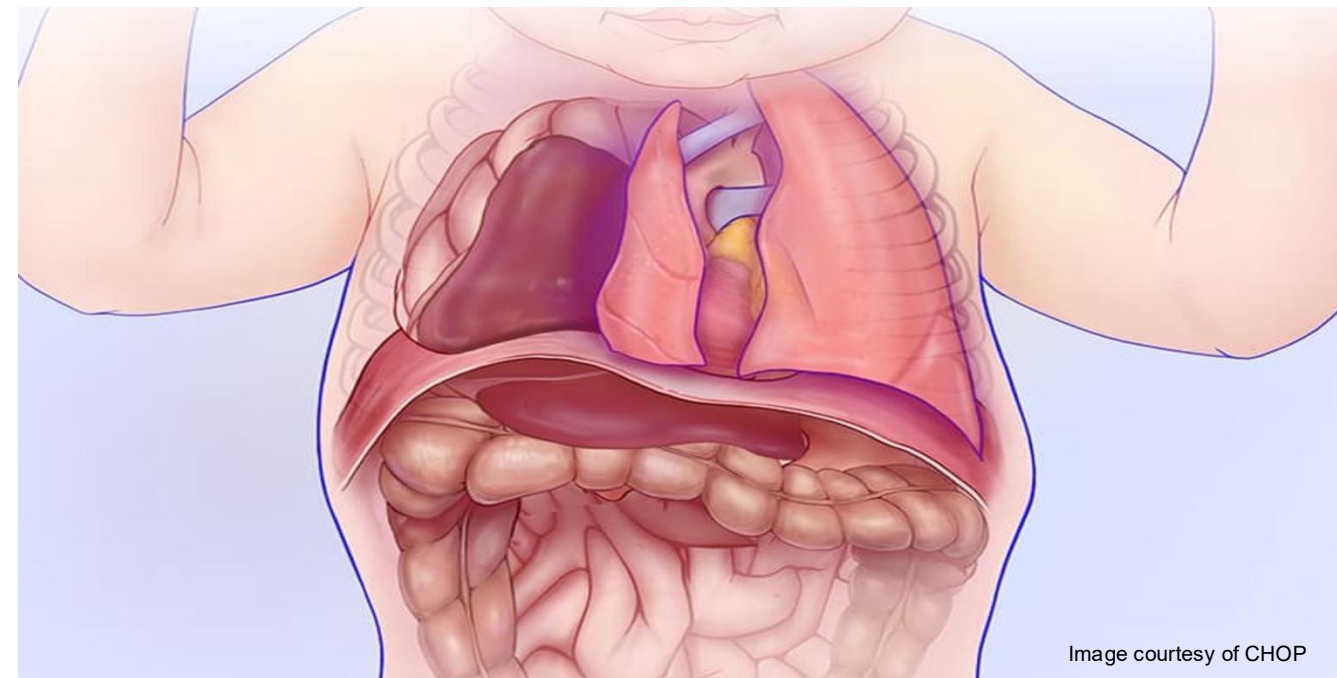


Right-Sided Congenital Diaphragmatic Hernias: Characterization, Utility of Prenatal Imaging Predictors, and Outcomes by Repair Techniques at a Single Institution



Background



- Incidence of right-sided congenital diaphragmatic hernia (R-CDH) is 10-15%
- The accuracy of prenatal imaging in R-CDH is controversial
- R-CDH outcomes vary in the literature
- There is a knowledge gap comparing repair techniques in R-CDH

Aims

1. To identify prenatal imaging thresholds that accurately predict survival
2. To characterize R-CDH and compare outcomes by repair technique

