



/ / : / / :

()
(pH = /)
(MgCl₂ / M pH= /)(CEC)

BPH BPH

BPH

- E-mail: tkermany@yahoo.com

(BPH)



³ Ch.S.: Chondroitine Sulfate

⁴ BPH: Benign Prostatic Hyperplasia

⁵ Gleason's grad

¹ ECM: Extra Cellular Matrix

² GAG: Glycosaminoglycan

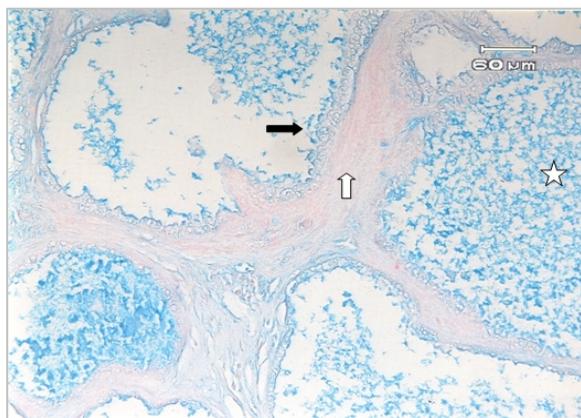
(

BPH

()

()

(leitz 1512)



(

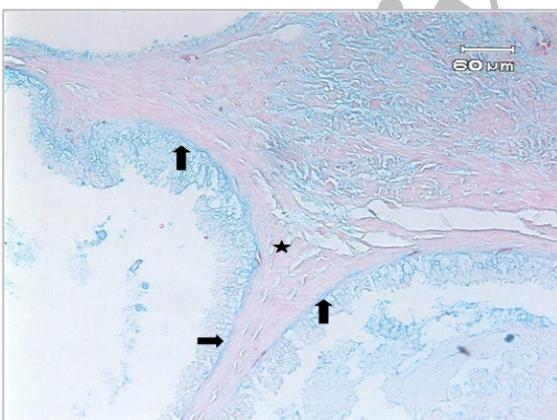
)

(

)

CEC

(1mm=6μm)



(

)

()

)

CEC

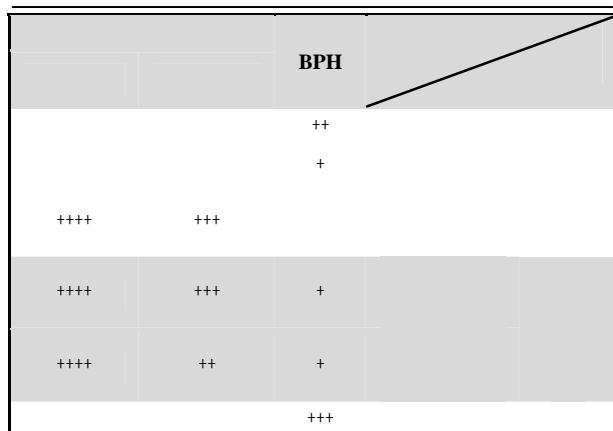
(1mm=6μm)

⁶ CEC: Critical Electrolyte Concentration

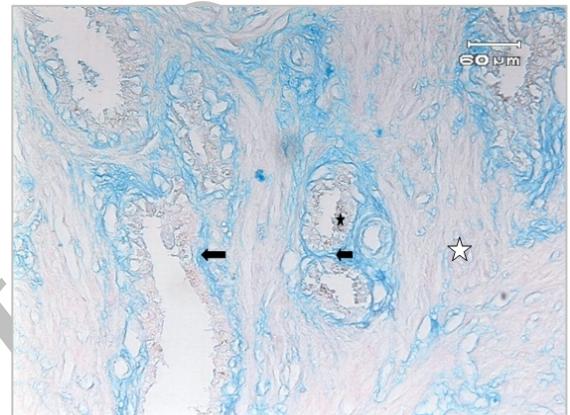
⁷ Gong



() II III



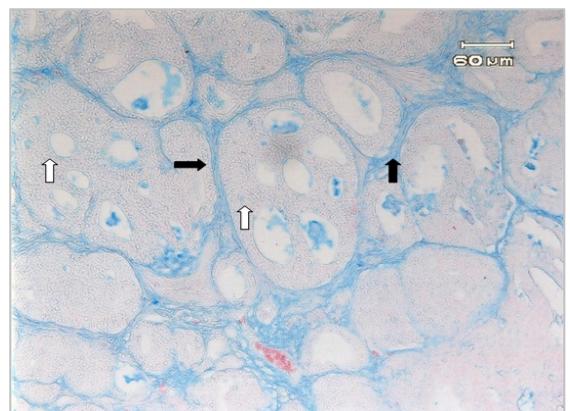
(IV)



()
()
BPH

() ()
() ()
CEC
(1mm=6μm)

()
(ECM)
()



() (Ch.S)

