

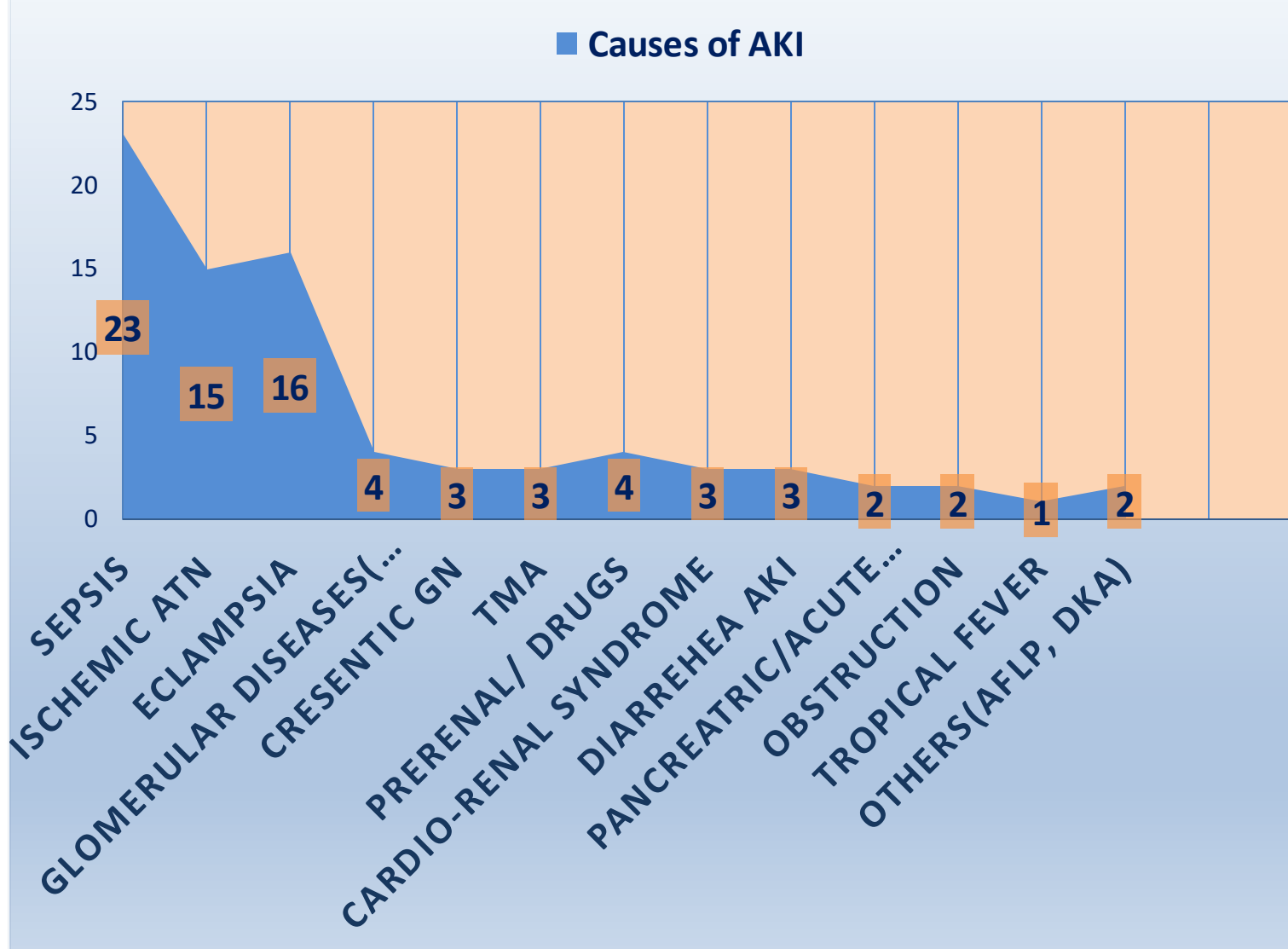
# TRENDS IN PREGNANCY RELATED ACUTE KIDNEY INJURY - AT A TERTIARY CARE CENTRE

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## INTRODUCTION

- Acute Kidney Injury(AKI) that occurs during pregnancy or within 42 days after giving birth is referred to as Pregnancy-related acute kidney injury(PRAKI).
- Diagnosing PRAKI early on is still difficult.
- The proposed PRAKI prevention bundle consists of baseline renal parameters and blood pressure monitoring from day 1, avoidance of nephrotoxic drugs, hourly urine output monitoring during delivery and the first few days after delivery, and seek early nephrology guidance.

