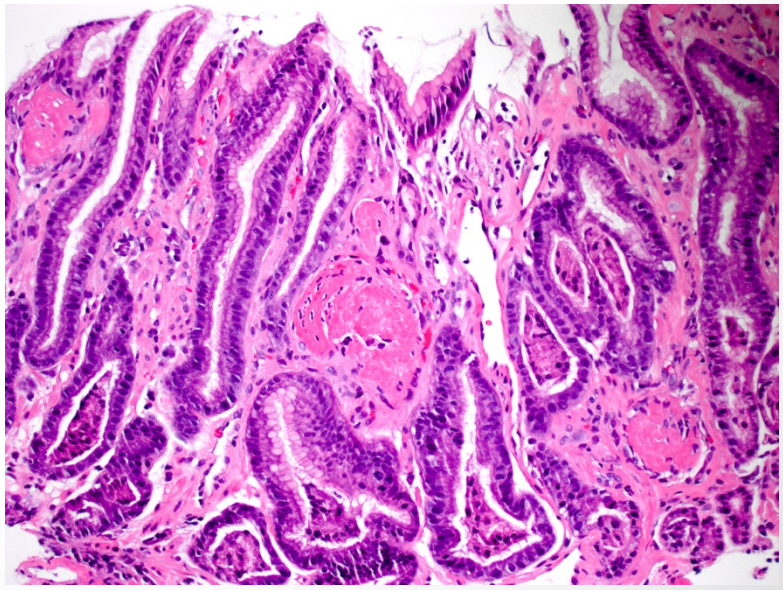
- There are two published histologic scoring systems:
  - Gilliam *et al.* (1989) – Devised a system requiring vascular abnormality (thrombi/ectasia) and spindle cell proliferation of the lamina propria to distinguish GAVE from normal, acute gastritis, and atrophic gastritis.
  - Payen *et al.* (1995) – Devised a similar system using vascular abnormality, spindle cell proliferation, and fibrohyalinosis to distinguish GAVE from PHG in cirrhotic patients.

Histologic Findings









Background

- There is wide variability in the workup of GAVE.

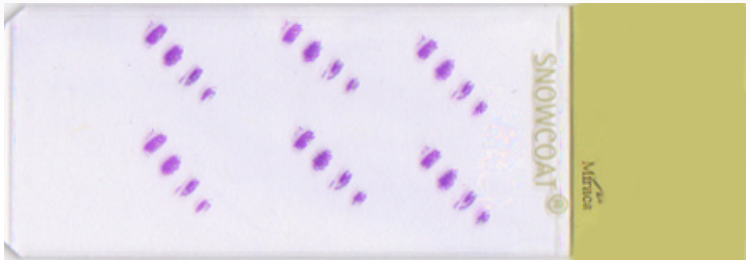
  - Clinicians:

    1) The frequency in which suspected GAVE is biopsied varies amongst clinicians.

