Telaah profil growth factor dan komposis kolagen serta hubungannya dengan diferensiasi miofibroblas pada terjadinya striktur uretra pascatrauma penelitian eksperimental pada kelinci New Zealand = Analysis of growth factors profile and collagen composition and their relationship with myofibroblast differentiation on post traumatic urethral stricture an experimental research on New Zealand rabbit

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Abstrak

Strktur uretra adalah kelainan berupa penyempitan lumen uretra akibat terbentuknya jaringan parut (scar) yang melibatkan epitel dan jaringan erektil korpus spongiosum. Proses patofisiologi terjadinya kelainan ini belum sepenuhnya diketahui. Di antara berbagai faktor yang terlibat, diferensiasi miofibroblas merupakan salah satu faktor kunci.Tujuan penelitian ini adalah untuk mengetahui diferensiasi miofibroblas pada proses terjadinya striktur uretra di tingkat selular dan melihat hubungan antara growth factor dan komposisi kolagen dengan diferensiasi miofibroblas.
Penelitian ini adalah studi eksperimental pada kelinci New Zealand jantan dewasa yang dibagi menjadi dua kelompok, yaitu kelompok model penyembuhan uretra normal dan model striktur uretra.Dua kelinci pada masing-masing kelompok dilakukan eutanasia pada hari ke-2, 7, 14, 21, 30, 60, dan 90. Dilakukan pemeriksaan adanya sumbatan uretra dengan sondase bougie 8 F, pemeriksaan CRP serum darah, pemeriksaan hematoksilin-eosin, trichrome Masson, picrosirius red, TUNEL, dan RT PCR untuk melihat ekspresi gen -SMA, TGF , dan b-FGF. Dari hasil penelitian dijumpai adanya perbedaan dalam apoptosis miofibroblas, komposisi kolagen I/total, kadar TGF dan b-FGF antara kedua kelompok. Terdapat korelasi positif sedang antara apoptosis miofibroblas dengan ekspresi gen TGF dan korelasi positif lemah antara apoptosis miofibroblas dan komposisi kolagen tipe I/ kolagen total.
.....Urethral stricture is a narrowing urethral lumen due to scar formation involving epithel and corpus spongiosum erectile tissue. Pathophysiology process of this abnormality is not fully understood. Among various factors involved, myofibroblast differentiation is a key factor. The purpose of this study is to investigate the process of myofibroblast differentiation on urethral stricture formation process at cellular level and observe the correlation between growth factors and collagen composition with myofibroblast.
The study was an experimental study in adult male New Zealand rabbits, divided into two groups, namely the normal urethral healing model and urethral stricture model. Euthanasia was performed in two rabbits of each group on days 2, 7, 14, 30, 60, and 90. Urethral stricture was confirmed by bougie. Several laboratory examination were done, including CRP blood serum, haematoxylin eosin, trichrome Masson, picrosirius red, TUNEL and RT PCR to look at gene expression of - SMA, TGF , b-FGF, dan EGF. The study found a difference in apoptosis myofibroblast, composition of collagen type I/total, TGF and b-FGF levels between the two groups. There was also a positive moderate correlation between TGF gene expression and myofibroblast apoptosis proportion and a positive weak correlation collagen type I/ total composition and myofibroblast apoptosis proportion.;Urethral stricture is a narrowing urethral lumen due to scar formation involving epithel and corpus spongiosum erectile tissue. Pathophysiology process of this abnormality is not fully understood. Among various factors involved, myofibroblast differentiation is a key factor. The purpose

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