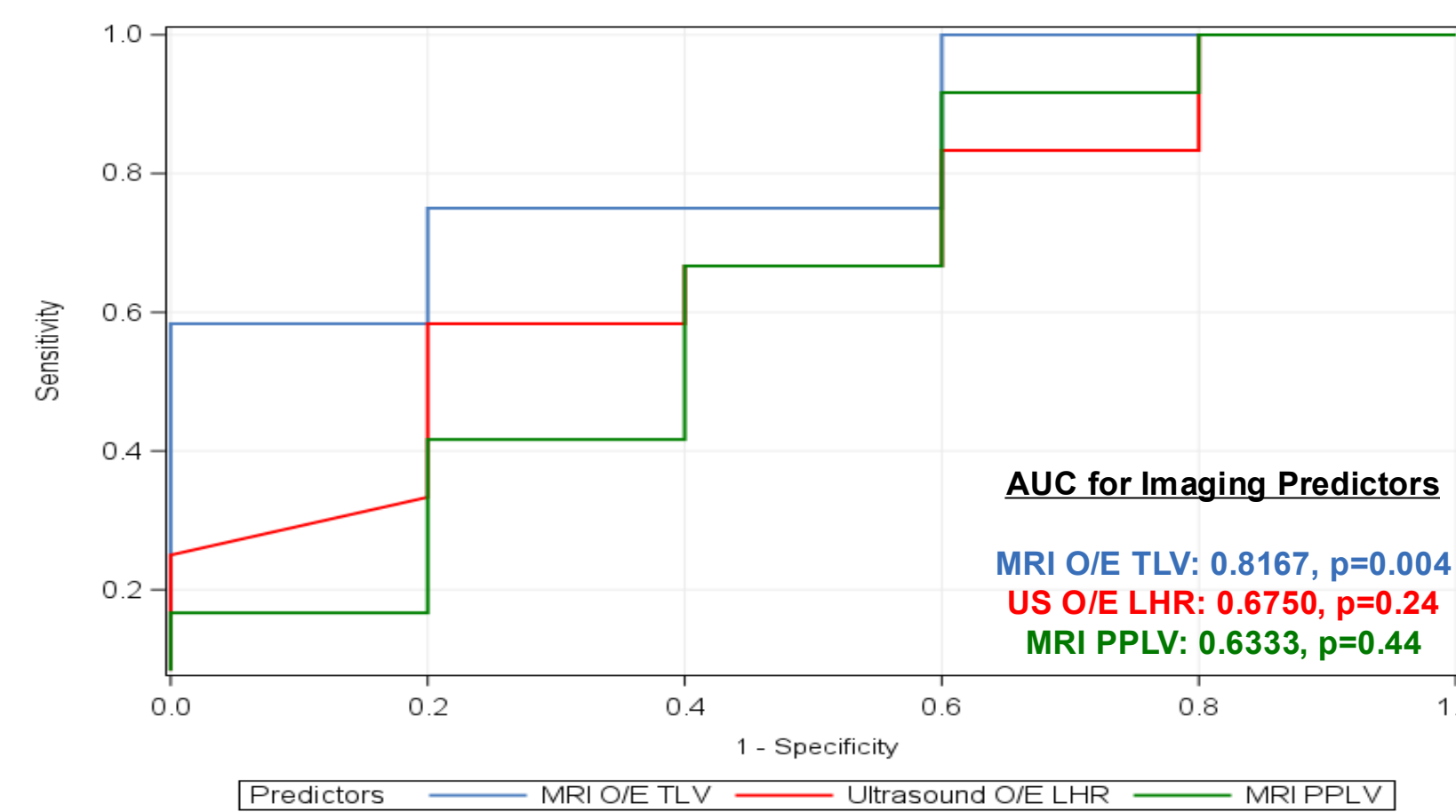
Methods

- Retrospective review of R-CDH patients from 2010-2024
- 1° outcome: survival
- 2° outcomes: ECMO, length of stay, and surgical complications
- We analyzed prenatal imaging using t-tests, logistic regression and ROC curves to determine their ability to predict survival
- Outcomes of synthetic patch or muscle flap repair for large defects were compared