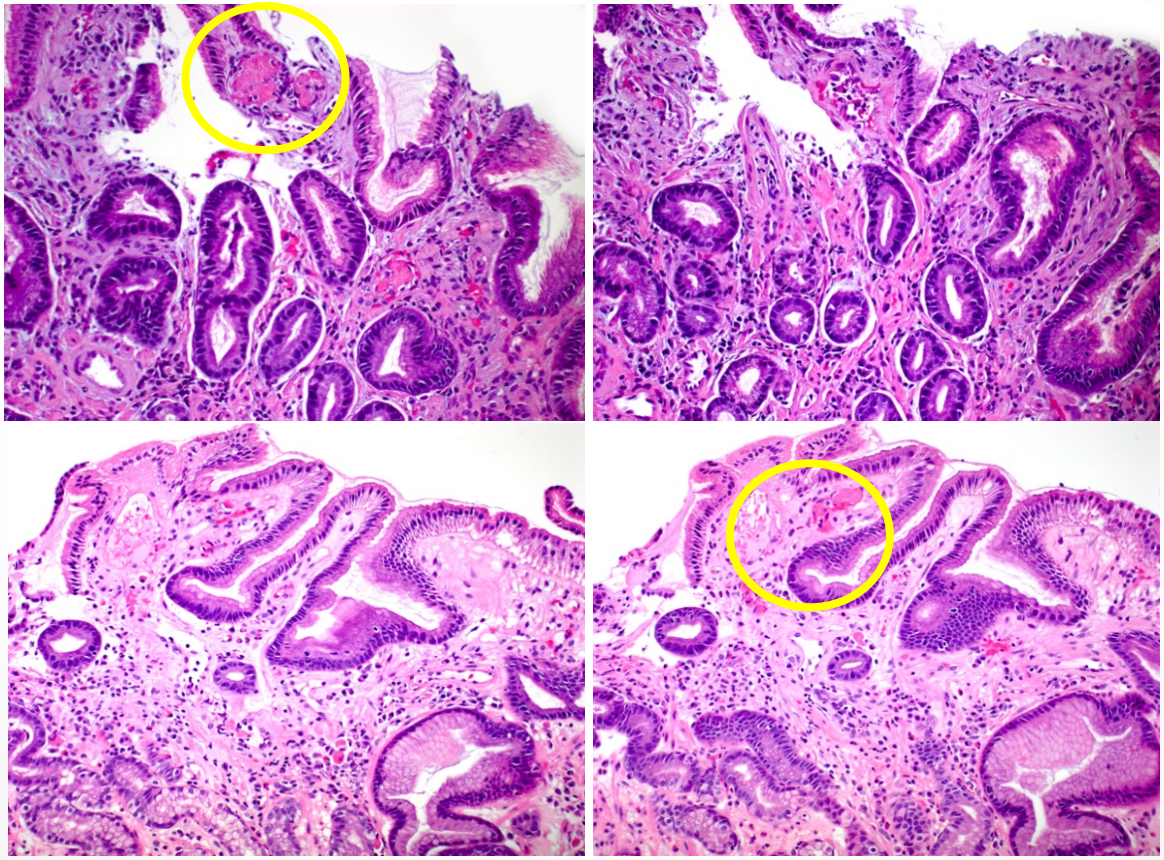
  - Pathologists:

    1) Scoring systems are not generally used.
    2) Crucial features (thrombi) are often patchy.

