

# The use of APRI and FIB-4 scores versus transient elastography (TE) for the assessment of liver fibrosis stage in patients with chronic hepatitis C (CHC): is it possible to reduce the need for elastography?

N. Papadopoulos<sup>1</sup>, S. Vasileiadi<sup>2</sup>, S. Michalea<sup>2</sup>, P. Antonakaki<sup>2</sup>, M. Papavdi<sup>2</sup>, E. Dellaporta<sup>2</sup>, E. Koullias<sup>2</sup>, E. Koutli<sup>2</sup>, S. Manolakopoulos<sup>2,3</sup>, I. Koskinas<sup>2</sup>, M. Deutsch<sup>2</sup>

<sup>1</sup>1417 Army Share Fund Hospital, 1st Department of Internal Medicine, Athens, Greece

<sup>2</sup>Hippokration Hospital, 2nd Department of Internal Medicine, Athens University Medical School, Athens, Greece

<sup>3</sup>Laiko General Hospital, Academic Gastroenterology Department, Athens, Greece

## INTRODUCTION

Liver fibrosis staging, based especially on liver stiffness (LS) measurement with TE, represents an important step during the management of chronic hepatitis C (CHC). However, TE is not widely available and there is a need for less expensive and simpler noninvasive approaches especially in terms of the hepatitis C elimination strategy worldwide

## AIM

In this context the use of scoring systems such as APRI and FIB-4 has been suggested but their validation in several populations is emerging. In this study the diagnostic performance of APRI and FIB-4 to detect significant fibrosis (F3) or cirrhosis (F4) compared to TE have been evaluated in a Greek CHC cohort

## METHOD

We retrospectively enrolled 575 patients admitted to our tertiary liver center with CHC who underwent TE-LS between May 2014 and September 2018. The results of APRI and FIB-4 scores were compared to TE-LS

## RESULTS

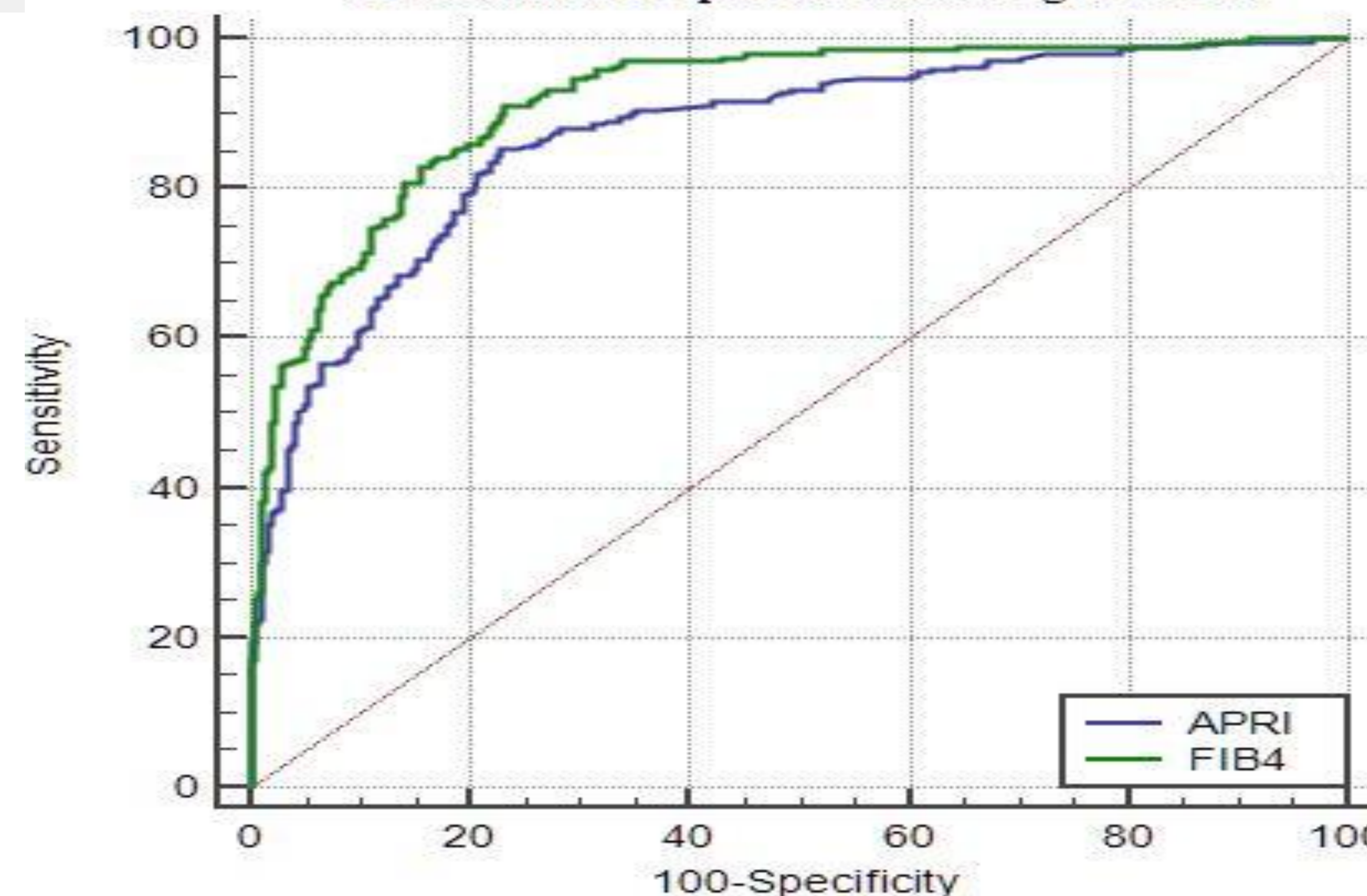
Table 1. Baseline characteristics of 1146 anti-HCV positive patients

