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Calcification of the Epididymis and the Tunica Albuginea of the Corpora Cavernosa in Patients on Maintenance Hemodialysis

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The aims of this study were to determine the incidence rates of genital calcification in male hemodialysis patients based on ultrasonography findings and to identify risk factors for this condition. Twenty-three male end-stage renal disease (ESRD) patients (mean age, 51.4 ± 12.1 years) who were on maintenance hemodialysis underwent penile and scrotal ultrasonography. For each case, we recorded the underlying renal disease and measured serum levels of phosphorus, intact parathormone, and calcium x phosphorus product. Patients were also questioned about erectile dysfunction. The control group consisted of 22 consecutive patients (mean age, 51 years) with type 2 diabetes mellitus with normal renal function who underwent penile and scrotal ultrasonography for various reasons. In the ESRD group, ultrasound revealed calcification of the tunica albuginea of the corpora cavernosa in 15 patients (65%) and calcification of the epididymis in 16 patients (70%; 14 bilateral and 2 unilateral cases). Twenty patients (87%) showed calcification of the epididymis and/or the tunica, and 10 (43%) showed calcification of both these tissues. The rates of epididymal and penile calcification in the ESRD patients and the controls were significantly different ($P < .001$ for both). There were no significant differences between patients with and without penile and epididymal calcification with respect to age, hemodialysis duration, frequencies of elevated serum phosphorus, elevated serum intact parathormone, elevated calcium x phosphorus product, and frequency of erectile dysfunction (ED) ($P > .05$ for all). Ultrasonography revealed high rates of penile (tunica albuginea of the corpora cavernosa) and epididymal calcification (65% and 70%, respectively) in the ESRD patients studied, but no association was found between risk factors such as age, underlying renal disease, hemodialysis duration, frequencies of elevated serum phosphorus, elevated serum intact parathormone, and elevated calcium x phosphorus product.

Key words: Peyronie disease, chronic renal failure, hemodialysis, ultrasonography, epididymis, end-stage renal disease

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