Level 3 Level 1



Level 2



Slide Level 1	Slide Level 2

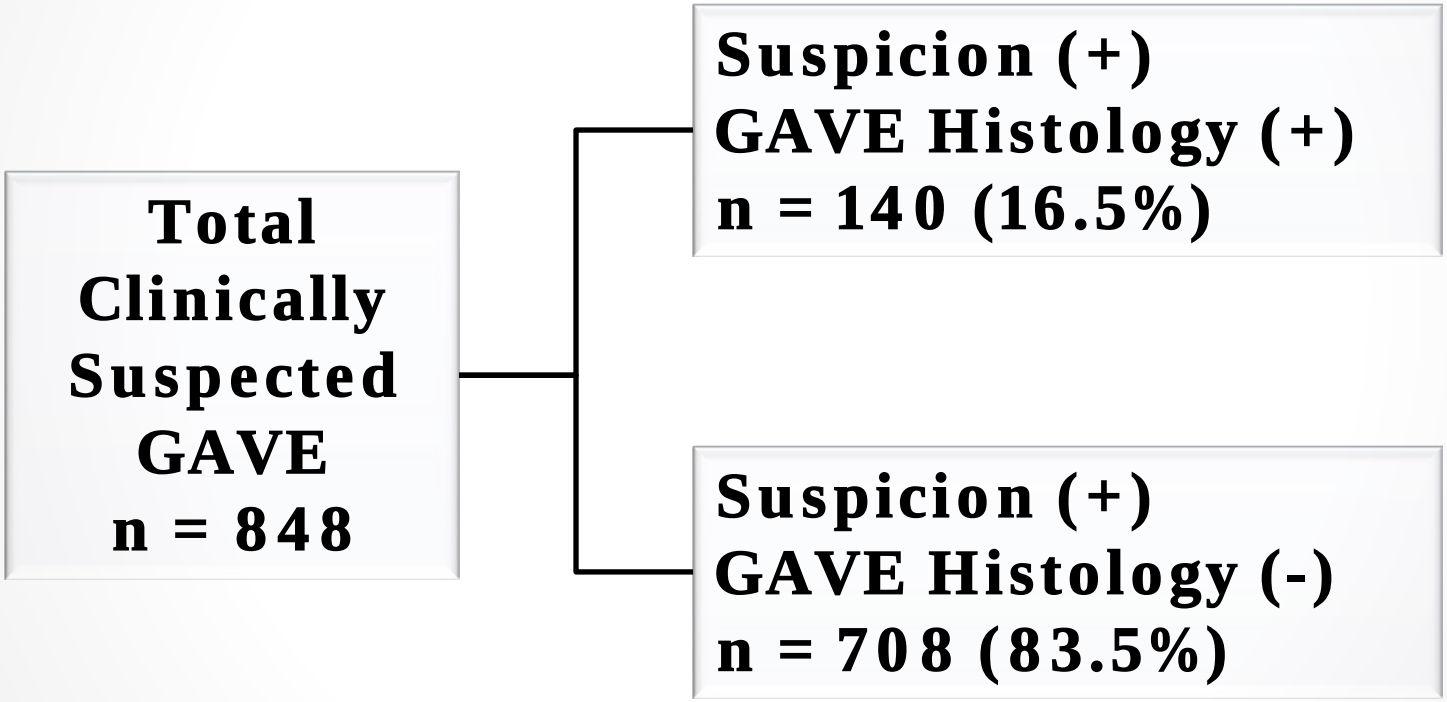
Aims

1. To determine in what proportion of patients a clinical suspicion of GAVE is confirmed histologically.
2. To compare the demographic and clinical characteristics of patients with and without histopathologic findings diagnostic of GAVE.
3. To determine whether in patients with histological findings compatible with GAVE the demographic and clinical characteristics are different between those who were clinically suspected and those who were not.

Methods

Two unique groups were created and their constituents' demographics and clinical findings were analyzed.

Results


Total Clinically Suspected GAVE n = 848
Suspicion (+) GAVE Histology (+) n = 140 (16.5%)
Suspicion (+) GAVE Histology (-) n = 708 (83.5%)

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Results

	Histo (+) (n=140)	Histo (-) (n=708)
Age (yrs, median)	67	64
Women (%)	98 (70)	430 (61)
Men (%)	42 (30)	278 (39)

Results

	Histo (-) (n=708)
Normal	79 (11)
Inactive Gastritis	110 (15)
Reactive Gastropathy	446 (62)
H. pylori	30 (4)

62% of suspected GAVE cases without confirming histology showed reactive gastropathic changes. (vs. 15.6% in our patient population, Maguilnik *et al.*, AP&T, 2012).

Results

	Histo (+) (n=140)	**Histo (-)** (n=708)	**OR** (95% CI)
Clinical Cirrhosis (%)	1 (0.7)	35 (5)	0.14 (0.02 - 1.02)
Abdominal Pain (%)	23 (16)	122 (17)	*ns*
Anemia (%)	79 (57)	221 (31)	2.85 (1.97 - 4.13)
Nausea (%)	1 (0.7)	51 (7)	0.11 (0.01 - 0.78)
Vomiting (%)	1 (0.7)	22 (3)	*ns*
Weight Loss (%)	4 (3)	31 (4)	*ns*
Bleeding (%)	2 (1.4)	31 (4)	*ns*

