



Dengue in End-Stage Renal Disease Patients on Hemodialysis: Evaluating Clinical Profiles and indicators of critical outcome during a Major Outbreak in Bangladesh

Dr. MASRURA JABIN

MBBS, FCPS (Medicine), MD (Nephrology)

Associate Professor, Dept. of Medicine and Nephrology

Gonoshasthaya Samaj Vittik Medical College and

Gonoshasthaya Nagar Hospital, Dhaka.



Introduction

- Dengue has become prevalent in over 100 nations across the WHO Regions.
 - Asia bearing approximately 70% of the worldwide disease burden experiencing the most severe impact .
 - Bangladesh, an endemic zone, witnessed its largest-ever dengue outbreak marked by atypical seasonality and a 0.5% case fatality rate.
- 



Aim of the Study

This study, aimed to investigate the clinical presentation, outcomes, the prevalence of warning signs and severe dengue and indicators of critical outcome in patients of end-stage renal disease (ESRD) undergoing maintenance hemodialysis (MHD)



Materials and Methods

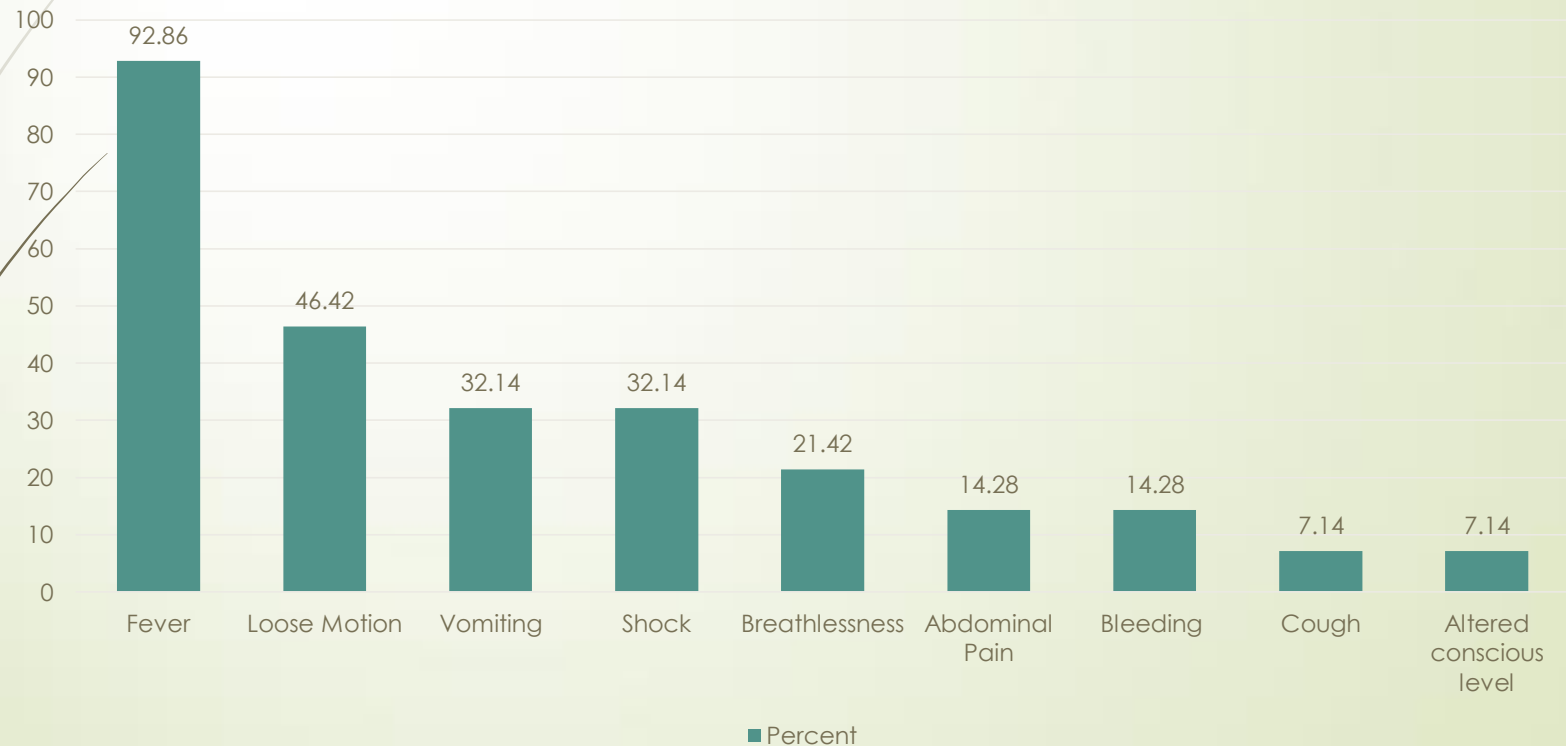
- An observational study was conducted at Gonoshasthaya Nogar Hospital, Dhaka, Bangladesh, during the dengue outbreak from May 2023 to October 2023, included ESRD patients who are taking maintenance hemodialysis for at least 3 months and got admitted to hospital with dengue infection, meeting specified inclusion and exclusion criteria.
- All patients provided written consent, and the observational period commenced on the day of admission, concluding upon discharge or death whichever comes earlier.