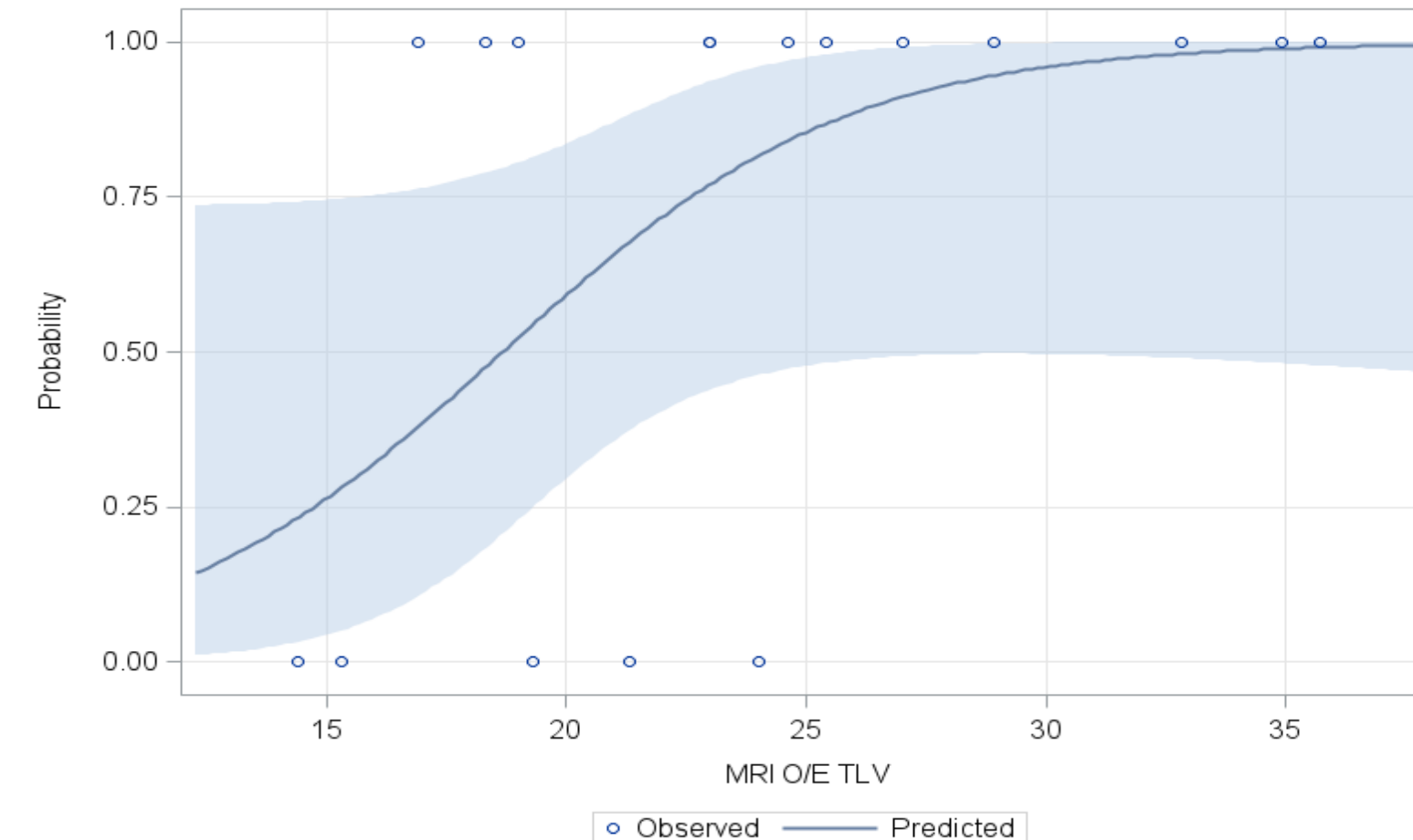
R-CDH Patient Characteristics

	R-CDH (n=32)
Incidence	32/237 (13.5%)
ECMO	20 (62.5%)
Days on ECMO, median [IQR]	15 [10,23]
Length of Stay, median [IQR]	57 [21,81]
Overall Survival	23 (72%)
Discharged on P-HTN Meds	12 (52.1%)