### CAUSES OF AKI (N=81)



## METHOD AND MATERIALS

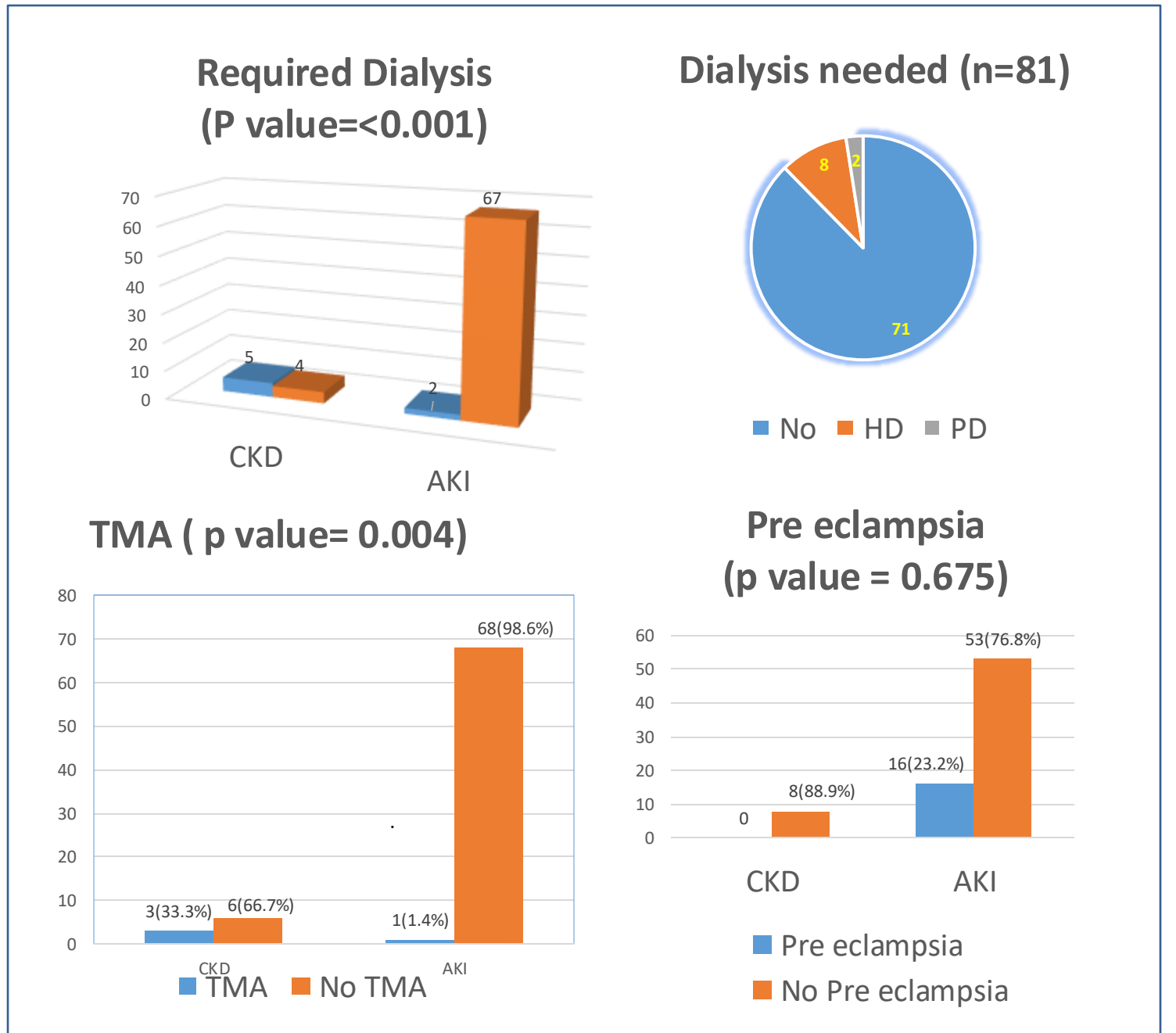
- We enrolled 81 pregnant and postpartum (within 42 days) patients admitted with PRAKI in our hospital from August 2022 to July 2024 for a period of 2 years.
- Patients with Chronic kidney disease (CKD) were excluded.

