

86. HISTOLOGICAL PROGRESSION OF CLINICAL CHORIOAMNIONITIS IN PATIENTS WITH PRETERM PREMATURE RUPTURE OF MEMBRANES.

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OBJECTIVE: To determine the anatomic progression of neutrophils through the fetal membranes.

STUDY DESIGN: The placentae of 268 patients participating in a multicenter trial of antimicrobial therapy for the expectant management of preterm premature rupture of membranes at 24-32 weeks gestation were evaluated for inflammation including neutrophils in the layers of membrane, i.e. amnion, chorion connective tissue, junction of chorion connective tissue or epithelium, chorion epithelium and decidua. For each layer with neutrophils, starting from the fetal side, the number of placentae with all deeper layers (i.e. toward decidua) demonstrating neutrophils was compared to the total number of placentae with that layer positive. This process was duplicated starting at each deeper layer.

RESULTS: There were 128 patients with neutrophilic infiltration of the amnion in the membranes, starting from the fetal to the maternal side. Sixty-six percent had associated involvement of all the layers of the membrane. Of the 42 patients with neutrophils in the chorion connective tissue, 67% had involvement of all the deeper layers of the membrane. Of the 35 patients with either neutrophils at the junction of chorion connective tissue or epithelium, 77% had inflammation of both the chorion epithelium and decidua. Of the 10 patients with neutrophils in the chorion epithelium, 50% had associated inflammation of the decidua. Of the 47 patients with absence of inflammation in the decidua, 95.7% had no signs of inflammation detected in all the remaining superficial layers (toward the amnion). Of the 56 patients who had clinical chorioamnionitis, 8 patients did not manifest the most modest evidence of inflammation in the chorion, i.e. neutrophils in the chorion epithelium. Fifty-six patients had purulent chorioamnionitis histologically, but only 15 had clinical chorioamnionitis.

CONCLUSIONS: No anatomic progression of neutrophils through the fetal membranes could be demonstrated by consistent anatomic pattern, i.e. neutrophils always present in the deeper maternal layers. The variability in organisms, with differences in chemotaxis and perhaps preferred location within the membranes, could explain our results.