Physiologic Staging in Alcoholic Liver Disease Predicts Death and Monitors Recovery

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INTRODUCTION

Active alcoholic liver disease (AALD) is a severe liver problem characterized clinically by ascites, jaundice and poor survival. The Maddrey discriminant function (MDF) can delineate AH patients who are unlikely to survive. Quantitative hepatic function measured as PHM (perfused hepatic mass) by quantitative liver spleen scan (QLSS) estimates the functional mass of the liver (AmJGastro;92:2054) and predicts clinical outcomes HALT-C (2012;Hepat;55:1019). We hypothesize the PHM will predict those who would die with AALD.

METHODS

1. Standard meal, IV Tc 99m Sulfur Colloid followed by SPECT reconstruction.
2. Volume and PHM calculations processed by HEPATIQ automatically.

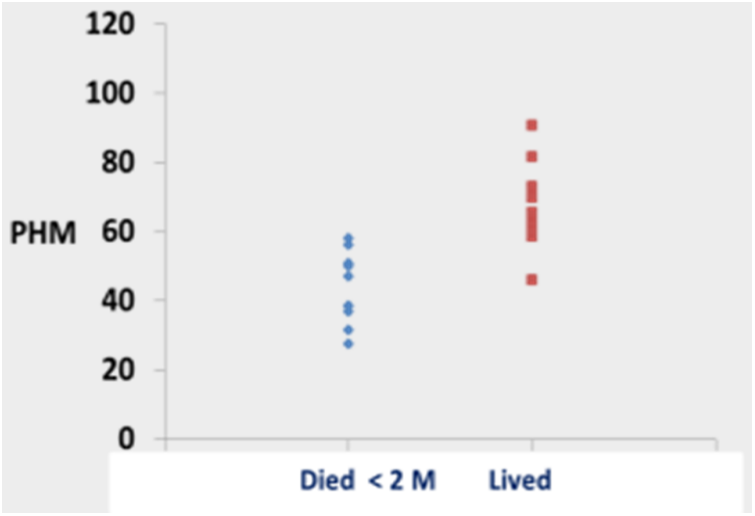
PATIENTS

1. 20 with AALD studied serially by Quantitative liver spleen scan (QLSS).
2. Liver Disease: Ascites 20, HE 10, SBP 3, HRS 4, death 10
3. Abstinence: 3 Patients relapsed with jaundice/ascites after > 1 yr of abstinence and 1 Patient 3 episodes (> 1 yr abstinence between episodes).

	Baseline tests		
	Died	Lived	p
PHM	43.2 +/- 10.4	66.7+/-11.1	< .001
fLV	17.4+/- 5.4	12.3+/- 4.2	< .01
fSV	5.9+/- 2.6	4.4+/-2.4	ns
HAI	-.30 +/- .29	-.05 +/- .22	< .001
MDF	34+/-5	24+/-5	< .001
MELD	28+/-5	20+/-5	< .01
Bili	12+/-14	6+/-7	< .01
INR	1.5+/-.3	1.4+/-.2	ns
Platelet	143+/-129	151+/-40	ns

RESULTS

The PHM improved in survivors. Liver Volume (fLV) improved before hepatic function (PHM) during recovery. Baseline PHM < 60 determined survival. An individual patient illustrates the consistency of this pattern with 3 separate episodes of alcoholic hepatitis. Portal Hypertension was common (increased fSV) and improved from 4.4 to 2.8 cc/lb IBW (P < .05 to paired t-test) with abstinence. Baseline PHM is significantly better in Patients with AALD who survive. PHM < 60 is associated with death.



CONCLUSIONS

1. Active ALD/Alcoholic hepatitis is a dynamic condition with outcomes related to baseline PHM and fLV
2. Hepatic volume decreases before hepatic function improves
3. With abstinence, hepatic function and hepatic volume can rapidly improve in those surviving > 2 M
4. Splenomegaly can markedly improve suggesting that Portal hypertension is decreasing as well
5. The QLSS is a useful clinical tool in AALD predicting death and monitoring recovery.