


 Claudia Chaves, MD¹, Rik Ganguly, BS¹, Caitlin Dionne, RN, BSN, MScN¹, Ann Camac, MD¹, MaryAnne Muriello, MD¹, Arthur Mourtzinos, MD²
¹Neurology Department, Lahey Outpatient Center, Lexington, MA, United States ² Urology Department, Lahey Hospital and Medical Center, Burlington, MA, United States

OBJECTIVES

We studied the Post Void Residual (PVR) measurements in patients with RRMS who did not report urinary symptoms in questionnaires regarding bladder function.

BACKGROUND

Neurogenic bladder is common in patients with different forms of multiple sclerosis and highly amenable to treatment. Patients may have bladder storage and/or voiding dysfunction. Often, patients are symptomatic; however, urodynamic abnormalities have also been shown in asymptomatic patients. Recurrent urinary tract infections, development of hydronephrosis and renal failure are potential serious complications of undiagnosed neurogenic bladder.

METHODS

We retrospectively reviewed our MS database from July to November of 2012 and included RRMS patients who had PVR as well as Incontinence Impact Questionnaire (IIQ) and Urogenital Distress Inventory (UDI) performed on the day of the neurologic visit (Figure 1). PVR was obtained by using a bladder ultrasound (Bladderscan BVI 3000, Verathon Medical; Figure 2). PVR was considered normal if values varied from 0-49 cc and abnormal if values were 50 cc and above.

