

Renal inflammatory response to urinary tract infection in rat neonates.

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Abstract

Urinary tract infection (UTI) is one of the most common bacterial infections. Maternal UTI is a risk factor for neonatal UTI. The aim of the present study was to determine the severity of renal inflammation in neonate rats born from mothers with induced UTI. Twelve pregnant rats (Sprague-Dawley) were included in study. The rats were divided into two groups (six rats in each group). In the first group, pyelonephritis was induced in the third trimester of pregnancy and the second group was used as a control group. After delivery, the neonates were divided into three groups based on days after birth (the 1st, 3rd and 7th days after birth). In each group, two neonates of each mother were killed and a midline abdominal incision was made and both kidneys were aseptically removed. On the 7th day, rat mothers were killed and their kidneys were removed. The preparations were evaluated with a bright field microscope for inflammatory response. Renal pathology showed inflammation in all UTI-induced mothers, but only two cases of neonates (2.1%) showed inflammation in the renal parenchyma. There was no relation between the positive renal culture and the pathological changes. We conclude that neonates with UTI born to UTI-induced mothers showed a lesser inflammatory response.