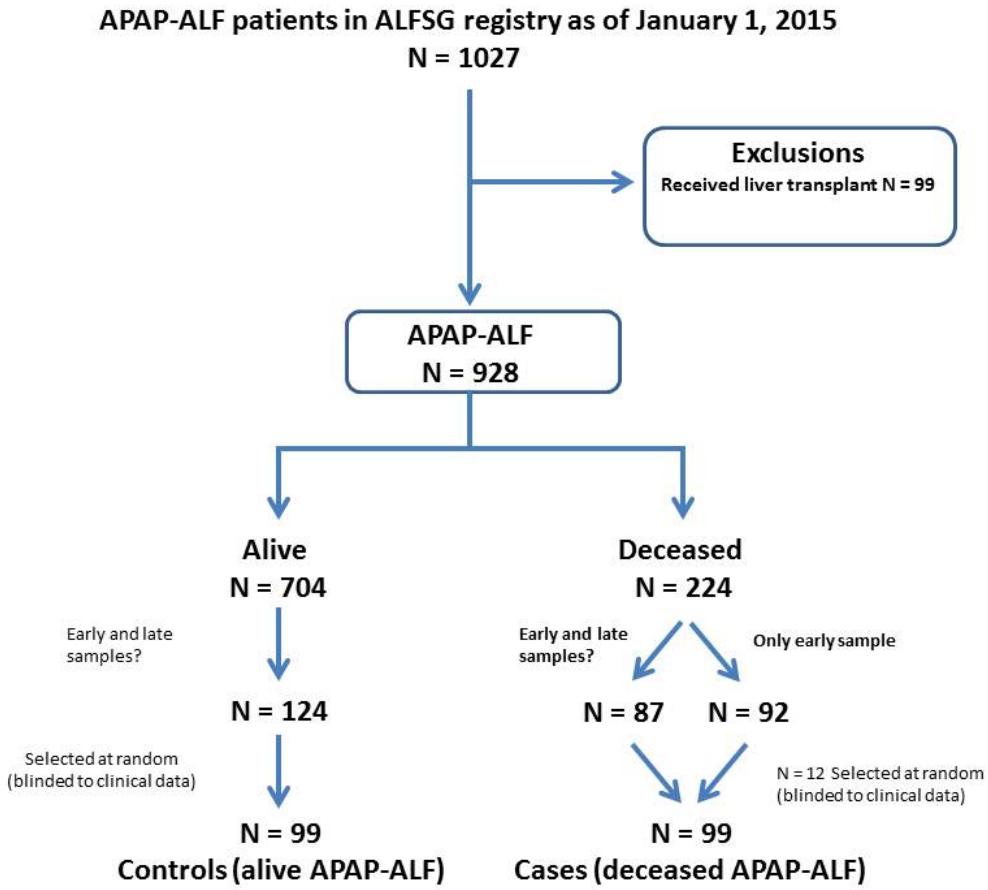
Supplementary File 1. Patient Selection of 198 APAP-ALF patients for FABP1 nested case-control analysis.



As of January 1st, 2015, there were a total of 1027 APAP-ALF patients in the ALFSG registry. After excluding 99 patients who underwent liver transplant, there was a pool of 928 potential APAP-ALF patients for analysis pending availability of biosamples.

704/928 patients were alive at day 21

- Of these patients, 124 of 704 patients had early (day 1 or 2) and late (day 3, 4, or 5) samples available for analysis according to our repository database at the time of sample selection.
- Of these 124 patients, 99 patients were randomly selected (see below)

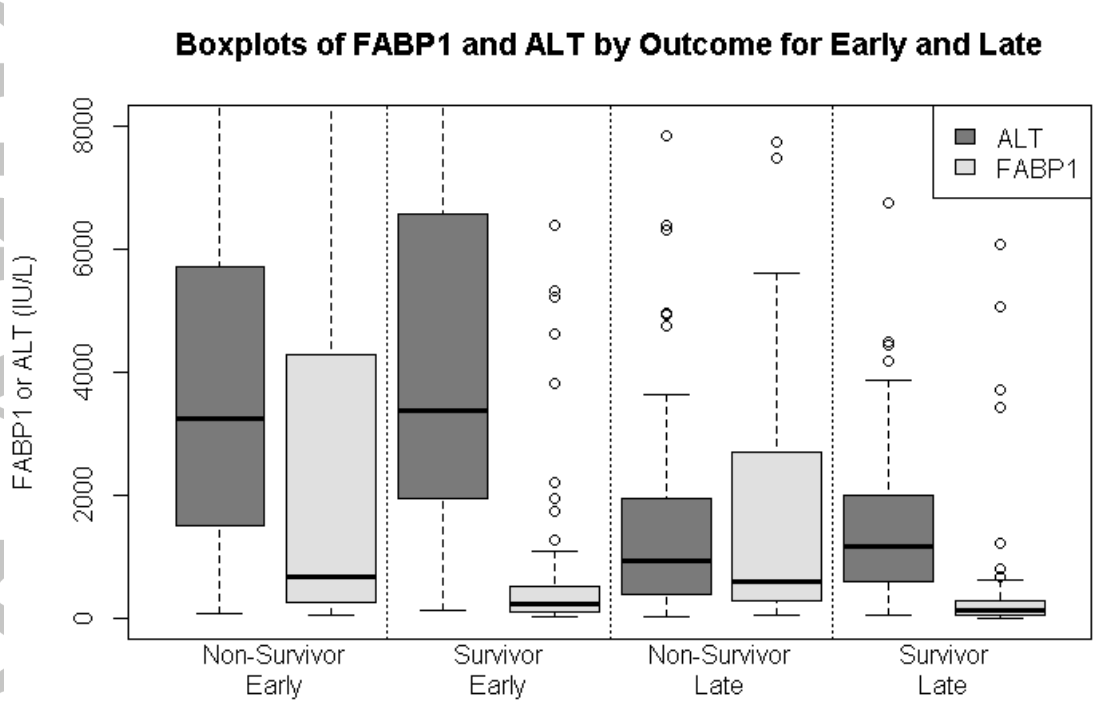
224/928 patients were deceased at day 21

