

## Seminal Vesicle Dilatation in Autosomal Dominant Polycystic Kidney Disease

B. Reig<sup>1</sup>, J. Blumenfeld<sup>2,3</sup>, S. Donahue<sup>3</sup>, W. Zhang<sup>4</sup>, and M. R. Prince<sup>4</sup>

<sup>1</sup>Department of Radiology, Weill Cornell Medical College, New York, NY, United States, <sup>2</sup>Department of Medicine, Weill Cornell Medical College, <sup>3</sup>The Rogosin Institute, <sup>4</sup>Department of Radiology, Weill Cornell Medical College

**Background:** Pathological dilation of the seminal vesicles has only been reported in ten men with autosomal dominant polycystic kidney disease (ADPKD)<sup>1,2,3</sup> who also were found to be infertile with azospermia. Discrete seminal vesicle cysts, presumably a separate entity, have been reported primarily on ultrasound in men with ADPKD at a prevalence of between 6% to 60%.<sup>4,5</sup> As part of an on-going study using MRI to follow renal cyst progression in ADPKD we report the prevalence of seminal vesicle dilatation and cysts in our cohort of 172 patients with ADPKD, and in a group of age-matched controls, as diagnosed by MRI.

**Methods:** Retrospective analysis of 47 male ADPKD patients who had undergone abdominal and pelvic MRI at 1.5 Tesla with SSFSE were compared to an age-matched control population of 47 men without ADPKD. Seminal vesicle diameters were measured on coronal single shot fast-spin echo sequences. Discrete cysts were diagnosed when the remainder of the seminal vesicles were normal. The Wilcoxon-Mann-Whitney two-sample rank-sum test was used to compare ADPKD to control populations.

**Results:** The range of diameters in ADPKD patients was greater (range 2.3-30 mm) than in the control group (range 1.7-6.8 mm). The median [quartiles] seminal vesicle diameter in ADPKD patients was 4.2 mm [3.8, 5.3] and in controls was 3.0 mm [2.7, 3.6]. The distribution of the two groups differed significantly (Mann-Whitney U = 323.5, p < 0.0001 two tailed). Markedly dilated seminal vesicles (megavesicles) were considered to be above 8.4 mm, which is two standard deviations above the mean diameter in ADPKD patients (Fig 1). A subgroup of seven patients with ADPKD (15% of the population) were found to have megavesicles (mean diameter 20 mm, range 11-30 mm). An additional two ADPKD patients (4% of the population) were found to have seminal vesicle cysts, which were bilateral in one case. A single ADPKD patient had a Mullerian duct cyst. No control subjects were found to have dilated seminal vesicles or seminal vesicle cysts (Fig 2, 3).

**Discussion/conclusion:** Seminal megavesicles and seminal vesicle cysts were found in ADPKD but not in age-matched controls. The discrepancy with prior ultrasound reports likely reflects confusion in the literature between seminal vesicle dilatation and seminal vesicle cysts. Modern MRI allows distinction between these two entities, likely due to its higher resolution, superior contrast and increased field of view compared with ultrasound, allowing detailed evaluation of the entire male genitourinary tract.

### References:

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3. Shefi S et al. Arch Gynecol Obstet 2009: 280(3)
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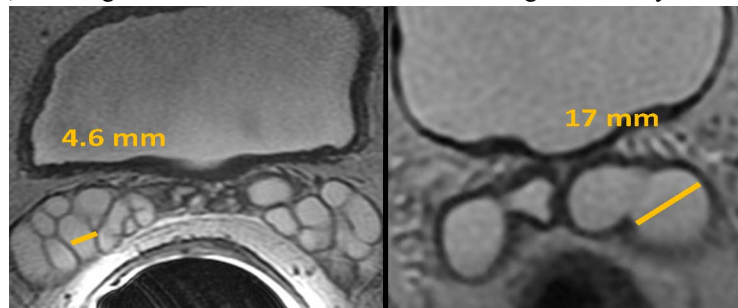


Figure 1. (left) normal seminal vesicles, (right) dilated seminal vesicles

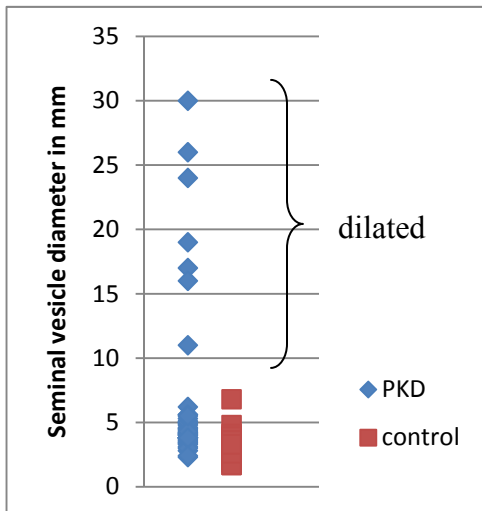


Figure 3. Seminal vesicle diameter in ADPKD and control groups

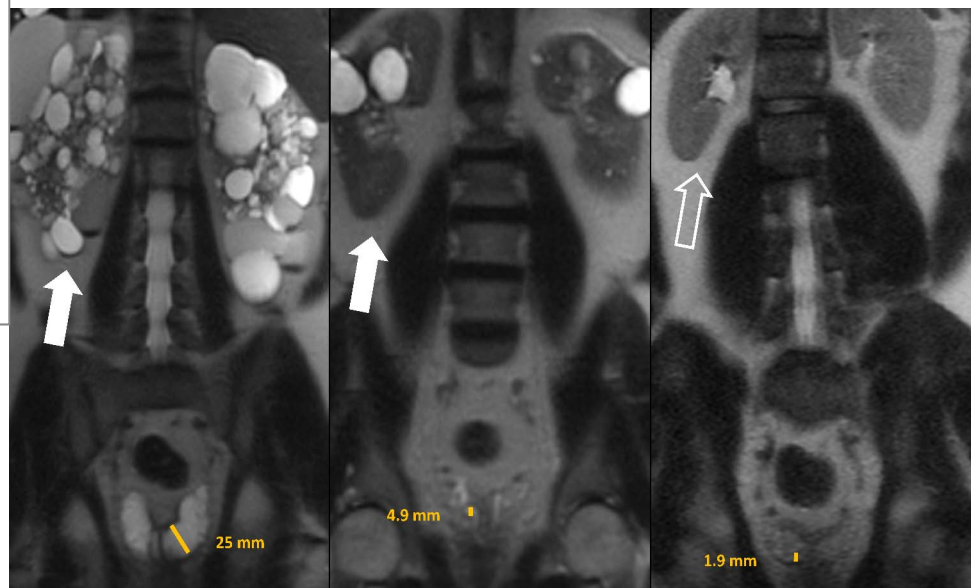


Figure 2. (left) dilated seminal vesicles in ADPKD (white arrow). (center) normal seminal vesicles in ADPKD (white arrow). (right) normal seminal vesicles in control patient (normal kidneys, open arrow)