

Palliative Care Consultation During Terminal NICU Admissions for Extremely Premature Neonates

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INTRODUCTION

- Palliative Care for infants focuses on improving quality of life and relief of suffering¹.
- Consult can occur alongside curative measures and early consult should occur to ensure families are supported².
- Extremely premature infants are born at less than 28 weeks gestational age. These infants have increased NICU mortality and increased incidence of significant neurological disability, supporting the need for early involvement of palliative care³.
- This study aims to describe the current state of palliative care in the NICU environment, specifically in those infants born with extreme prematurity.

METHODS

- Retrospective cohort study of infants at two academic medical centers in southeastern United States.
- Infants in NICU during terminal admission for study period February 1, 2020 through February 28, 2023.
- Information collected:
 - Gestational age at admission
 - Gender
 - Presence of medical syndrome or congenital heart disease
 - Occurrence of palliative care consultation
 - Time of admission to palliative care consult
 - Time from admission to death
 - Time from palliative care consult to death.
- Relationship between gestational age and these characteristics were evaluated for statistical significance.

RESULTS

Table 1: Patient characteristics by Palliative Care Consultation Status. P-values reported are from the Wilcoxon rank sum test for continuous characteristics and from the chi-square test or Fisher's exact test for categorical characteristics.

	No PC consult (N = 100)	PC consult (N = 136)	P
Gestational Age, weeks, median (IQR; range)	26.6 (7.36; 22.3, 39.3)	31.6 (10.8; 22.1, 40.4)	0.001
Birth weight, g, median (IQR; range)	792.5 (795; 270, 4310)	1365 (1785; 320, 4222)	0.004
Sex, n (%)			0.004
Male	65 (65.0)	63 (46.3)	
Female	35 (35.0)	73 (53.7)	
Race, n (%)			0.605
White	34 (34.0)	52 (38.2)	
Black	44 (44.0)	63 (46.3)	
Other	18 (18.0)	18 (13.2)	
Unknown	4 (4.00)	3 (2.21)	
Ethnicity, Hispanic, n (%)	15 (15.0)	10 (7.35)	0.059
Primary Language non-English, Yes, n (%)	13 (13.0)	8 (5.88)	0.058
Insurance, n (%)			0.436
Private	26 (26.0)	30 (22.1)	
Public	59 (59.0)	91 (66.9)	
Unknown or Uninsured	15 (15.0)	10 (11.0)	
Prenatal PC Consultation, n (%)			<0.001
Yes	7 (7.00)	37 (27.2)	
No	59 (59.0)	65 (47.8)	
Unknown	34 (34.0)	34 (25.0)	
Chromosomal Abnormality, Yes, n (%)	7 (7.00)	25 (18.4)	0.012
Syndrome, Yes, n (%)	7 (7.00)	14 (10.3)	0.361
Congenital heart disease, Yes, n (%)	30 (30.0)	88 (64.7)	<0.001
Other major comorbidity, Yes, n (%)	79 (79.0)	126 (92.7)	0.002

