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## Background

The accurate diagnosis of hepatitis C virus (HCV)-related fibrosis is crucial for prognosis and treatment decisions.

In patients co-infected with HCV and human immunodeficiency virus (HIV), fibrosis progression is accelerated and is a predictor of the development of hepatocellular carcinoma.

FibroSure is a commercially available test that uses the results of six serum biomarkers to approximate the level of fibrosis. Similarly, transient elastography, also known under the trade name FibroScan, has been developed to approximate the level of tissue stiffness.

Both methods have been validated for their correlation to the five-level (F0-F4) METAVIR scoring system. However, the correlation between these two tests in co-infected patients has not been well described.

Here, we evaluate the concordance between FibroSure and FibroScan-derived METAVIR results in HIV/HCV co-infected patients.

## Methods

We performed a retrospective cross-sectional study of HIV/HCV co-infected patients that were treated between 2014-2017 at Drexel University, Philadelphia, PA.

We described patient demographics and overall METAVIR scores of treated patients.

Further, we compared the concordance between FibroSure and FibroScan results among patients who had both tests before the start of HCV treatment.

## Results

- One hundred and thirty-eight HIV/HCV co-infected patients were treated.
- Most of them (N=134, 97%) achieved sustained virologic response after 12 weeks of treatment.
- 133 patients underwent FibroSure testing before starting HCV treatment. Of those 133 patients, 21 also underwent FibroScan.
- Of the 21 patients who both had FibroSure and FibroScan testing, 12 (57%) had concordant results, while 9 (42%) had discrepant results.
- Of the patients with discrepant results, 8 had higher fibrosis scores (F3-F4) with FibroSure, while only one had a higher fibrosis score (F3-F4) with FibroScan.

Table 1: Characteristics of 21 subjects who had both FibroSure and FibroScan

	All (21)	Concordance (12)	Discordance (9)	P value
Gender (Male)	15 (71%)	7 (58%)	8 (89%)	0.148
Race				
White	3 (14%)	1 (8%)	2 (22%)	0.613
Black	16 (76%)	10 (83%)	6 (67%)	
Hispanic	2 (9%)	1 (8%)	1 (11%)	
Marital status				
Married	2 (10%)	0	2 (22%)	0.044
Separated/widowed	1 (5%)	0	1 (11%)	
Never married	18 (85%)	12 (100%)	6 (67%)	
Insurance				
Medicare	6 (28%)	4 (33%)	2 (22%)	0.350
Medicaid	14 (67%)	8 (67%)	6 (67%)	
Private	1 (5%)	0	1 (11%)	
IVDA (N=18)				
Past	8 (38%)	4 (33%)	4 (44%)	0.352
Cocaine Use (N=15)				
Current	6 (28%)	2 (17%)	4 (44%)	0.510
Past	1 (5%)	1 (8%)	0	
Alcohol Use (N=19)				
Current	3 (14%)	0	3 (33%)	0.163
Past	2 (10%)	1 (8%)	1 (11%)	
Housing				
No	1 (5%)	1 (8%)	0	0.353
DM	5 (24%)	2 (17%)	3 (33%)	
HTN	12 (57%)	5 (42%)	7 (78%)	
HBV	1 (5%)	1 (8%)	0	

