A new etiology for prostate cancer and BPH-The pelvic floor

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Urethral-acinar pressures arising from pelvic floor activity might lead to a stretch of prostatic epithelium and its surrounding stroma by distending prostatic ducts and acini. Stretch has been found to induce a resistance to apoptosis in cultured prostatic epithelial and stromal cells. Stretch-induced reductions in apoptosis could generate carcinogenic mutations in the epithelium, and hyperplasia of the prostatic stroma, the latter manifesting as BPH. Therefore, pelvic floor contractions might contribute both to prostate cancer and BPH. With repeated exposure over time, the tone and increased amounts of stromal smooth muscle, or BPH, might generate ‘peri-acinar pressures’ which should serve to restrict further episodes of acinar distension by counteracting raised luminal pressures. Ultimately, therefore, BPH might be protective against long-term apoptosis-resistance in acinar epithelium and thus might decrease the progression of incipient prostate cancer to advanced stage cancer.

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