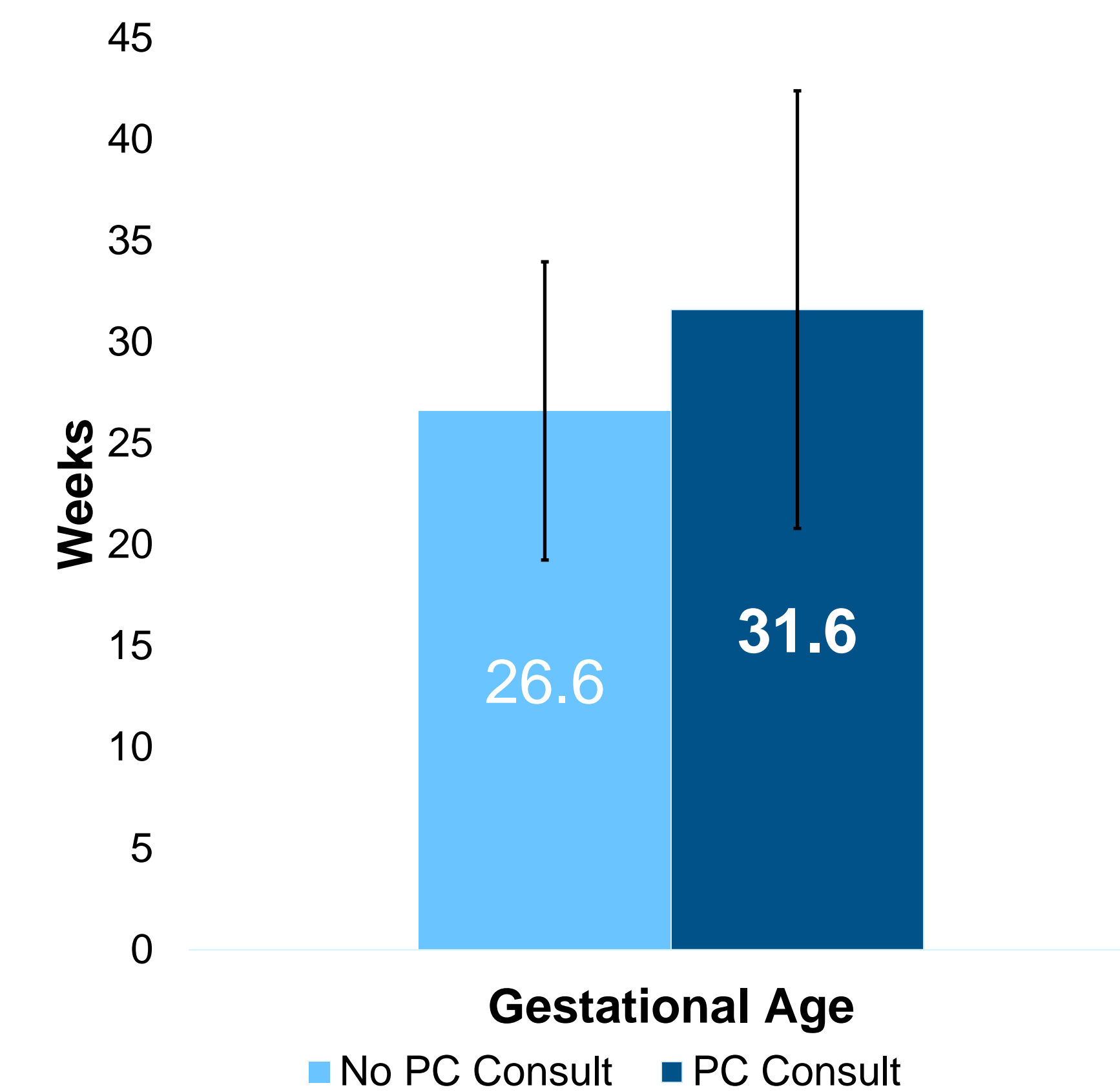


Figure 1: Palliative care consult by gestational age. P= 0.001

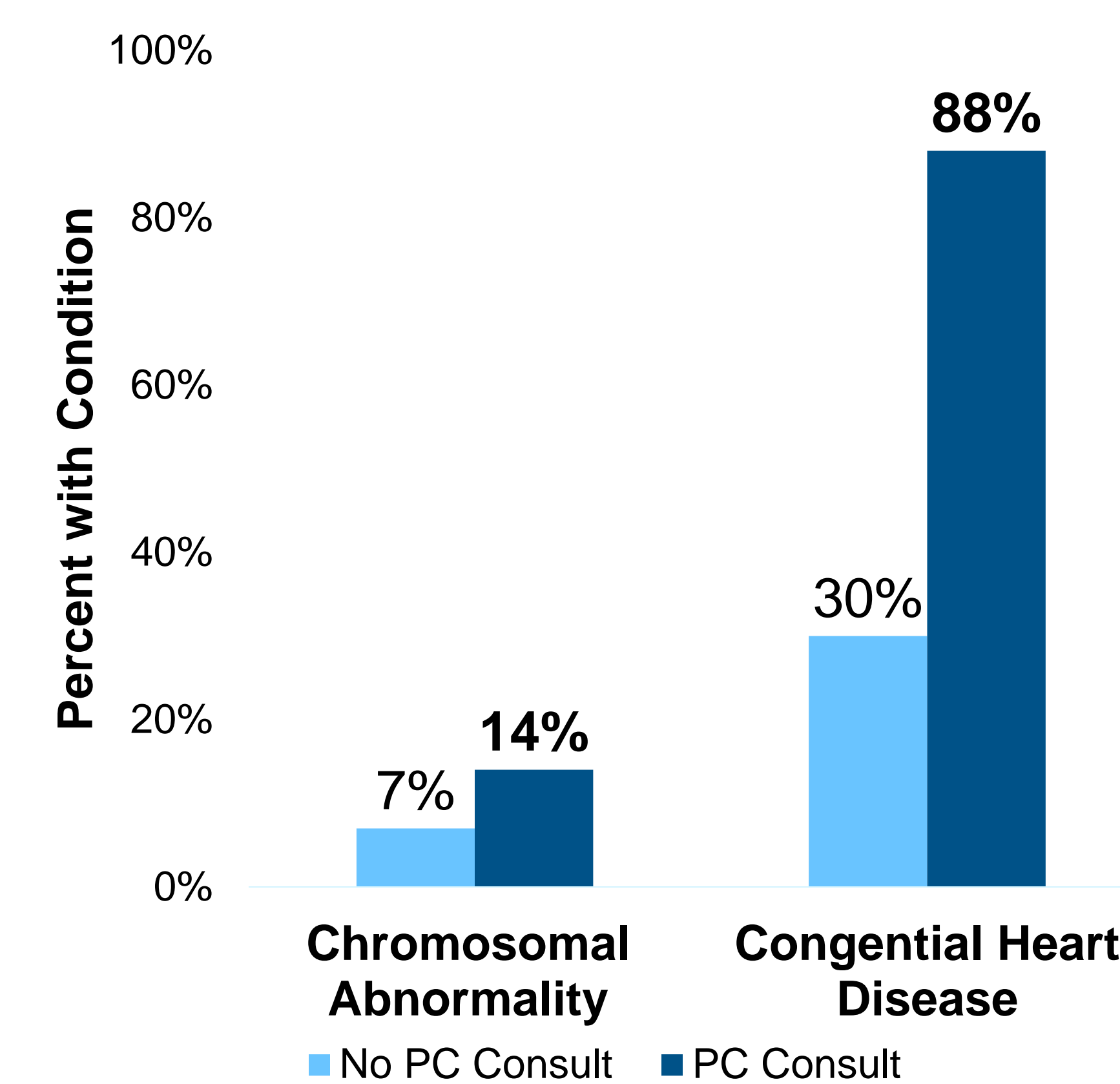


Figure 2: Palliative care consult in patients with chromosomal abnormalities (P= 0.012) and congenital heart disease (P<0.001).

DISCUSSION

- Extremely premature infants present a challenge for anesthesia and critical care providers.
- In this study, palliative care was underutilized in the extremely premature compared to older infants.
- This difference could be attributed to the unexpected nature of a premature delivery leading to less time for discussion on goals of care compared to a child born with a known life-limiting condition.
- The results of this study suggest that providers should consider early palliative care consult to ensure the quality of life of the infant is a priority while balancing the emotional needs of the family.

CONCLUSIONS

- Infants who did **not** receive a palliative care consult were at a **lower** gestational age than those in which palliative care was consulted.
- Infants born with chromosomal abnormalities or congenital heart disease were more likely to receive a palliative care consult.

REFERENCES

- Kenner C, Press J, Ryan D. Recommendations for palliative and bereavement care in the NICU: a family-centered integrative approach. *J Perinatol.* 2015 Dec;35 Suppl 1(Suppl 1):S19-23. doi: 10.1038/jp.2015.145. PMID: 26597801; PMCID: PMC4660047.
- Catlin A. Transition from curative efforts to purely palliative care for neonates: does physiology matter? *Adv Neonatal Care.* 2011 Jun;11(3):216-22. doi: 10.1097/ANC.0b013e31821be411. Erratum in: *Adv Neonatal Care.* 2011 Aug;11(4):297. PMID: 21730916.
- Kaempf JW, Tomlinson MW, Tuohey J. Extremely premature birth and the choice of neonatal intensive care versus palliative comfort care: an 18-year single-center experience. *J Perinatol.* 2016 Mar;36(3):190-5. doi: 10.1038/jp.2015.171. Epub 2015 Nov 19. PMID: 26583942.