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Abstract Book

Title	**Morphological features of the lungs of offspring that developed in utero under maternal genitourinary system chronic inflammatory process conditions**
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Introduction

Maternal genitourinary chronic inflammation often complicates pregnancy, adversely affecting offspring. The aim was to determine lung morphology in progeny exposed in utero to maternal chronic genitourinary inflammation (CGI) caused by *Streptococcus pyogenes*.

Methods

Study performed on WAG rats. Group 1 included 318 one-week-old, 204 one-month-old and 214 two-month-old rats from physiological pregnancies. Group 2 included 257 one-week-old, 134 one-month-old and 121 two-month-old rats from CGI mothers. Lung fragments were examined histologically (hematoxylin-eosin, Sudan III and Van Gieson's picrofuchsin).

Results

Group 1 demonstrated normal pulmonary structure. Group 2 revealed parenchymal and stromal alterations: foci of dystelactasis, atelectasis and emphysematous changes. Alveolocytes showed focal alterative-desquamative changes, also found in bronchial and bronchiolar epithelium. Interalveolar septa were thickened due to sclerosis; similar modifications occurred in bronchial and vascular walls. Vessels of various calibers were congested with perivascular hemorrhages and occasional acute thrombi. Some showed luminal narrowing due to medial hypertrophy and sclerosis. Interalveolar septa, perivascular and peribronchial zones contained focal-diffuse cellular infiltrates, mainly lymphocytes and macrophages. The intensity of changes in Group 2 increased with age.

Discussion

Morphological analysis revealed significant parenchymal and stromal remodeling in lungs of offspring developing under maternal CGI. These structural changes confirm the damaging transplacental effect of chronic maternal pathology and may predispose to diverse bronchopulmonary diseases throughout ontogenesis.

Conclusions

Prenatal exposure to maternal chronic genitourinary inflammation caused by *Streptococcus pyogenes* results in offspring lungs characterized by parenchymal-stromal alterations: alterative-desquamative and sclerotic changes, vascular disturbances, foci of dystelectasis, atelectasis, emphysematous remodeling and progressive immune-cell infiltration.

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