Prenatal Imaging Predictors

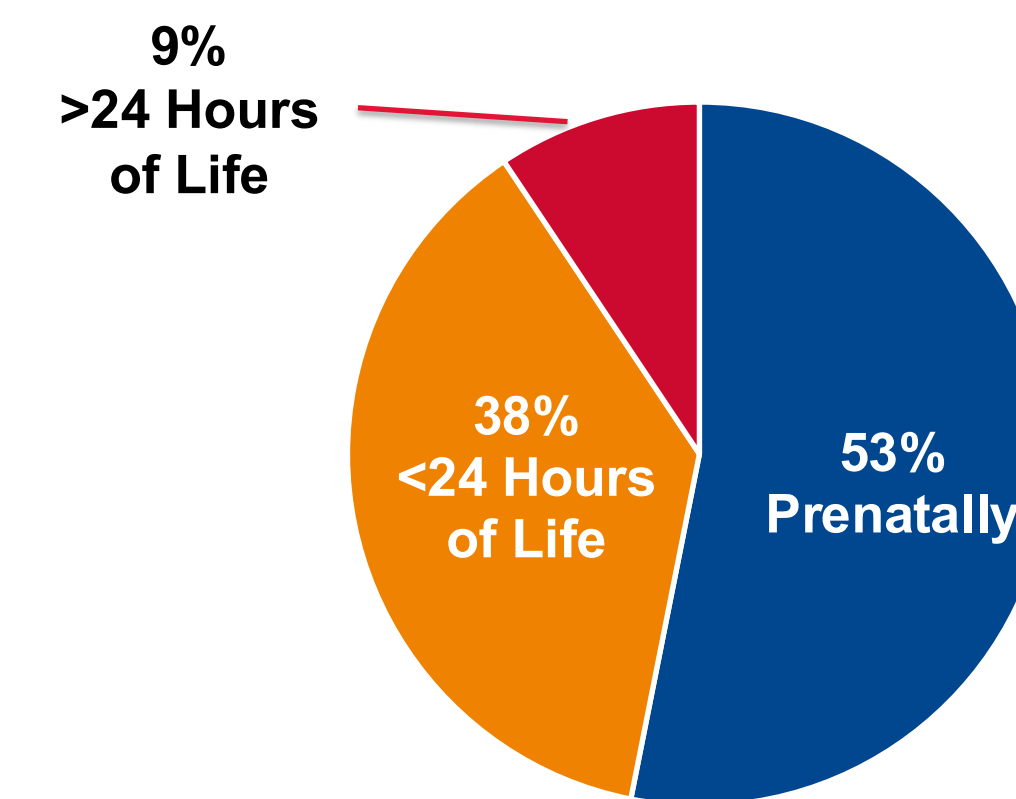


Predicted Probability of Survival with MRI O/E TLV

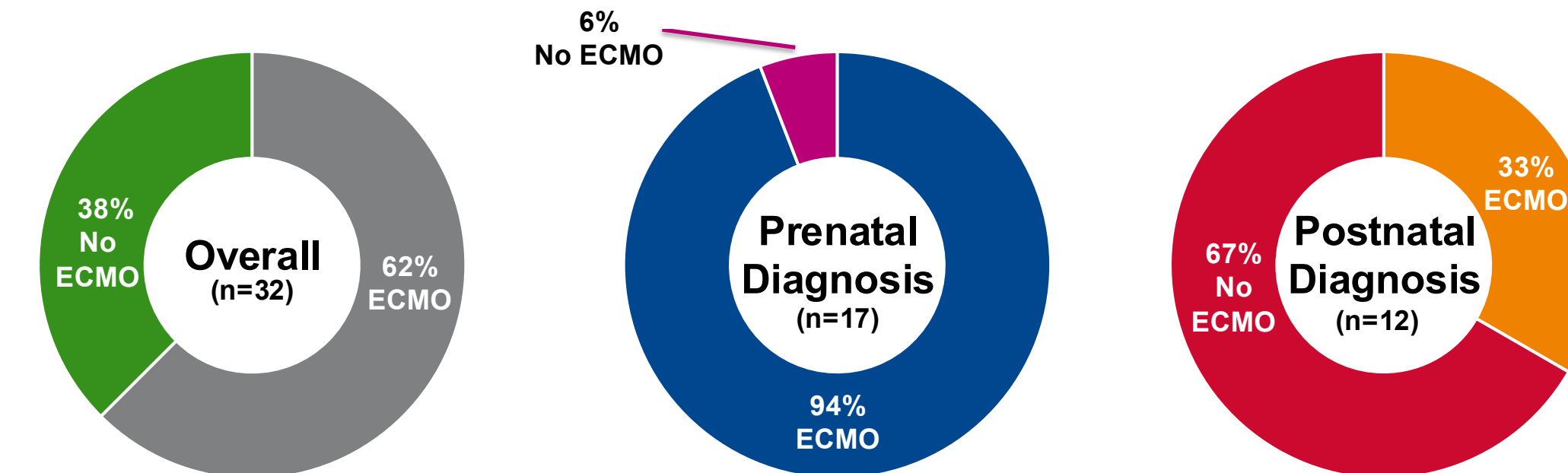


Results

Time of Diagnosis of R-CDH Patients



ECMO Requirements of R-CDH Patients



Outcomes Between Patch and Flap Repair

	Patch (n=9)	Flap (n=14)	P-value
ECMO	7 (78%)	12 (86%)	0.48
Days on ECMO, median [IQR]	21 [14,45]	14 [10,19.5]	0.07
Length of Stay, median [IQR]	67 [37,90]	68 [57,113]	0.48
Reoperation for Surgical Bleeding	5 (56%)	1 (7%)	0.02
Survival to Discharge	3 (33%)	11 (79%)	0.08

Limitations

1. Small and heterogenous cohort
2. Low number of prenatal diagnoses
3. Evolution of care over study period

Discussion

- Prenatal imaging did not accurately predict survival of R-CDH patients
- Nearly all prenatally diagnosed and approximately one third postnatally diagnosed R-CDH require ECMO
- Muscle flap repair is associated with significantly fewer reoperations for bleeding complications

Implications

- **Prenatally diagnosed R-CDH should deliver at a quaternary neonatal intensive care unit with ECMO capability**
- Currently, prenatal imaging cannot be used to accurately predict survival in R-CDH patients