Results

- 28 ESRD patients on maintenance hemodialysis , who got admitted with dengue fever were included in the study.
- Among the ESRD patients 53.60% were male and 46.40 % were females.
- Mean age was 41.18+14.003 years (minimum 18 years, maximum 74 years).
- 60% ESRD dialysis patients were young , age between 20-39 years
- The prevalence of comorbidities was notable, with 92.86% of patients had hypertension, 32.14% diabetes, 10.71% presented with ischemic heart disease and 7.14% had glomerulonephritis.

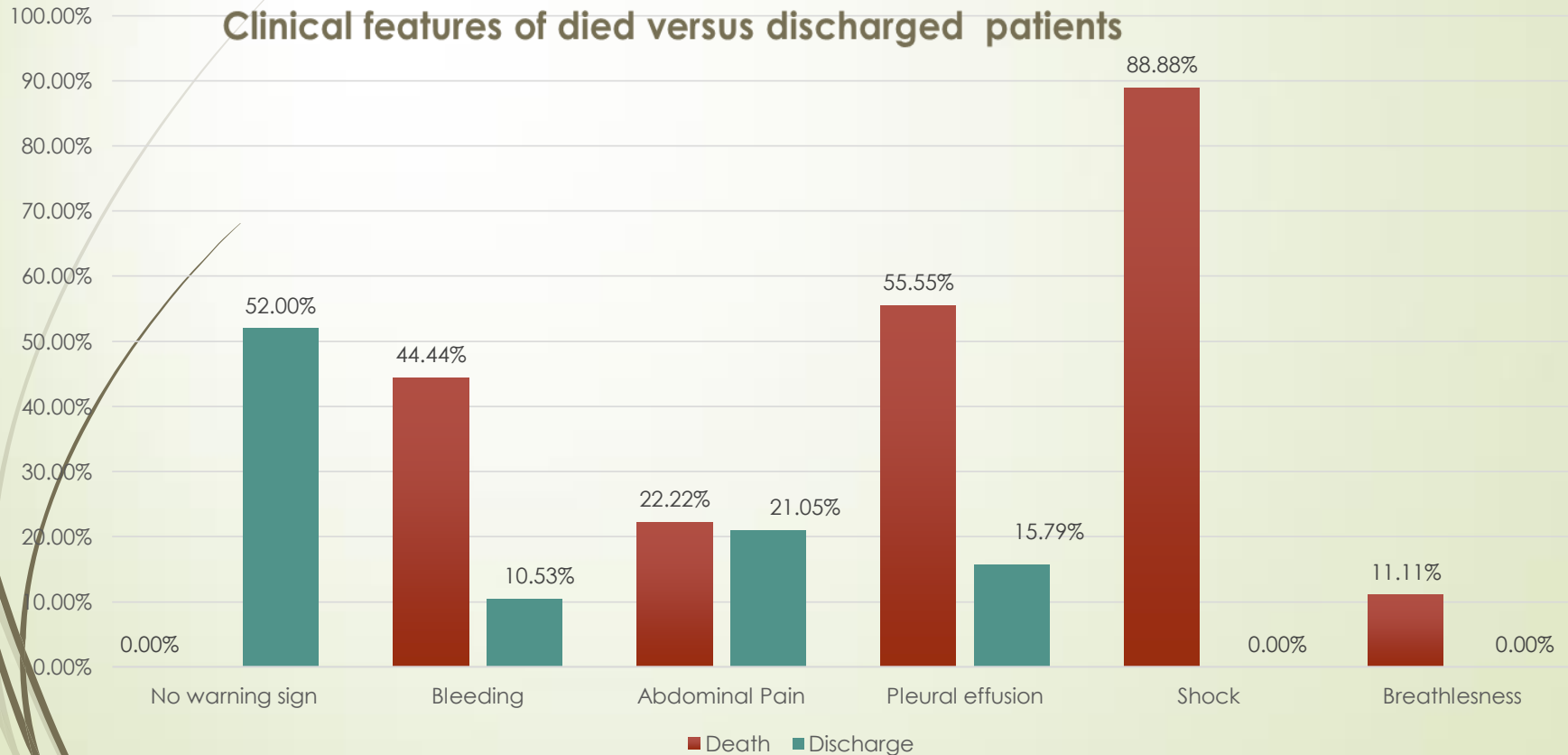
Results

Clinical features of total study subjects



Results

Clinical features of died versus discharged patients



Results

- 18 out of our 28 patients had WHO warning signs (64.28%).
- Warning signs during hospital admission was associated with more complications, including admission to ICU 32.14%, respiratory distress 21.42%, altered consciousness level 14.28% and bleeding 14.28%.
- It's noteworthy that 32.14% of our ESRD dialysis patients experienced severe dengue.

Results

- Warning signs at admission were associated with complications, and significant differences in laboratory parameters were noted between patients who survived and those who did not.

Results

Laboratory data during hospital stay of died and discharged patients

Laboratory test	Patient died (n=9)	Patient discharge (n=19)	p-value
TLC (Median)	11070	6950	0.001*
Hematocrit (Median)	27.4	30.6	
Platelet (Median)	79000	167000	
AST (Median)	206	105	
ALT (Median)	321	86	
ALP (Median)	1349	380	
Albumin (Median)	21.9	34	
PT (Median)	19.5	12	

Results

Laboratory test	Patient died (n=9)	Patient discharge (n=19)	p-value
Lipase (Median)	325	60	0.001*
Creatinine	10.50	6.77	
D-Dimer (Median)	10	<0.5	
INR (Median)	2.83	<1.1	
Total Bilirubin (Median)	1.7	<1	
Hyponatremia (Median)	124	131.5	

- *p-value 0.001 was highly significant*
- ** p-value calculate by Chi-Square test*