()
()
CEC
(1mm=6μm)

⁸ Ricciardelli

Ch.S

()

Ch.S

()

)

BPH

(BPH

Ch.S/DS

()

References:

- 1-Cotran R, Kumar V, Collins T. Pathologic Basis of Disease; 7th ed: Saunders; 2005: 1025-1033.
- 2-Anderson's pathology. edited by Kissane M J. 9th ed. vol 2: Mosby; 1991: 899-916.
- 3-Schamhart DHJ. Role of proteoglycans in cell adhesion of prostate cancer cells: from review experiment. **Urol Res** 1997; 25 [suppl: 2]: 589-596.
- 4-Stewart DA, et al. Changes in extra cellular matrix (ECM) and ECM-associated proteins in metastatic progression of prostate cancer. **Reproductive Biology Endocrinology** 2004; 2:2

⁹ Versican

¹⁰ Suzuki

¹¹ Deklerk

- 5-Grossteld GD, et al. The role of stroma in prostatic carcinogenesis. **Endocrine-related cancer** 1998; 5: 253-270.
- 6-Crowe DL, Shuler CF, Regulation of tumor cell invasion by extra cellular matrix. **Histopathol** 1992; 14 (2): 665-71.
- 7- Fong CJ, et al. Regulation of prostate carcinoma cell proliferation and secretory activity by ECM and stromal secretions. **Prostate** 1992; 21 (2): 127-31.
- 8- Wony YC, Tam NN, Dedifferentiation of smooth muscle as a factor in prostate carcinogenesis. **Differentiation** 2002; 70(9-70): 633-45.
- 9- DE KLERK, et al. Glycosaminoglycans of human Prostatic Cancer. **The journal of urology** 1984; 137: 1008-12.
- 10- Micke P. and Ostman A. Tumor-stroma interaction: Cancer – associated fibroblasts as navel targets in anti- cancer therapy? **Lang Cancer** 2004; 45: 5163-5175.
- 11- Gal braith. DB. Cutler. L.S and kohlar E.J. The correlation of temporal regulation of glycosaminoglycan synthesis with morphogenetic events in mouse tooth development. **Archs oral Biol** 1992; 37: 623-628.
- 12-Shekhar MP. Pauley R. Heppner, G. Host microenvironment in breast cancer development: extra cellular matrix-stromal cell contribution to neoplastic phenotype of epithelial cells in the breast. **Breast cancer Res** 2003; 5 (3): 930-5.
- 13-Ricciardelli C, et al. Elevated stromal chondroitin sulfate glycosaminoglycan predicts progression in early-stage prostate cancer. **Clinical cancer research** 1997; 3: 983-992.
- 14-Goulas Antonis, et al. Benigne Hyperplasia of The prostate is Associated with Tissue Enrichment in Chondroitin sulphate of wide size Distribution. **The prostate** 2000; 44: 104-110.
- 15- Ricciardelli. C, mayne, Pj Sykes, et al. Elevated levels of versican but not decorin predict disease progression in early-stage prostate cancer. **Clinical cancer Research** 1998; 4(4): 963-977.
- 16- Poscy J, Tg Soloway MS, Ekici s, et al; Evaluation of the prognostic potential of hyaluronic Acid and Hyaluronidase (HYAL1) for prostate cancer. **cancer research** 2003; 63:2638-2644.
- 17- Hiltunen Esi LJ, Anttila Maarit, Kultti Anne, et al. Elevated Hyaluronan concentration without hyaluronidase activation in malignant epithelial ovarian tumors, 2002; 62; 6410-6413
- 18- Manuel. P. Mark, et al.Chondroitin sulfates in developing mouse tooth germs. An immuno histochemical study with monoclonal antibodies against chondroitin-4 and - 6 sulfates. **Differentiation**, 1990; 43: 37-50.
- 19- Cardoso LEM, Falcao PG and Sampaio FJB. Increased and localized accumulation of chondroitine sulfate proteoglycans in the hyperplastic human prostate. **BJU international** 2004; 93: 532-538.
- 20- Li SC, Chen GF, Chan PS, Choi HL, Ho SM and Chan FL. Altered expression of extracellular matrix and proteinases in noble rat prostate gland after long term treatment with sex steroids. **Prostate** 2001, 15: 49(1): 58-71.
- 21- Sacco AJ, Ricciardelli C, Mayne K, Suwiwat S, Le Baron RG, Marshall VR, Tilley WD and Horsfall DJ. Modulation of prostate cancer cell attachment to matrix by versican. **Cancer Research** 2003; 63: 4786-4791.
- 22- Drury R, AB and Walling. Carlton's histological technique: Oxford university press; 1980: 248-249.
- 23- Gong H., Ye V, Freddo TF and Hernandez MR. Hyaluronic acid in the normal and glaucomatous optic nerve. **Exp. Eye. Res** 1997; 64: 587-595.