Gender (males), n (%)	365 (63.5)
Age, years	51.54±12.4
Descent (Caucasians), n (%)	539 (94)
Source of Infection, n (%)	
• Parenteral Drug Use	269 (47)
• Transfusion	127 (22)
• Unknown	179 (31)
ALT, IU/L	71.8±62
AST, IU/L	62.3±48
PLT, k/μL	195±82
HCV genotypes, n/N (%)	
• 1a	110/551 (20%)
• 1b	110/551 (20%)
• 2	29/551 (5%)
• 3	211/551 (38.5%)
• 4	91/551 (16.5%)
TE-LS, kPa	13.4±8.5
Stages of liver fibrosis according to TE-LS, n/N (%)	
• F0-1 (<7kPa)	150/575 (26)
• F2 (7-8.9kPa)	100/575 (17.5)
• F3 (9-11.9kPa)	265/575 (46)
• F4 (≥12kPa)	
APRI score	0.68 (0.1-11.6)
FIB-4 score	1.8 (0.2-19.4)

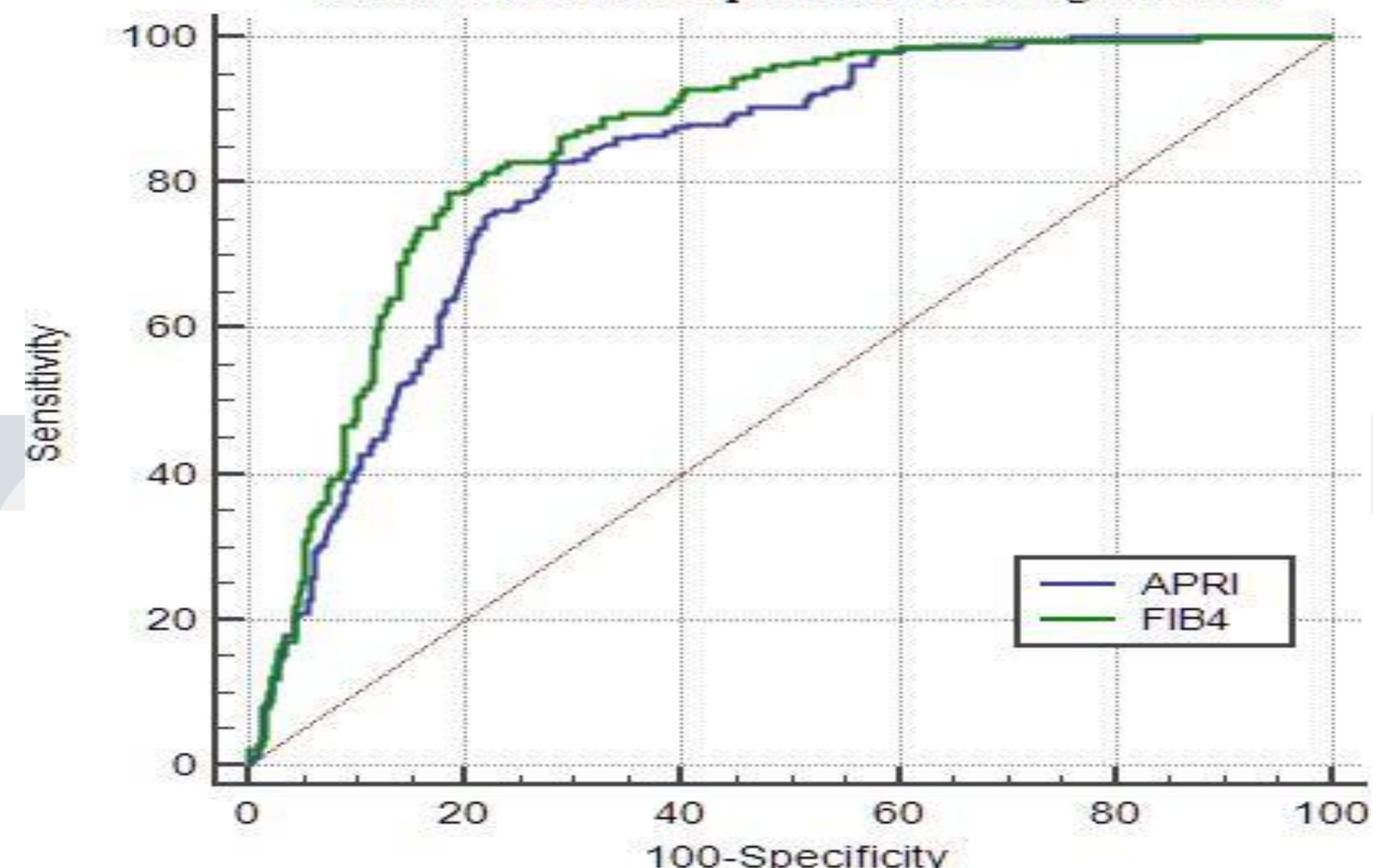
## CONCLUSIONS

APRI and the combination of APRI/FIB-4 performed well in predicting significant fibrosis. Moreover, FIB-4 performed well in predicting cirrhosis. These non-invasive biochemical markers could be used as screening tools instead of LS which is not widely available. Further prospective validation studies are required to confirm this finding

