Expression of β III-microtubule protein in different stages of human fetal kidney development and its significance

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View from specialist: It is creative, and of certain scientific and educational value.

[ABSTRACT] Objective: To study the expression of βIII-tubulin in different periods of human fetal kidney development and its significance during this process. Methods: Ten human fetal kidneys samples of 11 to 32 weeks were made into paraffin-embedded sections. The expression of βIII-tubulin were detected by two-step immunohistochemistry and analyzed by image analysis software. Results: In normal fetal kidney, positive signals of βIII-tubulin could be seen in initial glomeruli, metanephric tissue cap and early differentiation stage renal tubule which located in renal superficial cortical while there was no positive signal in glomeruli and renal tubules of deep cortical. Besides, βIII-tubulin was found expressing in blood vessel endothelium cell of renal medulla and capsule. Conclusion: βIII-tubulin mainly expresses in the early formation of glomerular but not in mature glomeruli and renal tubules indicating that βIII-tubulin play roles in early development of glomeruli in fetal kidney. The influence would disappear when fetal kidneys become mature.

[KEY WORDS] Fetal kidney; β III-tubulin; Embryonic development