MFMU Network Cohort Study of Preterm Premature Rupture of Membranes Placenta Pathology

Objective

To test the hypotheses that: 1) antibiotic therapy has a biologic effect on the membranes in women with preterm PROM and 2) there are two distinct mechanisms of preterm PROM, rupture due to membrane necrosis or retromembrane hemorrhage and rupture due to pathology at the cervical os. Interobserver variability of pathologists was also tested.

Conclusion

There were no histological differences between pPROM cases treated with antibiotic and those receiving placebo, nor with respect to duration of membrane rupture greater or less than 48 hours. This study suggests that histopathological evidence of infection is seen more frequently with pPROM than in preterm or term controls. Concordance among pathologists was low for features other than acute inflammation.

Scoring Centers

USC, Wayne State, Cincinnati, Alabama

Contributing Centers

Oklahoma, Chicago, Bowman Gray, Ohio State, Tennessee

Major Eligibility Criteria

- Experimental/placebo - enrolled in the Preterm PROM Study
- Control - duration of rupture known

Groups

- Experimental = Antibiotics & expectant management
- Placebo = Placebo & expectant management
- Control
  - Group 1 = preterm labor/delivery duration ruptured membranes < 4 hrs
  - Group 2 = preterm labor/delivery duration ruptured membranes 4-12 hrs
  - Group 3 = preterm labor/delivery duration ruptured membranes > 12 hrs
Group 4 = normal term delivery duration ruptured membranes < 4 hrs  
Group 5 = normal term delivery duration ruptured membranes 4-12 hrs  
Group 6 = normal term delivery duration ruptured membranes > 12 hrs  
Group 7 = elective C section without labor  
Group 8 = preterm rupture of membranes and term delivery  

Sample Size  
- Goal = 840  
- Experimental/Placebo = all cases in preterm PROM trial (300 per group)  
- Control = 240 (30 per group)  

Outcome Measures  
- Primary: Histologic features of amnion, chorion and decidua by group  

Timetable  
- Enrollment: 2/92 - 1/95  
- Data collection: Thru - 6/95