Prediction of F4 patients according to TE-LS



Prediction of F3/F4 patients according to TE-LS



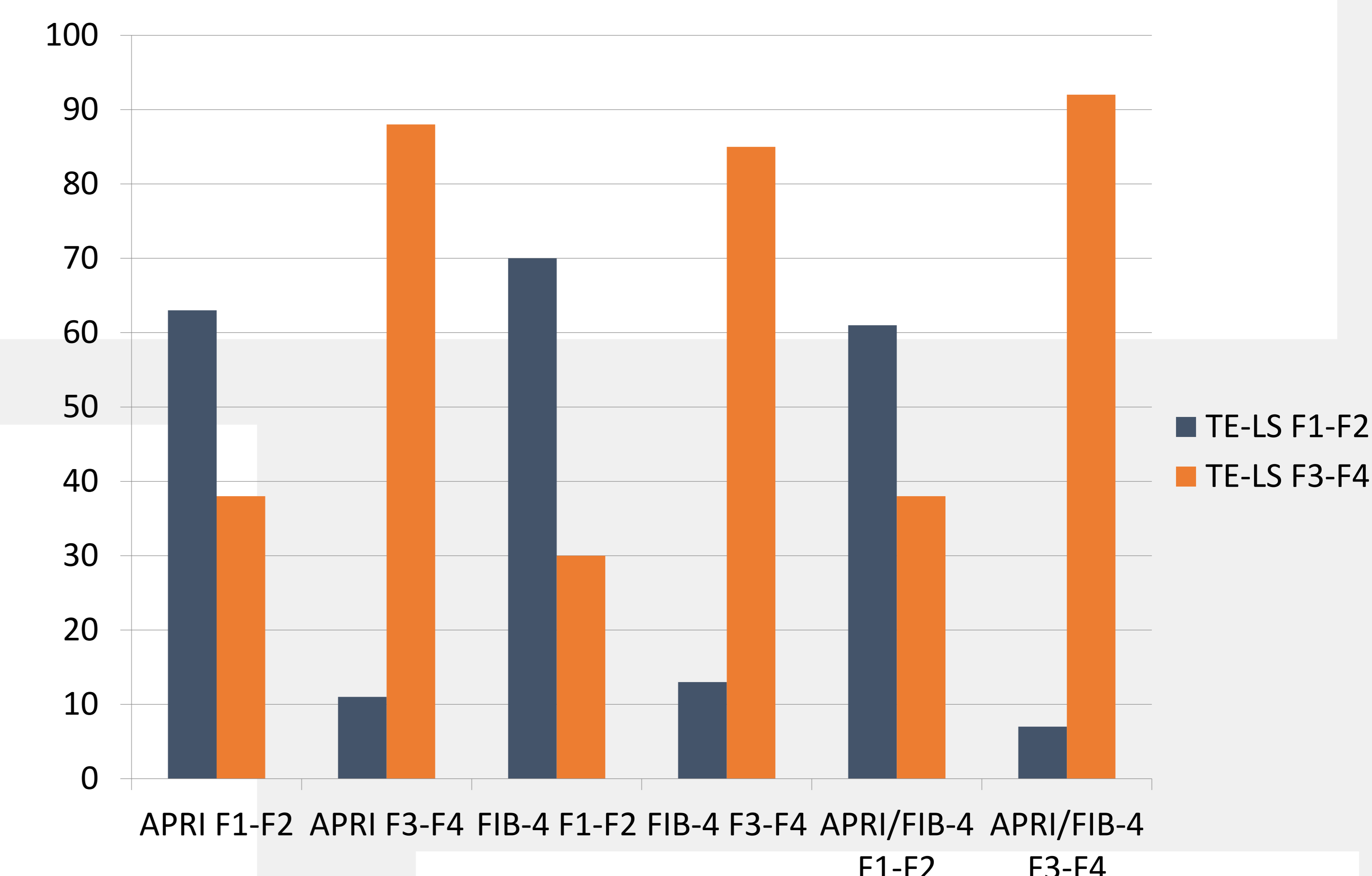
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Table 2. Performance indicators of APRI and FIB-4 scores in F3/F4 and F4 patients

	APRI		FIB-4		APRI/FIB-4 combo
<b>Fibrosis, optimal value</b>	F3/F4, >0.64	F4, >0.65	F3/F4, >1.46	F4, >1.63	F3/F4, >0.64 and >1.46
<b>Sensitivity, %</b>	72	85.5	81.5	91	67
<b>Specificity, %</b>	83	77	79	77	91.5
<b>PPV, %</b>	88	76	85.5	77	93
<b>NPV, %</b>	63	86	71	91	61.5

Performance of APRI and FIB-4 scores in each stage of fibrosis according to TE-LS



## CONTACT INFORMATION

Nikolaos Papadopoulos, M.D, PhD

E-mail: nipapmed@gmail.com

