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Non-alcoholic steatohepatitis (NASH) Elastography versus Liver Biopsy

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Non-alcoholic steatohepatitis (NASH): Elastography versus Liver Biopsy

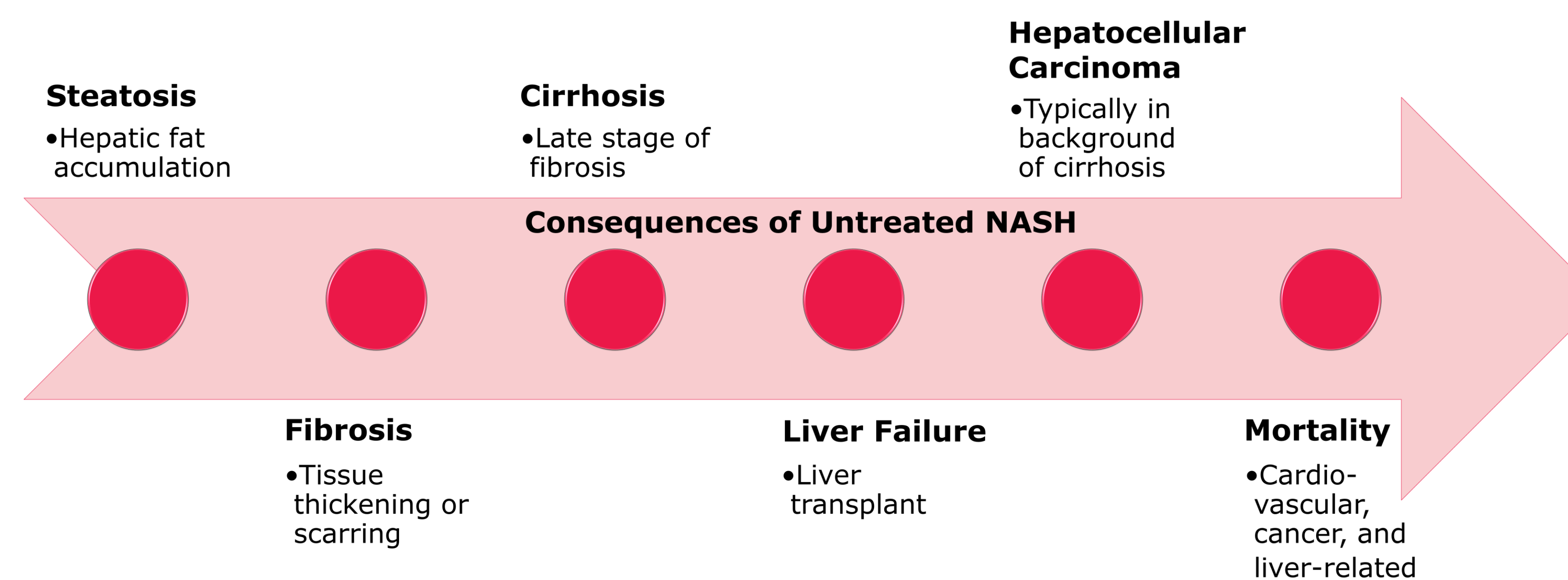
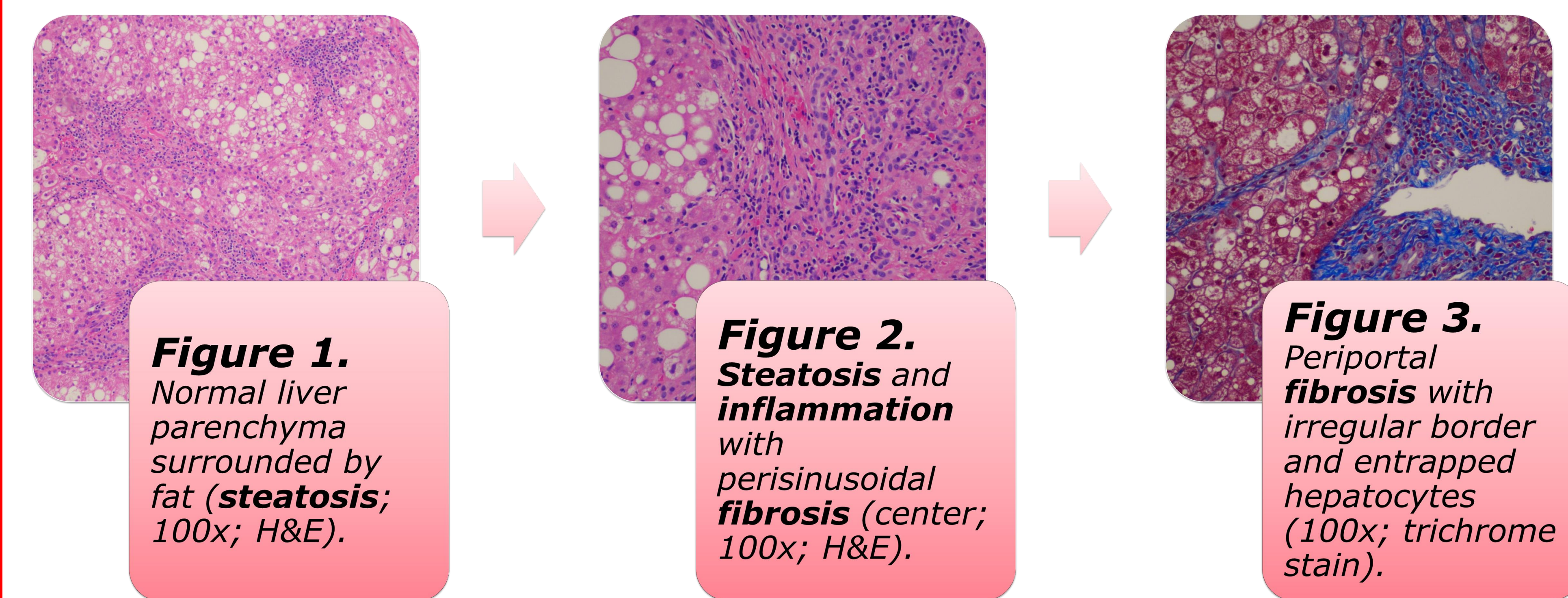
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What is elastography?