- Of these, 87 of 224 had early (day 1 or 2) and late (day3, 4 or 5) samples available for analysis according to our repository database at the time of sample selection. ALL of these patients were included in the final analysis.

- 92 of the remaining 137 patients had an early sample (day 1 or 2) only according to our repository database at the time of sample selection. Of these 92 patients, 12 patients were selected at random for analysis.
  Patients were selected randomly (99/124 alive and 12/92 deceased with one sample only) by the ALFSG clinical research manager (Ms. Nahid Attar) who was blinded to clinical, biochemical and demographic information of the patients other than outcome status (alive or dead at day 21, required to create the groups).

Supplementary File 2

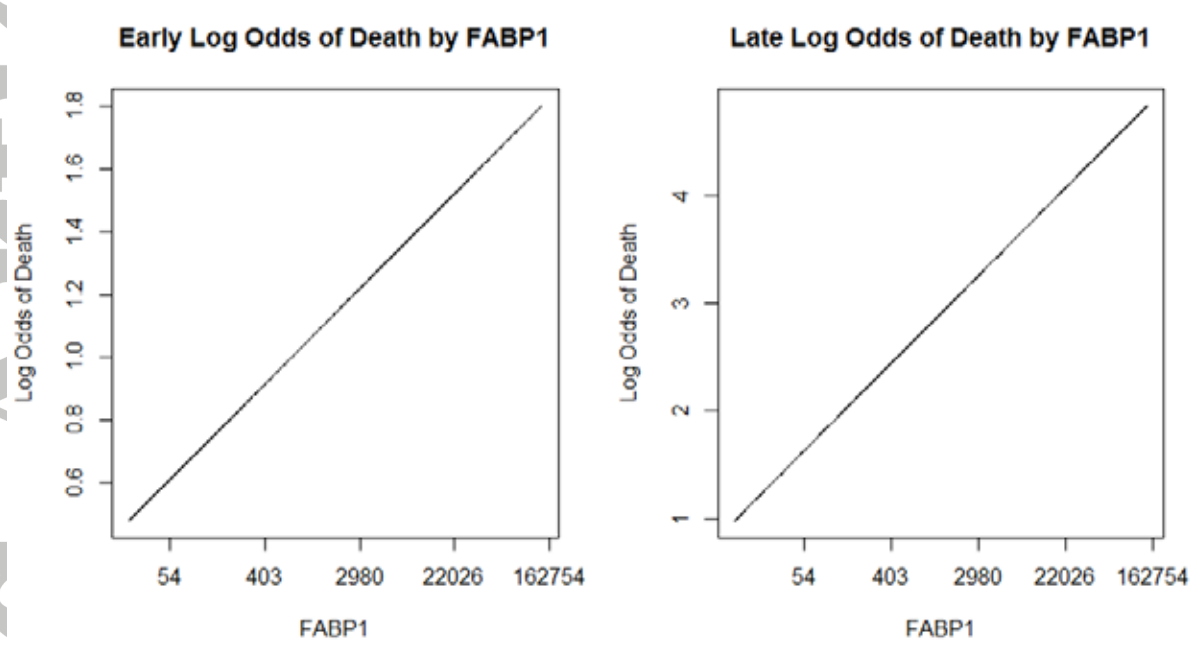
Box plot with ALT (IU/L) and FABP1 (ng/ml) (both on y-axis) at early and late time points.



FABP1 levels were significantly higher in non-survivors compared with survivors at both early and late time points (P <0.0001 for both)

There were no significant differences between ALT values at early and late time points between survivors and non-survivors (P>0.3 for both)

Supplementary File 3. Adjusted plots of FABP1 and Odds Ratios of 21-day mortality



Plots of FABP1 (log scale) and odds ratios of mortality at 21-days (log scale).

The left panel represents early FABP1 levels (on admission) and the right panel represents late FABP1 levels (day 3-5). Both plots have been adjusted for significant covariates on multivariable analysis (MELD, vasopressor use).

