Hypothesis / aims of study

Prostatic inflammation
Fibrotic changes in peri-urethral prostate tissues
Related with pelvic pain and lower urinary tract symptoms (LUTS).

Investigated the morphologic and pathologic findings of periurethral tissue on laparoscopic radical prostatectomy specimen.

Study design, materials and methods

Jan 2015 - Feb 2016, 22 patients
Laparoscopic retropubic radical prostatectomy
- appearance of prostate apex
- collected peri-urethral tissue

Two groups
- patients with or without inflammation.
- peri-urethral core bench biopsy
- extent of peri-urethral inflammatory infiltrate collagen and elastin amount
- Verhoeff-van Gieson staining elastin and collagen core amount
- visual scale grade : 0 to 3. Score score 0 : without inflammation group (N=4) score 3 : inflammation group (N=5).

Results

significant difference : two groups
International Prostatic Symptoms Score (p<0.05)
NIH/CPSI (p<0.05).

Patients with peri-urethral inflammation
- more severe LUTS and chronic pelvic pain.
- positive correlation between inflammation International Prostatic Symptoms Score Bladder Outlet Obstruction Index collagen amount
- inversely correlated inflammation and elastin amount

Interpretation of results

Fibrotic changes : peri-urethral prostate tissue secondary to prostate chronic inflammation
- promote urethral stiffness
This negative impact on urethral function
- urinary obstructive symptoms
UTS not always associated inflammation dependent prostate enlargement

Prostate inflammation and for inflammation-dependent peri-urethral fibrotic tissue Modifications
- LUTS and chronic pelvic pain.
Appropriate management of fibrosis
- ultimately also benefit patients presenting with coexisting LUTS.

Concluding message

This experimental study suggests that prostate inflammation may induce fibrotic changes within the peri-urethral prostate tissues
- promote LUTS and pelvic pain

Further studies are needed comprehensively understand the complex biology of the prostate inflammatory network in promoting different facets of LUTS severity and potential therapeutic solutions.