Prostatic Dystrophic Calcification Following Salvage Cryotherapy – An Under-Reported Entity?

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Introduction
Adverse effects (AE) following salvage cryoablation (SC) for radio-recurrent prostate cancer include urethral sloughing and urethro-rectal fistula. Prostate dystrophic calcifications (DC) following SC have rarely been reported. Our mature SC database (median follow-up 12 years) revealed this phenomenon in 9.4% which is herein reported.

Methods
A database was prospectively maintained on 187 patients (pts) who underwent whole-gland SC from 3/1995 to 9/2004. All pts had biopsy-proven clinically localized radio-recurrent cancer. Urinary functional follow-up data were available in 85 pts.

Results
Amongst those with severe urinary obstructive symptoms requiring surgical intervention, heavy prostatic DC was encountered in 8 pts (9.4%) either at cystoscopy or attempted transurethral resection (see figure 2). The bladder outlet became impassable, necessitating urinary drainage with permanent suprapubic catheter (7 pts) and nephrostomy (1 pt). Mean time from SC to emergence of severe obstructive symptoms was 8.6 years (SD 6 years). With the small sample size as a limitation, all DC pts developed biochemical failure whereas failure rate for the remaining cohort was 57.1% (p=0.01). Surprisingly, mean time from SC to death was 17.7y for DC vs. 12.4y for the remaining cohort (p=0.02). No correlations were found with pre/post SC PSA, time from Rx. to biochemical failure, time to SC failure and overall survival.

Conclusion
Prostate dystrophic calcification following SC appears to be under-reported. Our long follow-up revealed this AE which appears to have delayed onset (>8 yrs). Proposed etiology includes dystrophic calcium deposition following chronic inflammation superimposed on radiated tissues. This previously unappreciated AE can significantly impact QOL requiring long-term catheter drainage.

Figures

Figure 1 – Dystrophic Calcifications on CT (arrow)

Figure 2 – Heavy Calcifications in the prostatic urethra on cystoscopy (arrow)