

The Shrek Test: An Alternate Way to Identify Preterm Prelabor Rupture of Membranes?

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Background

Preterm prelabor rupture of membranes (PPROM) is a significant contributor to maternal and perinatal morbidity and mortality. PPRM complicates approximately 3% of all pregnancies in the United States and is a major contributor to preterm birth and complications. While PPRM can be confirmed clinically, intra-amniotic dye instillation the gold standard in the evaluation of equivocal cases of PPRM. Indigo carmine blue dye is the most used and studied dye, however, with limited availability in the United States, other alternatives need to be reviewed. To our knowledge, we describe the first case series of indocyanine green dye instillation in the prompt and effective diagnosis of PPRM.

Objective

To describe a case series of patients in whom indocyanine green dye was used as a safe and effective alternative in the diagnosis of PPRM.

Methods

A retrospective review was performed including women who had equivocal clinical presentation of PPRM from 2017-2019. Three patients who received an amniocentesis by instilling approximately 5cc of indocyanine green dye were identified.

Results

Three women with gestational age < 30 weeks with equivocal clinical presentation of PPRM and scant vaginal discharge were identified. *Case 1:* 19 yo G1 with oligohydramnios (AFI of 5.6) and no improvement after intravenous hydration. Amniocentesis with instillation of dilute indocyanine green dye was remarkable for green vaginal fluid enabling the patient to receive appropriate care for PPRM resulting in a 30-week male with minimal ventilatory support. *Case 2:* 26yo G2 presented with polyhydramnios (AFI of 16). Instillation of indocyanine dye did not demonstrate PPRM and patient delivered a full-term infant, avoiding extended hospitalization and unnecessary interventions. *Case 3:* 23 yo G4P2 with oligohydramnios in the setting of multiple fetal anomalies including multicystic dysplastic kidneys and pulmonary stenosis received indocyanine dye with demonstration of PPRM. The dye was noted to be a safe alternate in the fetus, resulting in no further fetal complications or skin discoloration and resulted the delivery of a 34-week infant after appropriate PPRM management.

Conclusion

Intraamniotic dye instillation is the gold standard in the evaluation of equivocal cases of PPRM. With the limited availability of indigo carmine dye, other dyes alternatives must be studied. Our case series demonstrates the safety and efficacy of using indocyanine green dye in a diverse patient population with and without fetal anomalies. To date, no such cases are present in literature and this review may be helpful in validating future studies.