Supplementary File 4. Early (Day 1) and Late (Day 3-5) FABP1 prediction of 21-day mortality adjusting for RRT and creatinine in 198 APAP-ALF Patients

EARLY	Adjusted for RRT (N=198), AUROC=0.709				Adjusted for Creatinine (N=196), AUROC=0.715			
	Included in Model	OR	95% OR CI	P-value	Included in Model	OR	95% CI	P-value
Log(FABP1)	Yes	1.637	(1.330,2.015)	<0.0001	Yes	1.559	(1.245,1.952)	0.0001
RRT	Yes	0.820	(0.384,1.751)	0.608	No			
Creatinine	No				Yes	1.070	(0.887,1.291)	0.481
LATE	Adjusted for RRT (N=186), AUROC=0.820				Adjusted for Creatinine (N=176), AUROC=0.809			
	Included in Model	OR	95% OR CI	P-value	Included in Model	OR	95% CI	P-value
Log(FABP1)	Yes	2.294	(1.709,3.077)	<0.0001	Yes	2.026	(1.514,2.711)	<0.0001
RRT	Yes	0.709	(0.310,1.622)	0.416	No			
Log(Creatinine)[1]	No				Yes	1.155	(0.733,1.821)	0.535

[1] A natural logarithm transformation was used for the adjusted models for creatinine at the late time point to address a violation of the linearity assumption.

Supplementary File 5

Bootstrap Estimates for Multivariable Models (1000 bootstrapped samples).

	Early Adjusted Model (N=194)		Late Adjusted Model (N=160)	
	OR	95% Bootstrap CI	OR	95% Bootstrap CI
Log(FABP)	1.305	(1.005,1.739)	1.503	(1.115,2.137)
MELD	1.042	(1.003,1.087)	1.067	(1.019,1.112)
Vasopressors	3.864	(1.513,9.329)	20.735	(5.601,122.854)
AUROC	0.778	(0.706,0.839)	0.906	(0.841,0.944)

OR ~ Odds Ratios AUROC ~ Area under the receive operator curve,

95% CI ~ 95% confidence interval

Supplementary File 6: **Accuracy, Sensitivity, and Specificity (95% Binomial Confidence Interval) for KCC, ALFSG index, and FABP1>350 ng/ml**

Time	Model	Accuracy (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)
Early	KCC	0.552 (0.475,0.627)	0.184 (0.109,0.281)	0.920 (0.841,0.967)
	ALFSG Index	0.682 (0.611,0.747)	0.520 (0.417,0.622)	0.851 (0.763,0.916)
	FABP>350 ng/ml	0.626 (0.555,0.694)	0.636 (0.534,0.731)	0.616 (0.513,0.712)
Late	KCC	0.518 (0.421,0.614)	0.209 (0.119,0.326)	1.000 (0.918,1.000)
	ALFSG Index	0.734 (0.647,0.809)	0.537 (0.396,0.674)	0.886 (0.787,0.949)
	FABP>350 ng/ml	0.780 (0.713,0.837)	0.713 (0.606,0.805)	0.838 (0.751,0.905)

STROBE Statement—Checklist of items that should be included in reports of ***case-control studies***

Title: **Elevated Liver-type Fatty Acid Binding protein (FABP1) serum levels associated with poorer survival in acetaminophen-induced acute liver failure patients: a case control study**

	Page	Recommendation
Title and abstract	1,3	(*a*) Indicate the study's design with a commonly used term in the title or the abstract
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found
Introduction		
Background/rationale	5	Explain the scientific background and rationale for the investigation being reported
Objectives	6	State specific objectives, including any prespecified hypotheses
Methods		
Study design	7	Present key elements of study design early in the paper
Setting	7	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection
Participants	7	(*a*) Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls
		(*b*) For matched studies, give matching criteria and the number of controls per case
Variables	9	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable
Data sources/ measurement	8,9	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group
Bias	9	Describe any efforts to address potential sources of bias
Study size	7	Explain how the study size was arrived at
Quantitative variables	9	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why
Statistical methods	9,10,11	(*a*) Describe all statistical methods, including those used to control for confounding
		(*b*) Describe any methods used to examine subgroups and interactions
		(*c*) Explain how missing data were addressed
		(*d*) If applicable, explain how matching of cases and controls was addressed
		(*e*) Describe any sensitivity analyses
Results		
Participants	12	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed
		(b) Give reasons for non-participation at each stage
		(c) Consider use of a flow diagram
Descriptive data	12,13	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders
		(b) Indicate number of participants with missing data for each variable of interest
Outcome data	12-15	Report numbers in each exposure category, or summary measures of exposure
Main results	13-16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were

		adjusted for and why they were included
		(*b*) Report category boundaries when continuous variables were categorized
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period
Other analyses	15,16,17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses
Discussion		
Key results	18	Summarise key results with reference to study objectives
Limitations	21,22	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias
Interpretation	19,20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence
Generalisability	20,21	Discuss the generalisability (external validity) of the study results
Other information		
Funding	2	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based

*Give information separately for cases and controls.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at http://www.strobe-statement.org.