

# Large Functional Liver Volume (fLV) and ATI Combined in the Diagnosis of Steatohepatitis

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Consecutive patients with ATI, shear wave velocity (SWV) and estimated METAVIR fibrosis score (eMFS) by US and recent HEPATIQ processed sulfur colloid SPECT liver-spleen scan for perfused hepatic mass (PHM, N 100-110), functional liver volume (fLV, N=7-11.9 cc/lb IBW) and functional spleen volume (fSV, N<2.5 cc/lb IBW) were categorized according to fLV in cc/lb IBW (A: < 7, B: 7-9.9, C:10-11.9, D:>11.9). ATI > .7 was evaluated as evidence of fat capable of enlarging the liver.

		ATI		fLV	Wt/IBW	Clinical Steatohepatitis
	#	dB/cm /MHz	% >.7	(cc/lb IBW)	ratio	%
A	28	.58(1.0)	18%	6.1(.7)	1.03(.14)	4 %
B	54	.60 (.12)	15%	8.1(.8)	1.14(.14)	19 %
C	28	.72(.14)	46%	10.8(.5)	1.32(.21)	21 %
D	22	.69(.13)	45%	14.7(3.0)	1.57 (.48)	82 %

## CONCLUSIONS

**Combining Hepatiq fLV and US ATI helps in the evaluation of patients with CLD:**

- 1. Patients with low fat and large livers have more advanced CLD.**
- 2. Patients with moderate to severe fat and large livers are primarily overweight females with NASH.**
- 3. The mechanism of large liver with minimal fat is unclear, but may indicate that loss of fat precedes fibrosis progression to cirrhosis.**
- 4. The cause of hepatomegaly may include mechanisms in addition to fat such as veno-occlusive disease, ballooning degeneration, and increased number of hepatocytes.**