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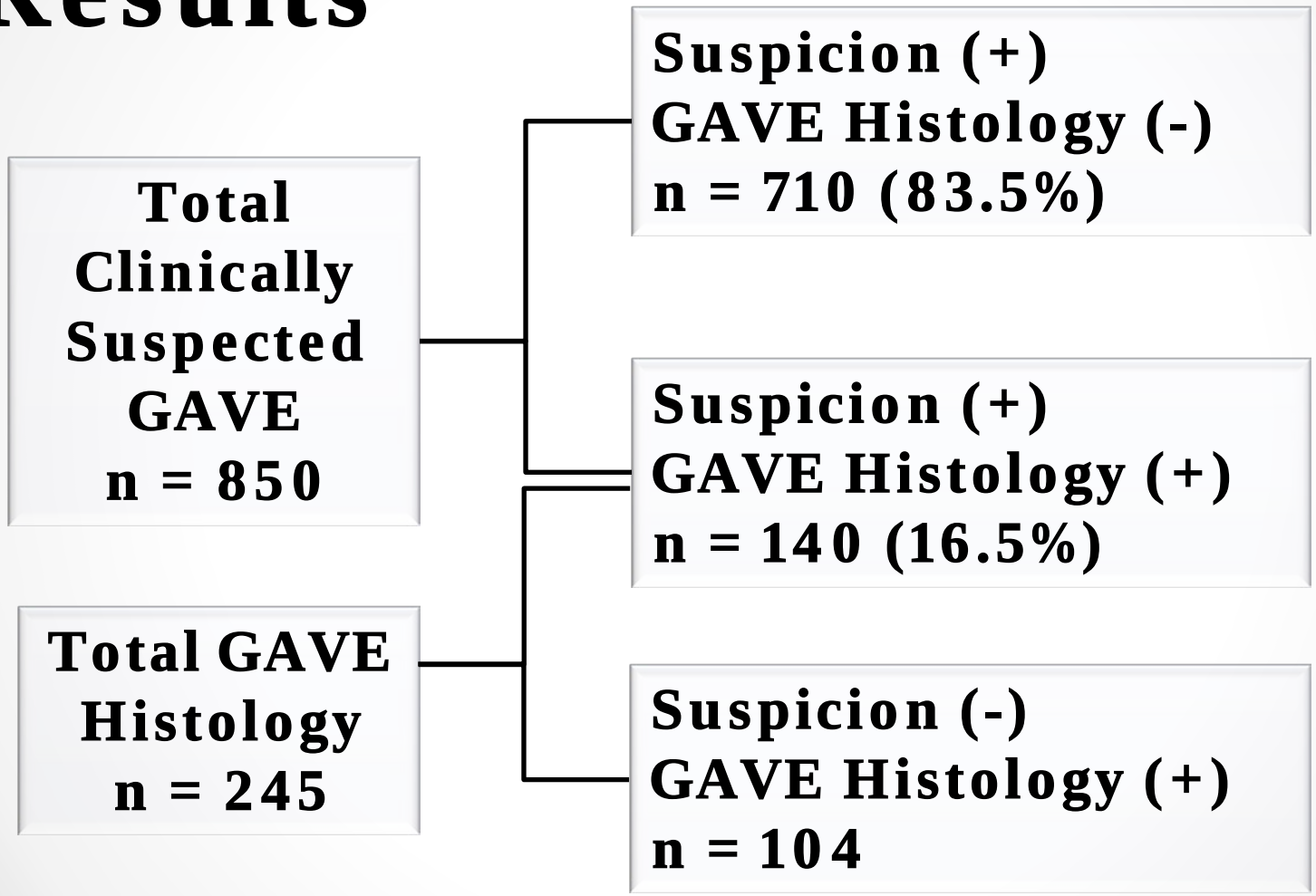
Results


Total Clinically Suspected GAVE n = 850
Total GAVE Histology n = 245
Suspicion (+) GAVE Histology (-) n = 710 (83.5%)
Suspicion (+) GAVE Histology (+) n = 140 (16.5%)
Suspicion (-) GAVE Histology (+) n = 104

Results

	Suspected (n=140)	**Non-Suspected** (n=105)
Age (yrs, median)	67	67
Women (%)	98 (70)	67 (64)
Men (%)	42 (30)	38 (36)

