Introduction of a New Clinical Pathway for Neonatal Care by Application of PCAPS

Nodoka MIYAZAKI a,1, Tetsuya KOKABU a, Tomohiko MURASE a, Yasuyuki KISHIGAMI b, Hidenori OGUCHI b, Yumiko IWAO b, Satoko TSURU c and Yoshinori IIZUKA c

a Department of Obstetrics, Perinatal Medical Center, Toyota Memorial Hospital, b IWAO Birth Center, JAPAN, c University of Tokyo, JAPAN

Abstract. We introduced a new clinical pathway for neonatal care that uses the PCAPS (Patient Condition Adaptive Path System). Analysis of the clinical process chart shows that for medical treatment of newborns, a higher tendency to overestimate the risk of newborns occurred due to concerns about medical safety, which could impose too many responsibilities on neonatologists. The study suggests that promotion of neonatal care that includes an appropriate prenatal risk evaluation, as well as standardization of that system, is much needed.

Keywords. Neonatal Intensive Care, Clinical Pathway

1. Introduction

The PCAPS (Patient Condition Adaptive Path System) is a method developed to structure clinical knowledge [1]. Abstracting, visualizing, and standardizing clinical knowledge within the system can improve medical quality. The PCAPS consists of a Clinical Process Chart, a Unit Sheet, and the PCAPS master. In this study, we develop a pathway for neonatal care by application of PCAPS, for standardization of neonatal care and achievement of medical safety.

2. Research Methods


3. Risk Evaluation in Prenatal Period

The chart of clinical process (Fig.1) illustrates that obstetricians and neonatologists conduct a risk evaluation of a newborn in the prenatal period, providing neonatal care

1 Corresponding Author: Nodoka Miyazaki, Department of Obstetrics, Perinatal Medical Center, Toyota Memorial Hospital, 1-1 Heiwa-cho, Toyota, Aichi, 471-8513, Japan
in two groups; Group X is for those expected to undergo normal birth and Group Y is for those whose birth will require the attendance of neonatologists. For Group X, if an abnormality is found on the newborn after the birth, a neonatal examination will be requested and the neonatologists will decide if the newborn is to be hospitalized in the NICU. For Group Y, neonatologists attend all the births and decide if the newborn is to be hospitalized in the NICU. In this study, we calculated the rate of hospitalization in the NICU for both Groups X and Y, and analyzed if the prenatal risk evaluation was effective. The subjects of the study were 945 cases of newborns from 2009.

4. Results

In Group X, which consisted of 512 cases (54.2%), there were 8 cases (0.8%) in which the newborns were hospitalized in the NICU. On the other hand, in Group Y, which consisted of 433 cases (45.8%), 218 cases (23.1%) were not hospitalized in the NICU. In medical treatment for the newborns, a higher tendency was recognized to overestimate the risk for newborns due to concerns for medical safety, which tended to impose too many responsibilities on neonatologists.

5. Conclusion

The study suggests that the promotion of neonatal care, including the appropriate prenatal risk evaluation and its standardization, are much needed in the future.

References