Are Gene Polymorphisms of Fibroblast Growth Factor 10 Associated with Patent Ductus Arteriosus and Bronchopulmonary Dysplasia in Extremely Low Birth Weight Infants?

Shaili Amatya  
*New York Medical College*

Asma Amin  
*New York Medical College*

Umesh Paudel  
*New York Medical College*

Lance A. Parton  
*New York Medical College*

Follow this and additional works at: [https://touroscholar.touro.edu/nymc_fac_posters](https://touroscholar.touro.edu/nymc_fac_posters)

Part of the Amino Acids, Peptides, and Proteins Commons, and the Respiratory Tract Diseases Commons

**Recommended Citation**


This Poster is brought to you for free and open access by the Faculty at Touro Scholar. It has been accepted for inclusion in NYMC Faculty Posters by an authorized administrator of Touro Scholar. For more information, please contact [touro.scholar@touro.edu](mailto:touro.scholar@touro.edu).
**Background**

**FGF10 expression and lung bud morphogenesis**

Mesenchyme

FGF10

FGFR2b

FGFR

AEC

GTP

FGF-10

ERK 1/2

MEK

RAS

Shh

Hypoxia

FGF10 signaling pathway

FGF-10 binds to FGFR and activates the MAPK pathway (ERK) which in turn activates the Na-K-ATPase in AEC - protein responsible for fetal lung fluid resorption and lung fluid resorption.

**FGF10 expression and lung bud morphogenesis**

*Alveolar epithelial cell, fibroblast growth factor 10, extracellular signal regulated kinase, Guanosine triphosphate, Sonic hedgehog, Growth factor.

**Methods**

Inclusion criteria:

- ELBW infants (birth weight < 1kg)
- Informed parental consent

FGF10 SNPs Analysis:

DNA was isolated from buccal swabs and real-time PCR was performed using Taqman probes

BPD is defined by the need for oxygen supplementation at 36 weeks post menstrual age.

**Conclusions**

- Low birth weight and gestational age was associated with BPD

- FGF10 SNP rs2973644 was associated with BPD

- Other SNPs may be involved in the susceptibility of PDA or BPD

**References**


Financial disclosure: No Commercial Support