THE PINK CODE – OBSTETRIC QUICK TEAM RESPONSE IN OBSTETRICS FOR A SECURE ASSISTANCE IN MATERNAL-FETAL EMERGENCIES

Silva, C.H.M.; Laranjeira, C.L.S.; Salvador A.D.; Géo, M.S.; Géo, L.S.; Oliveira, L.S.; Rossi, C.V.
Rede Mater Dei de Saúde (RMDS) – Belo Horizonte, Brazil

INTRODUCTION

The main threatening conditions for maternal and fetal life are well-defined emergency pathologies in obstetrics, which are: premature placental abruption (PPA), umbilical cord prolapse, uterine rupture and acute fetal distress. Obstetric emergencies challenge medical-hospital structures, being necessary to organize the different professionals and the different areas involved in this care. Prompt and organized care interferes directly in the reduction of maternal and fetal morbidity and mortality, justifying by itself the efforts invested in this process. The implementation at Hospital Mater Dei (Belo Horizonte, MG) of a quick response team in Obstetrics, called Pink Code (PC), was the multidisciplinary strategy developed to assist obstetric emergencies in order to promote care on time. A pilot project was developed in 2015, using multiple cycles of PDSA (Plan, Do, Study, Act), until the obtation of a final flow of operation. The start of the activities of the implemented PC’s model started in 2016. In the simulation tests the average time until the arrival of the pregnant woman to the surgery room was 5 minutes. From then on we defined that the time of activation of the PC until the birth would be of 15 minutes, considering the addition of 10 minutes to perform anesthetic block, asepsis and delivery of the concept. Considering fetal physiology and fetal tolerance time to hypoxia, 15 minutes would be a likely time for fetal birth under appropriate conditions. Therefore, the goal established at Hospital Mater Dei is that after the activation of the PC by the obstetrician, the birth should occur in a maximum of 15 minutes.

OBJECTIVES

Describe the flow of care, analyze time to birth after the pink code activation and present the maternal and neonatal care results achieved.

METHODS

It was performed a descriptive analysis of the PC activations between February 2016 and March 2019. Cases of incorrect code activation and of lack of medical records that harmed the data were excluded from the analysis. The variables analyzed were: the time that the code was activated until birth, Apgar less than 7 in the fifth minute, fetal or neonatal death, maternal admission to ICU, need for blood transfusion and maternal death. Intercurrences in the activation of the team involved were also evaluated. Inclusion criteria for PC activation are: premature placental abruption, umbilical cord prolapse, acute fetal distress during labor refractory to resuscitation maneuvers, and documented by cardiotocography. All situations in pregnancies over 23 weeks.

RESULTS

Between January 2016 and March 2019, 41 PC were activated, thus 5 was in 2016, 10 in 2017, 19 in 2018 and 7 in 2019 until March. The average time elapsed between the activation of the code and birth was 25.6 minutes in 2016, 18 minutes in 2017, 16 minutes in 2018 and 12 minutes in 2019. From 41 activations, 26 (63.41%) was for PPA, 14 (34.14%) for acute fetal distress and only 1 (2.43%) for umbilical cord prolapse. Two puerperals were admitted at the ICU for post surgical clinical treatment of hypovolemic shock, needing hemotransfusion and puerperal hysterectomy. In 2016 all the newborns were admitted in the ICU neonatal; in 2017, 7 of the 10 newborns (70%); in 2018, 6 of the 19 newborns (32%) and in 2019, 28.6% were admitted in the ICU neonatal. The rate of Apgar lower than 7 in the fifth minute was equal to zero. There wasn't maternal death and fetal/neonatal death during this time. Beside this 41 cases, there were 2 cases of incorrect activation of the code (one preterm birth with imminent birth and the other one due to preeclampsia) and 2 cases of PPA that were not activated.

CONCLUSION

Over the years, the number of activations was bigger. This is not due to the increasing of the diagnosis, but due to the team's recognition of the existence of the quick response team and it's effectiveness. With the improvement of the training of the involved teams, it was also observed an improvement in the time of activation-birth. Two cases were incorrectly activated because they were not an obstetric emergency, despite the need for prompt and effective care. Appropriate measures have been taken, the doctors were activated and oriented on the flow of the PC and on the indications of activation of the code. Two cases of PPA were not activated, but the outcomes were positives, without maternal and fetal morbidity. Again the doctors responsible were warned. One of the women admitted to ICU had longest labor-delivery time: 47 minutes. The delay in the delivery can justify the greater maternal morbidity. Despite the fact that the mean duration of the activation period until the birth (17.9 minutes) in the analyzed period was higher than that recommended (15 minutes), there were no impairment in the fetal outcomes. This show us that the Pink Code is an excellent approach to organize an emergency response, but it always requires continuous training so that those involved are aligned in an attempt to achieve the recommended goals.