Short term neonatal outcomes following expectant management of previable pPROM before 24 weeks' gestation

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Objective. To assess short-term neonatal outcomes following expectant management of previable pPROM < 24 weeks' gestation and to investigate variables associated with adverse events.

Materials and Methods. A retrospective cohort study including singleton pregnancies complicated by previable pPROM and their neonates, conducted at Fondazione IRCCS San Gerardo dei Tintori, Monza (Italy), from 2006 to 2023. Logistic regression was performed to assess variables independently associated with neonatal short-term composite adverse outcome (death, BPD, surgical necrotizing enterocolitis or spontaneous intestinal perforation, ROP needing treatment, III-grade intraventricular or intracranial haemorrhage, periventricular leukomalacia) adjusting for potential confounders.

Results. Expectant management was chosen by 161 (86.6%) patients with previable pPROM. Sixty-three women experienced pregnancy loss. In univariate analysis, gestational age (GA) and oligohydramnios at diagnosis of pPROM were associated with pregnancy loss ($p = 0.008$ and 0.033). Adverse outcome occurred in 65/98 of livebirth neonates. Logistic regression showed association of adverse outcome with low GA at pPROM ($p = 0.042$) and at birth ($p < 0.001$); no associations were identified with oligohydramnios at diagnosis ($p = 0.101$), I-II trimester bleeding ($p = 0.068$) and early-onset sepsis ($p = 0.186$). GA at birth displayed the strongest association with adverse outcome, with reduced odds of events for each gestational week of continued pregnancy (aOR = 0.41).

Conclusions. GA and oligohydramnios at pPROM are risk factors for pregnancy loss. Achieving higher GA at birth should be the first aim in managing previable pPROM. GA at pPROM is the only variable known at the time of diagnosis potentially associated with adverse outcome in livebirth neonates.