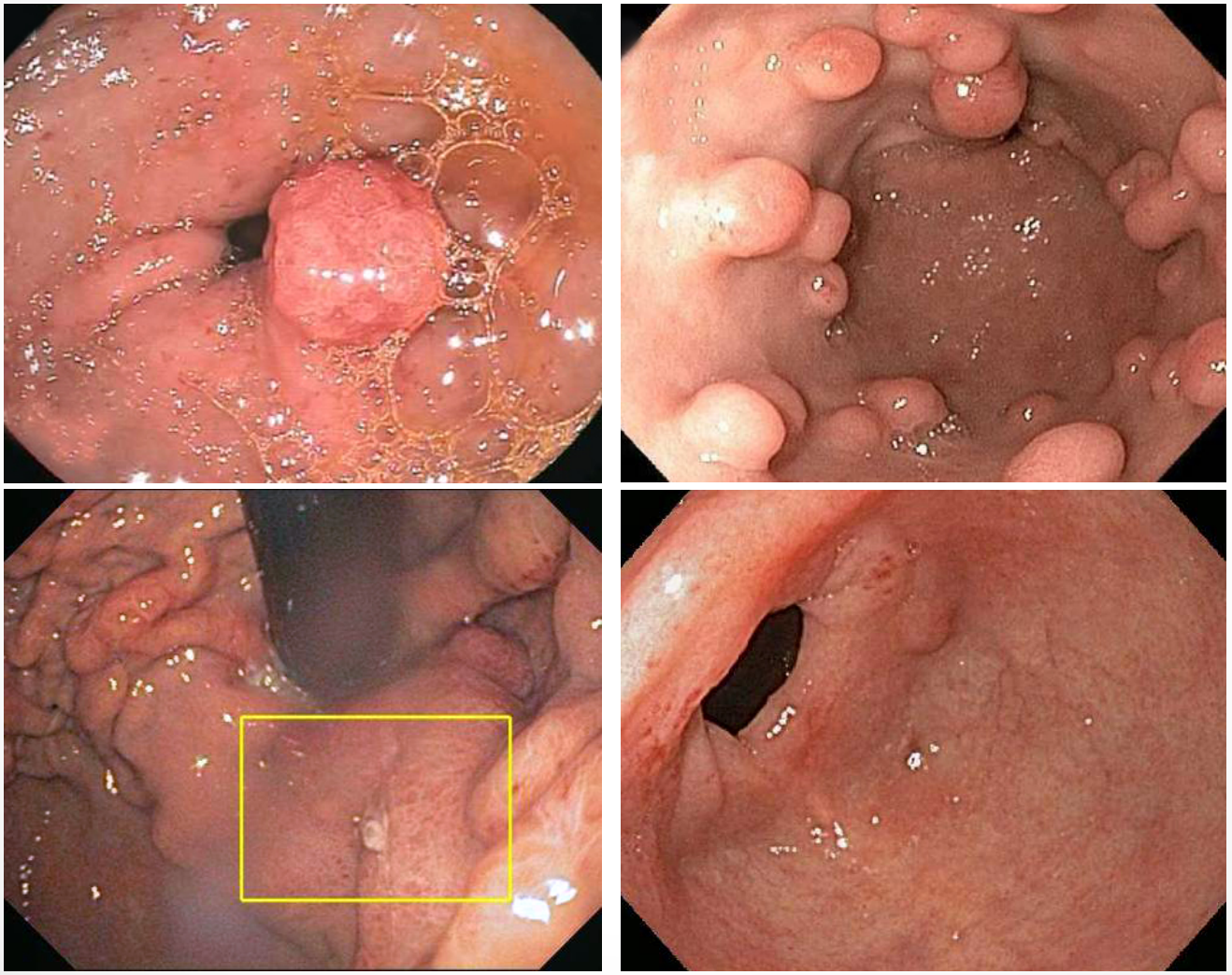
Results

	Suspected (n=140)	Non-Suspected (n=105)	OR (95% CI)
Clinical Cirrhosis (%)	1 (0.7)	11 (10.5)	0.06 (0.01 – 0.48)
Abdominal Pain (%)	23 (16.4)	25 (23.8)	0.45 (0.24 – 0.83)
Anemia (%)	79 (56.4)	32 (30.5)	2.95 (1.73 – 5.04)
Nausea (%)	1 (0.7)	8 (7.6)	0.09 (0.01 – 0.79)
Vomiting (%)	1 (0.7)	7 (6.7)	0.10 (0.01 – 0.83)
Weight Loss (%)	4 (2.9)	8 (7.6)	*ns*
Bleeding (%)	2 (1.4)	1 (0.9)	*ns*

Results

	Suspected (140)	**Non-Suspected** (105)	**OR** (95% CI)
Gastritis (%)	110 (78.6)	67 (63.8)	0.48 (0.27 – 0.85)
Erythema(%)	57 (40.7)	34 (32.4)	*ns*
Polyp (%)	1 (0.7)	1 (0.9)	
Thickened Folds (%)	3 (2.1)	6 (5.7)	
Nodules (%)	1 (0.7)	7 (6.7)	
Mass (%)	0	6 (5.7)	
Total Raised Lesions (%)	5	20	6.35 (2.30 – 17.56)

“Consistent with GAVE”



Summary

- Only 16.5% of cases biopsied to rule out GAVE had confirmatory histopathologic features

- Of those without confirming histology, the most common histopathologic finding was reactive gastropathy.