Figure 1: FibroSure scores of 133 subjects

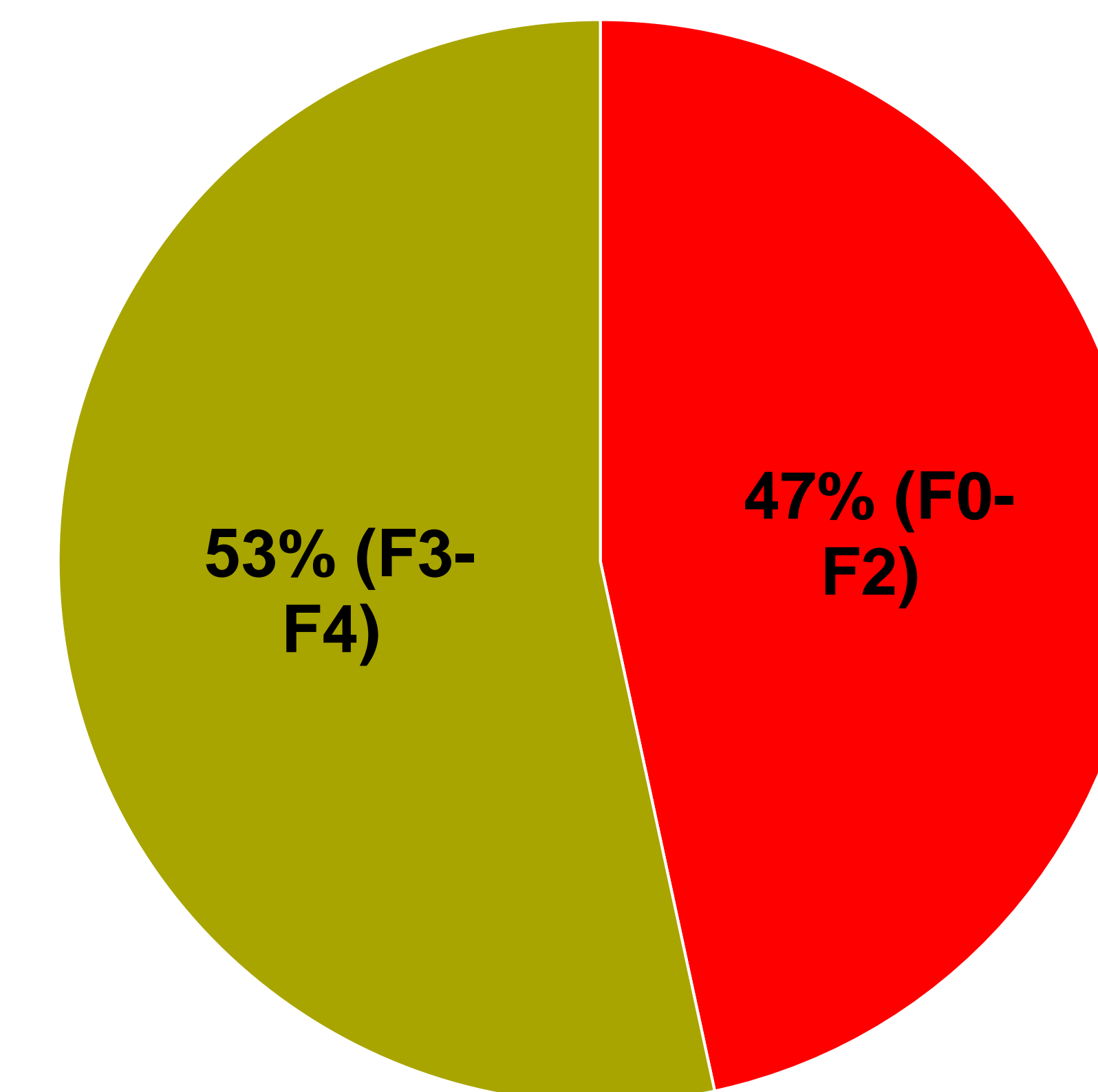
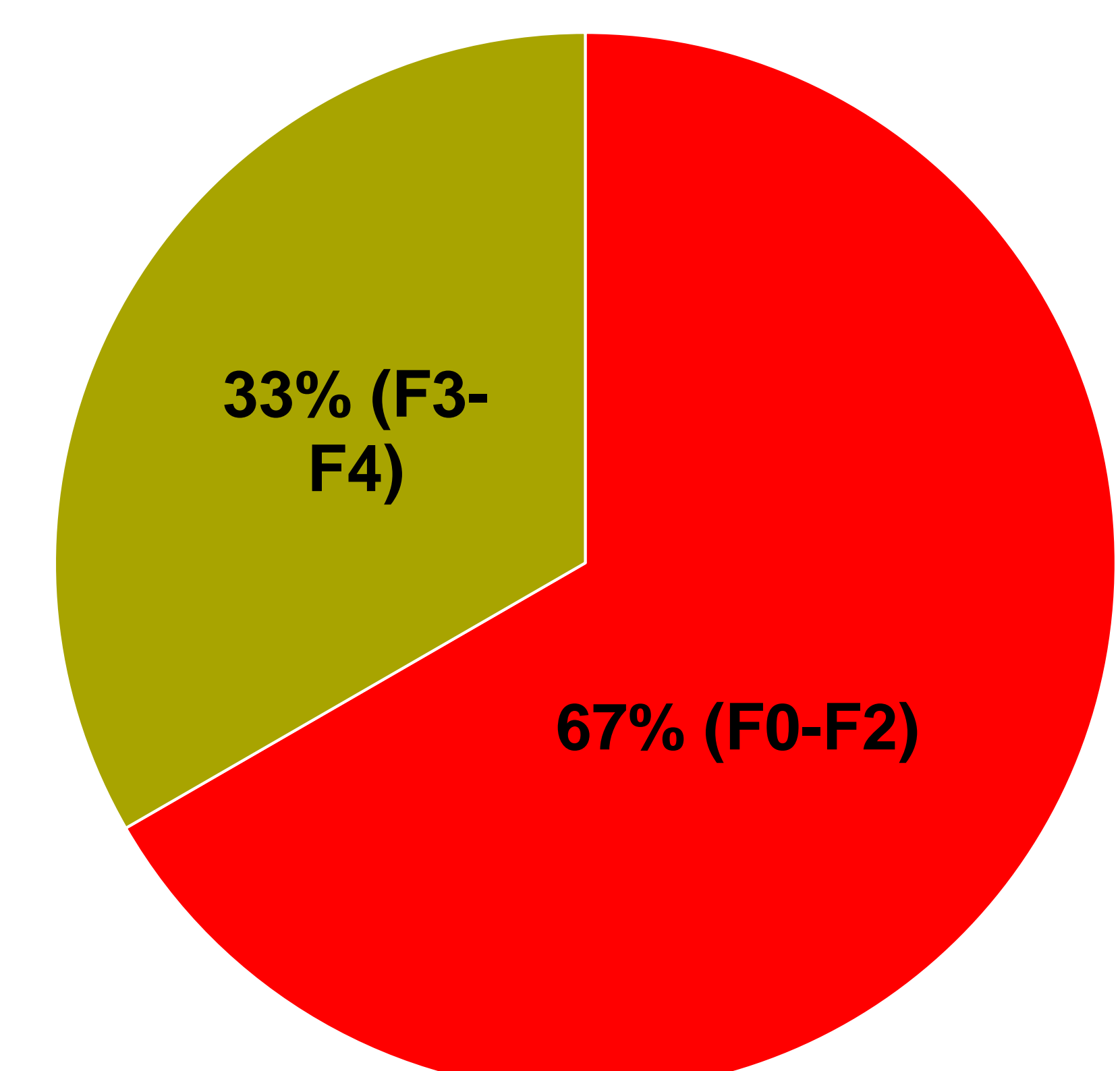


Figure 2: FibroScan scores of 21 subjects



## Conclusion

In our study, more than half of HIV/HCV co-infected patients had advanced fibrosis score at the time of HCV treatment.

When FibroSure and FibroScan scores were compared, close to half of co-infected patients had discordant results, the preponderance of which had higher FibroSure scores.

As early initiation of HCV treatment is crucial to co-infected patients, further studies will need to evaluate the clinical significance of the discrepancy between different non-invasive fibrosis testing systems in co-infected patients.