<b>FETAL OUTCOMES (n=81)</b>	Abortion 6(7.4%)	IUD 7(8.6%)	Stillbirth 4(4.9%)	Live birth requiring NICU 28 (34.6%)	Live birth No NICU admission 36(44.4%)
<b>MATERNAL OUTCOMES (n=81)</b>	Discharged 78 (96.3%)	Died 3(3.7%)			
<b>RENAL OUTCOMES (AT DISCHARGE) (n=81)</b>	Complete Recovery 56 (69.1%)	Dialysis independent with renal failure 17 (21%)	Dialysis dependent 5 (6.1%)	Death 3(3.7%)	
<b>RENAL OUTCOMES (AT 3 MONTHS) (n=78)</b>	Complete Recovery 69 (85.2%)	Dialysis independent with renal failure 5 (6.2%)	Dialysis dependent 3(4.9%)	Lost to follow up (n=1)	
<b>OBSTETRIC OUTCOMES (N=81)</b>	NVD n=15	NVD assisted n=1	Emerg LSCS n= 49	Emerg LSCS with hysrectomy n=5	Elective LSCS n=5

## RESULTS

- The mean age in our patients were  $26.4 \pm 4.71$  years. 96.3 % were booked pregnancy (n=78). Literacy rate was 42% (n=34). Delayed referrals were 13.5% (n=11). Gravida status – **Primigravida being 43.5% (n=35)** and **multigravida is 56.8% (n=46)**. 79 patients had institutional delivery and 2 patients had home delivery. PRAKI seen during **postpartum, third trimester, second trimester** and **first trimester** were **31, 36, 8** and **6** respectively
- Sepsis, mostly hospital acquired was seen in 28% of patients(n=23)**. PRAKI associated with **obstetric complications** during delivery such as hemorrhage or surgical complications are **19.7% (n=16)**.
- Mean peak creatinine and mean creatinine at discharge were  $2.268 \pm 1.26$  mg/dl and  $1.10 \pm 0.90$  mg/dl respectively. Mean **hospital duration** of stay were  $12.26 \pm 6.35$  days. Mean serum creatinine at 90 days (n=78) was  $1.04 \pm 0.98$ .
- 10** patients had **dialysis requiring AKI**. **3** patients were spaced off from hemodialysis among the 3 patients two of them recovered from AKI and one of them progressed to CKD. **Three patients progressed to End Stage renal disease**. One patient lost to follow up. **Mortality in three patients**. There is significant association of TMA with CKD progression (p=0.004).
- Renal biopsy was done in 7 patients. **4** patients had TMA. One patient had mutation in **complement factor H**. Two patients had **class 4 lupus nephritis associated with TMA**. Other one patient had **sepsis associated TMA** who recovered completely.

## DISCUSSION



## CONCLUSION

- The incidence of PRAKI is **3.5 per 1000 pregnancy**.
- Our study highlights the changing trend in PRAKI and how far we have come across from decades of sepsis being the main and only cause for maternal mortality and morbidity.
- This study has helped in epidemiological data analysis about PRAKI in our setup.

## References

- Gayathiri M, Suganya S, Arul . A study of AKI in pregnancy and puerperium. *Indian J Obstet Gynecol Res* 2020;7(3):344-347.
- Natarajan Gopalakrishnan, Jeyachandran Dhanapriya, Periyasamy Muthukumar, Ramanathan Sakthirajan, Thanigachalam Dineshkumar, S. Thirumurugan & T. Balasubramaniyan (2015) Acute kidney injury in pregnancy—a single center experience, *Renal Failure*, 37:9, 1476-1480,
- Gautam, Medhavi & Ahmed, Armin & Mishra, Prabhaker & Azim, Afzal & Ahmad, Ayesha & Dandu, Himanshu & Agrawal, Avinash & Atam, Virendra & Jaiswar, Shyam. (2024). Maternal Mortality due to Pregnancy-Related Acute Kidney Injury (PRAKI); A Study of the Epidemiological Factors and Possible Solutions. *The Journal of Obstetrics and Gynecology of India*.