Summary

- In 42.5% of patients with histopathologic features compatible with GAVE, a clinical suspicion was not conveyed to the pathologist

- Unsuspected cases were more frequently from males, those with a history of cirrhosis, and patients presenting with nausea, vomiting, and weight loss; but less frequently with anemia.

Summary

Endoscopically, unsuspected cases showed raised lesions including nodules, thickened folds, polyps, and masses more frequently than erythematous streaks.

Conclusion

Our study shows that the gastric biopsy is valuable in the diagnosis of GAVE in two ways.

1. Confirmation: GAVE is infrequently confirmed histologically, and endoscopically suspicious gastric mucosa is often associated with reactive gastropathy, gastritis, or normal findings

2. Detection: The gastric biopsy can detect a subset of patients without the classic presenting endoscopic appearance or symptoms.

Aims

1. To determine in what proportion of patients a clinical suspicion of GAVE is confirmed histologically.
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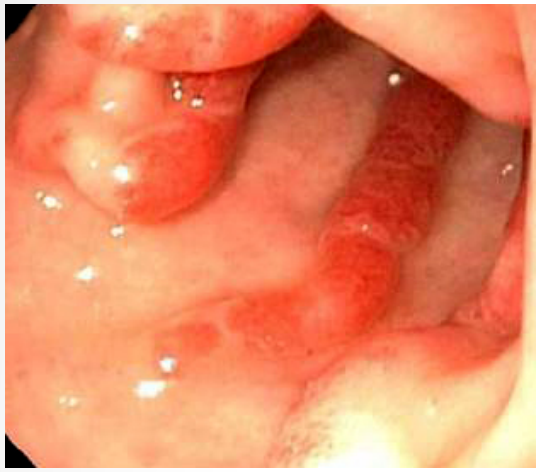
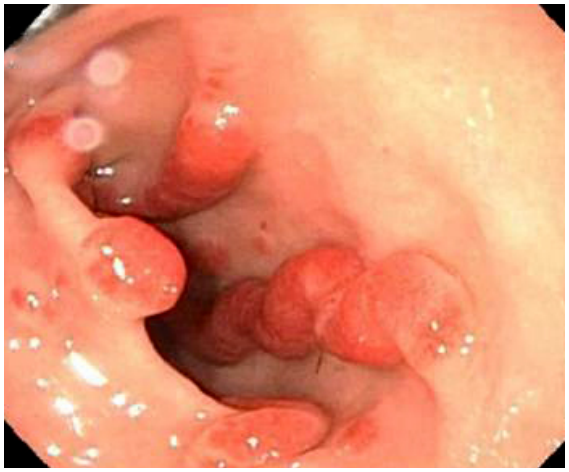
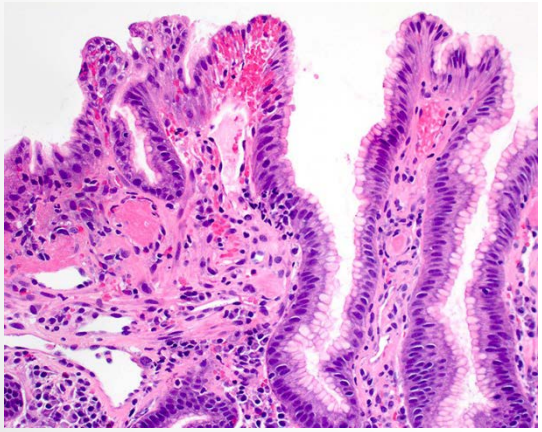
3. To determine whether patients with the histological findings compatible with GAVE are the demographic and clinical characteristics different between those who were clinically suspected and those who were not.
4. To determine whether patients with GAVE histology in the absence of clinical suspicion have, or develop GAVE clinically (underway).

Questions?







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