- Imaging technique which quantifies **tissue stiffness** by measuring the speed of mechanical shear waves
- Stimulus to generate shear waves and means to observe tissue response provided by **ultrasound**
- Waves faster in stiff (**fibrotic**), slower in soft (**healthy**) tissues

Aim

How do you monitor patients at high risk of liver disease progression? What noninvasive methods exist to provide reliable NASH prognoses?

We wanted to investigate the efficacy of **liver biopsy versus elastography** at our institution.

Methods

Biopsy

- 3/1/16-5/1/21
- "NASH and steatohepatitis" n=298
- "Steatohepatitis upstate only" n=849

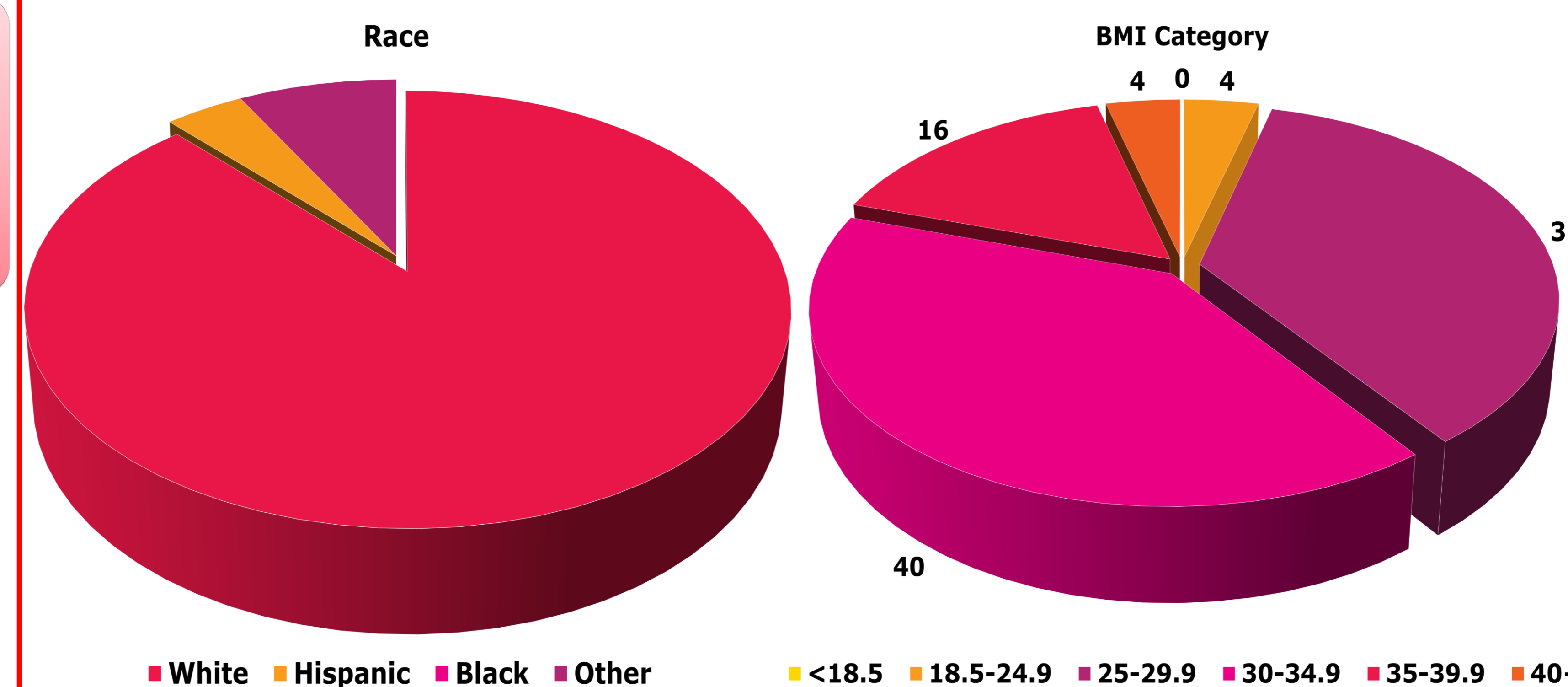
Imaging

- US liver elastography n=797

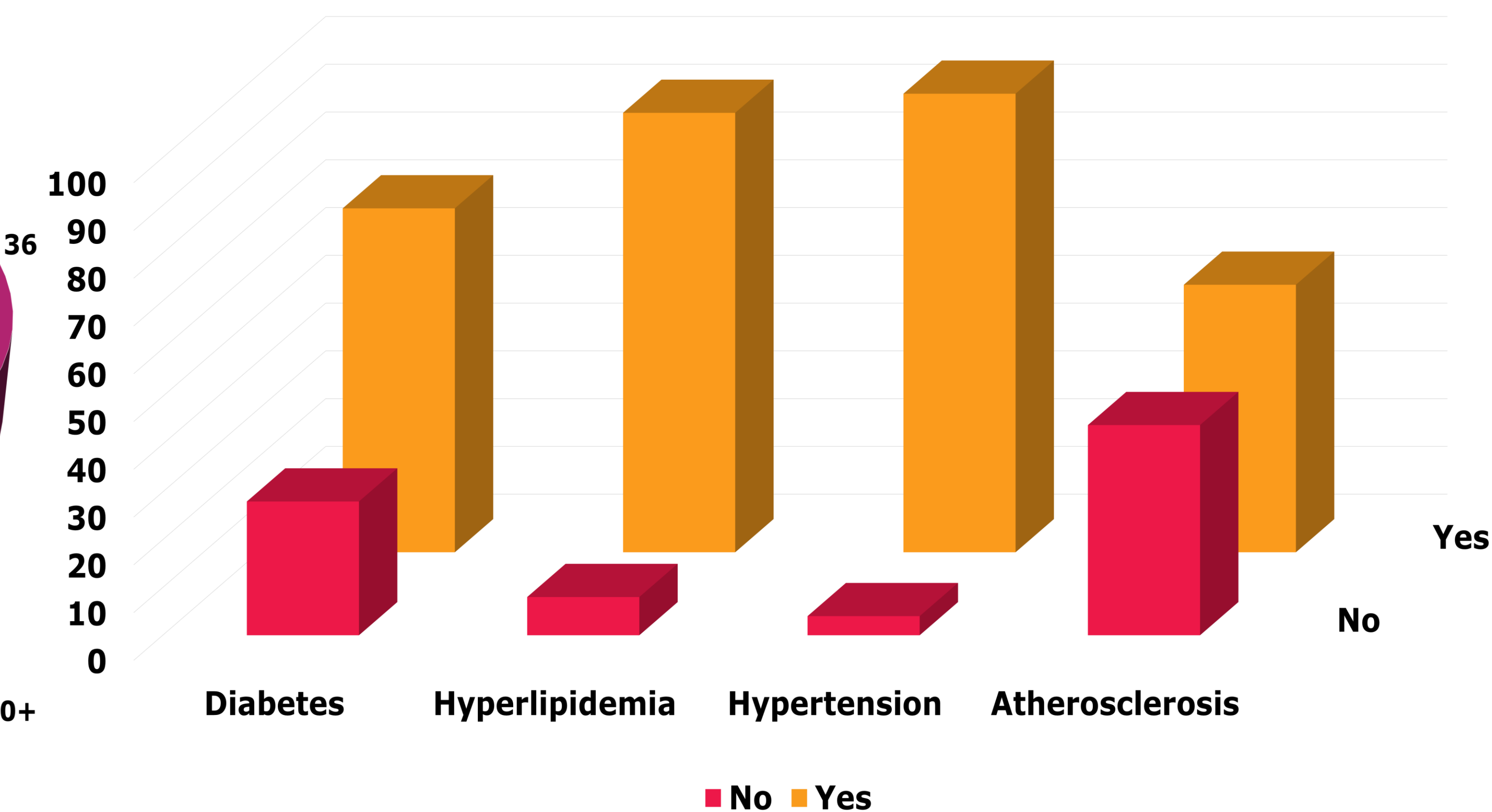
Exclusion Criteria

- Exclude those who were on protocol
- Exclude those with incomplete records n=25

Demographics



Comorbidities



Results

Efficacy of biopsy versus elastography for fibrosis

		Histology +	Histology -	p-value
Elastography	Positive	20 (80%)	0 (0%)	p<0.0001
	Negative	4 (16%)	1 (4%)	

Efficacy of biopsy versus elastography for cirrhosis

		Histology +	Histology -	p-value
Elastography	Positive	1 (4%)	3 (12%)	p=0.05
	Negative	6 (24%)	15 (60%)	

Discussion

- Statistically significant difference between elastography and histology in agreement versus those opposed for both fibrosis and cirrhosis, suggesting similar capabilities in recognizing **later stages** of NASH.
- However, no imaging by elastography definitively noted **steatosis** or **inflammation**.
- In our comparison, the elastography here does not compete with histology for **initial NASH diagnosis**.

Future Work

- **What is the role of elastography in relation to liver biopsy? Could these methods be complementary for following a patient's disease progression?**

References

- Access references through QR code/ Contact: cgwilson@email.sc.edu

