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Does maternal nicotine deregulates the laminina5 expression in the offspring kidney extracellular matrix?

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Introduction & Aim: Nicotine is the most chemical agent in the cigarette that has toxic effects on tissue cells and adhesion molecules that associated with the extracellular matrix. The aim of this study was to assess the effects of maternal nicotine exposure during pregnancy and lactation periods on fibronectine expression in offspring kidney extracellular matrix.

Materials & Methods: The 24 female pregnant Balb/c mice were randomly divided into four groups as follow: E1 group received only 3mg/kg/day nicotine intraperitoneally (IP) from the 6th day of uterine life to end of pregnancy. E2 group received same dose of nicotine in similar way from the first day of delivery to the end of lactation. C1group received 3ml/kg/day normal saline parallel to the A1 group and the C2 group received equal volume of normal saline parallel to the A2 group. In the first and twentieth days after delivery offspring kidneys were extracted for Immunohistochemical (IHC) and Real-Time Polymerase Chain Reaction (RT-PCR) studies.

Results: Offspring kidney IHC sections in E1 group showed fibronectine reaction was significantly increased in the glomerule of new born ($p < 0.05$). Also the internal diameter of convoluted tubule reduced in E1 group. RT-PCR results demonstrated that the mRNA level of the fibronectin in E2 group was up regulated significantly compared to the other group.

Conclusions: Maternal nicotine administration not altered fibronectine expression in gestation life.

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Effect of behavioral stage-based nutrition education on management of osteodystrophy among hemodialysis patients in Lebanon

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The aim of this study was to assess the effect of intensive nutrition education by trained dedicated dietitians on osteodystrophy management among hemodialysis patients. This was done through a randomized controlled trial in 12 hospital-based hemodialysis units equally distributed over clusters 1 and 2. Cluster-1 patients were either assigned to usual care ($n=96$) or to individualized intensive staged-based nutrition education by a dedicated renal dietitian ($n=88$). Cluster-2 patients ($n=210$) received nutrition education from general hospital dietitians, educating their patients at their spare time from hospital duties. Main outcomes were: Dietary knowledge (%), behavioral change, serum phosphorus (mmol/L), each measured at T0 (baseline), T1 (post 6 month intervention) and T2 (post 6 month follow up). Analysis of results showed significant improvement only among patients receiving intensive education from a dedicated dietitian at T1; the change regressed at T2 without statistical significance: Knowledge (T0: 40.3; T1: 64; T2: 63) and serum phosphorus (T0: 1.79; T1: 1.65; T2: 1.70); behavioral stages changed significantly throughout the study (T0: Preparation, T1: Action, T2: Preparation). In conclusion, the intensive protocol showed to be the most effective. Thus, integrating dedicated dietitians and stage-based education in hemodialysis units may improve the nutritional management of patients in Lebanon and countries with similar health care systems.

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