

# Major Neurologic Complications After Liver Transplantation: A Single Center Experience

## Introduction

- Neurologic complications (NC) after liver transplantation are infrequently reported but can have devastating consequences.
- We describe incidence, characteristics, and outcome of neurologic complications after liver transplantation.

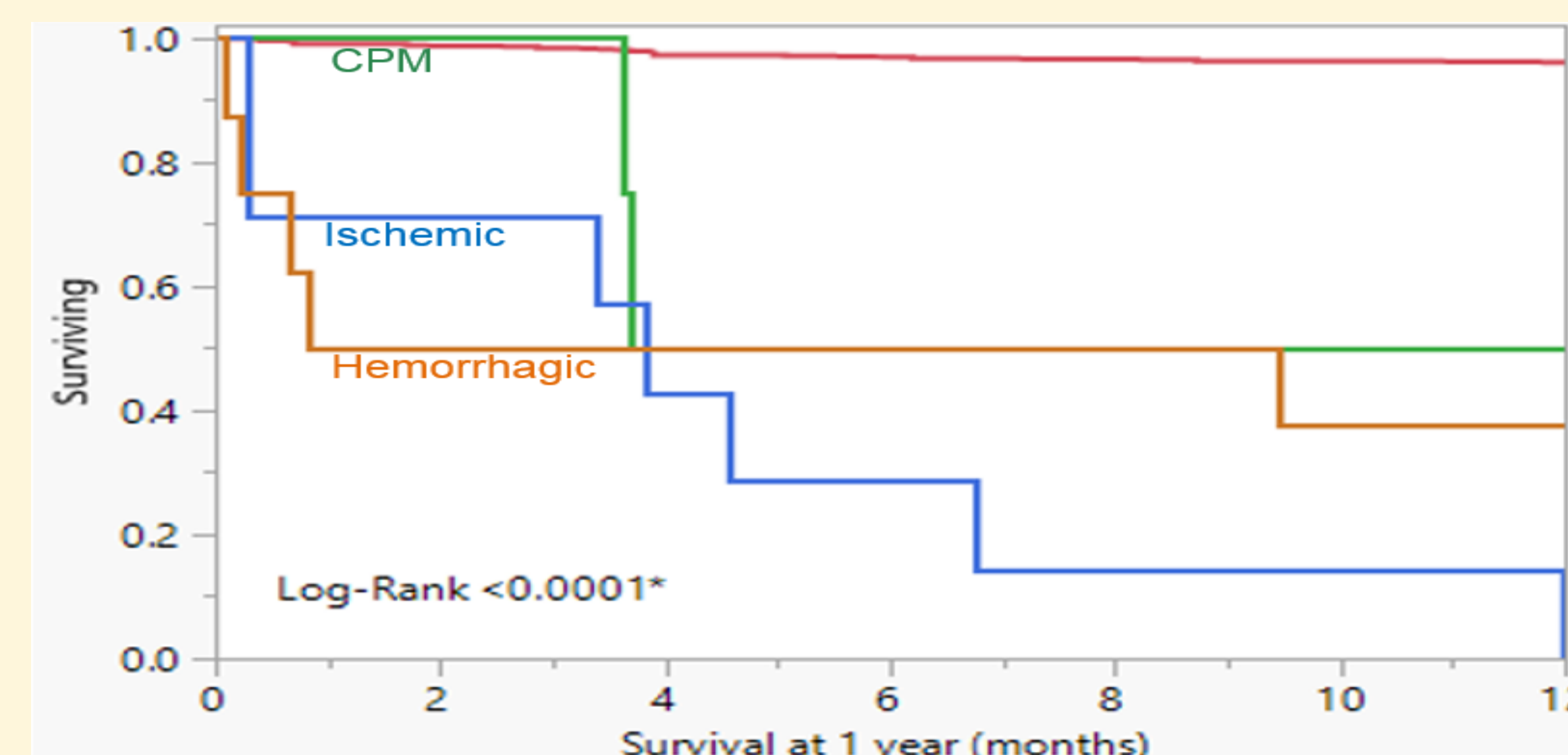
## Methods

- Retrospective analysis of adult liver transplants performed at JMH from Jan 2016 to Dec 2020 (535 patients).
- Data obtained by review of electronic medical records.
- Cases of ischemic stroke, intracranial hemorrhage (ICH), and central pontine myelinolysis (CPM) were identified.
- Incidence and outcome of major neurologic complications were noted.

## Results

- Nineteen (3.5%) of 535 liver transplant recipients developed a major neurologic complication within 12 months of transplantation: 7 (1.3%) ischemic stroke, 8 (1.5%) hemorrhagic stroke, 4 (1%) CPM.
- 1-year survival in patients who develop NC (26%) versus who didn't (96%).
- Most intracranial hemorrhages were diagnosed within 1 month of transplantation (median 24 days (1-149)).
- However, most ischemic strokes occurred >100 days after transplant (median 111 days (2-201)).
- CPM was diagnosed between 12-67 days, median 31.
- Compared to patients without neurologic complications, patients with ischemic stroke, hemorrhagic stroke, and CPM had statistically significant decrease in 1 year survival.
- 1-year mortality was greater in patients with ischemic versus hemorrhagic stroke.

STROKE ETIOLOGY	SURVIVAL AT 1 YR			
		Death	Alive	Total
No	Count	20	496	516
	Total%	3.74	92.71	96.45
	Column %	58.82	99.00	
	Row %	3.88	96.12	
Central Pontine Myelinolysis	Count	2	2	4
	Total%	0.37	0.37	0.75
	Column %	5.88	0.4	
	Row %	50.00	50.00	
Ischemic Stroke	Count	7	0	7
	Total%	1.31	0.00	1.31
	Column %	20.59	0.00	
	Row %	100.00	0.00	
Hemorrhagic Stroke	Count	5	3	8
	Total%	0.93	0.56	1.5
	Column %	14.71	0.6	
	Row %	62.5	37.5	
Total	Count	34	501	535
	Total%	6.36	93.64	



## Discussion

- The incidence of major neurologic complications after LT described in the literature ranges from 1-4% for ischemic stroke, 1-6% for hemorrhagic stroke, and 2-4% for CPM.
- Incidence of NC in our retrospective study is comparable to published data.
- NC after LT is associated with high mortality.
- Knowledge of risk factors, accurate diagnosis, and timely intervention are essential to improve outcomes.

## Conclusion

- Patients with major neurologic complications have worse outcome following liver transplantation and require aggressive care and screening.

## References

- Wang 2000. ICH after Liver Tx.
- Wijdicks 1995. ICH in liver Tx recipients.
- Gallagher 2018. Incidence & risk factors of ICH.
- Weiss 2019. NC after LT.