Results

Final outcome of all study subjects

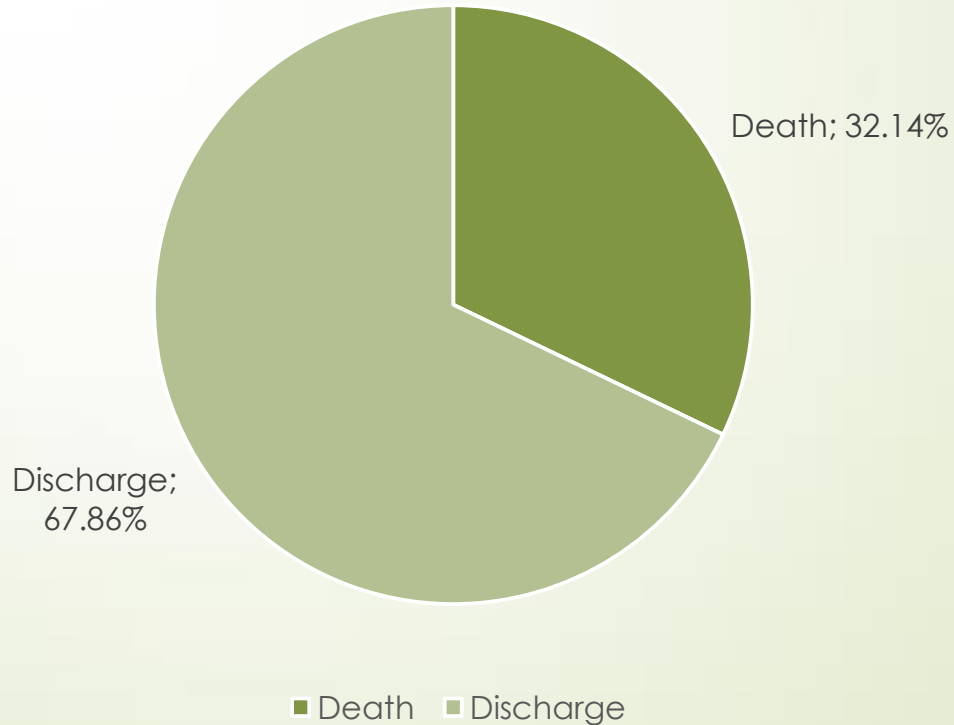
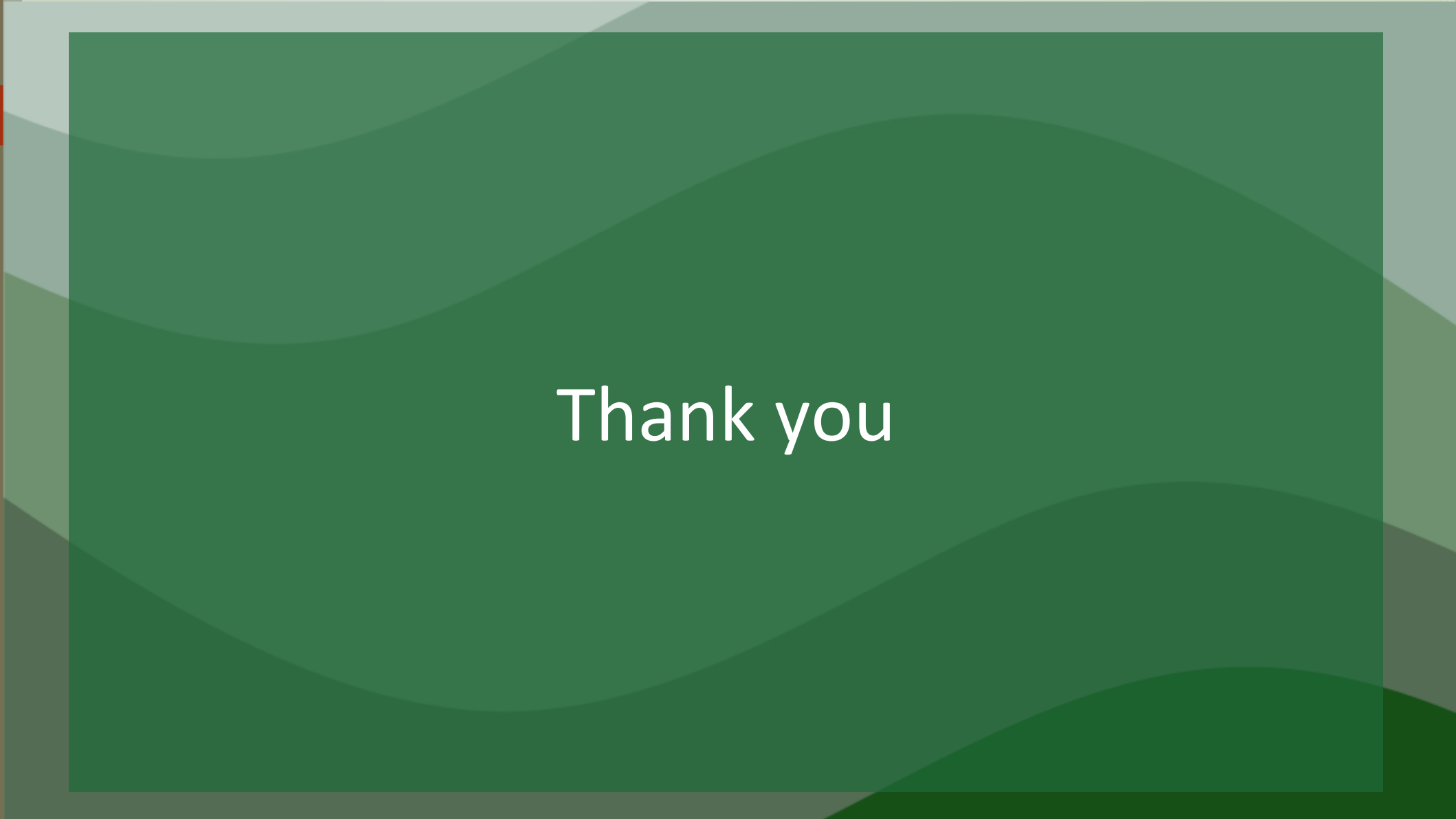


Figure 2: A pie diagram showing final outcome of study subjects

Conclusion

- The study underscores the critical role of recognizing warning signs early in ESRD dialysis patients to prevent severe dengue-related complications and the high mortality rate reinforces the urgency for targeted interventions and meticulous management strategies in this high-risk population.

The background features a series of overlapping, wavy, organic shapes in various shades of green and grey. The colors range from a light, pale green to a dark, forest green, with some greyish-green tones. The shapes flow across the frame, creating a sense of movement and depth. The overall effect is a modern, minimalist, and calming abstract design.

Thank you