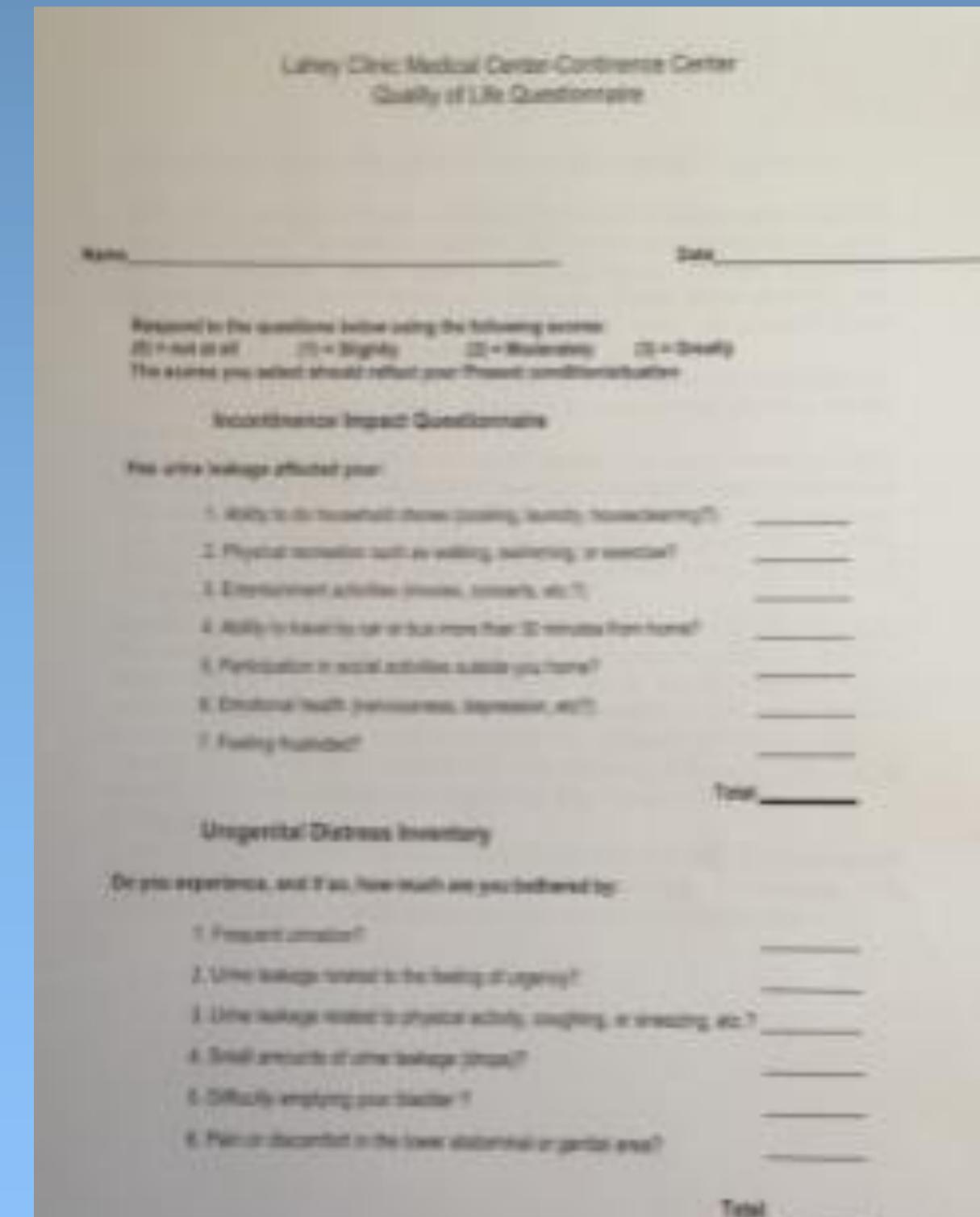
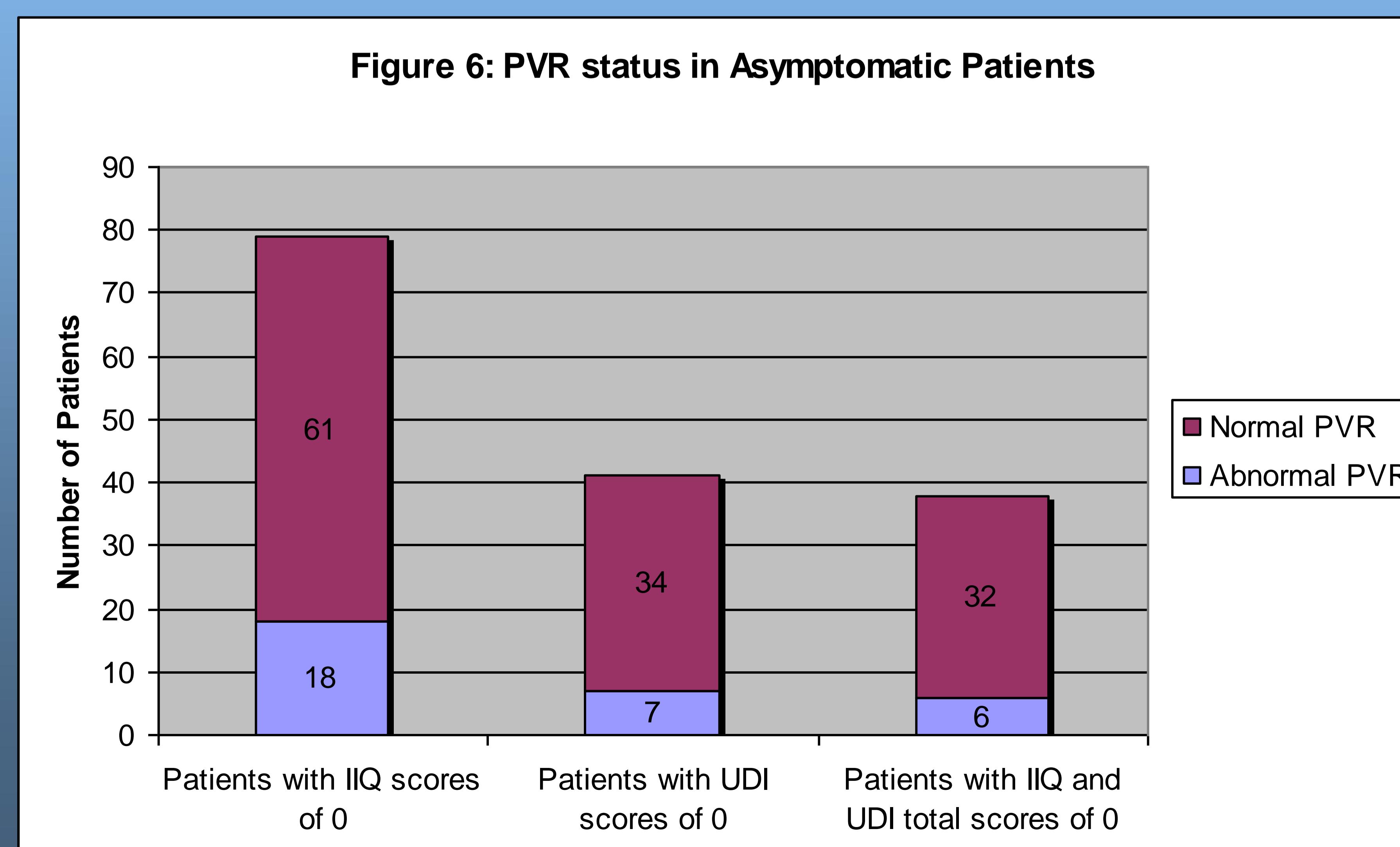
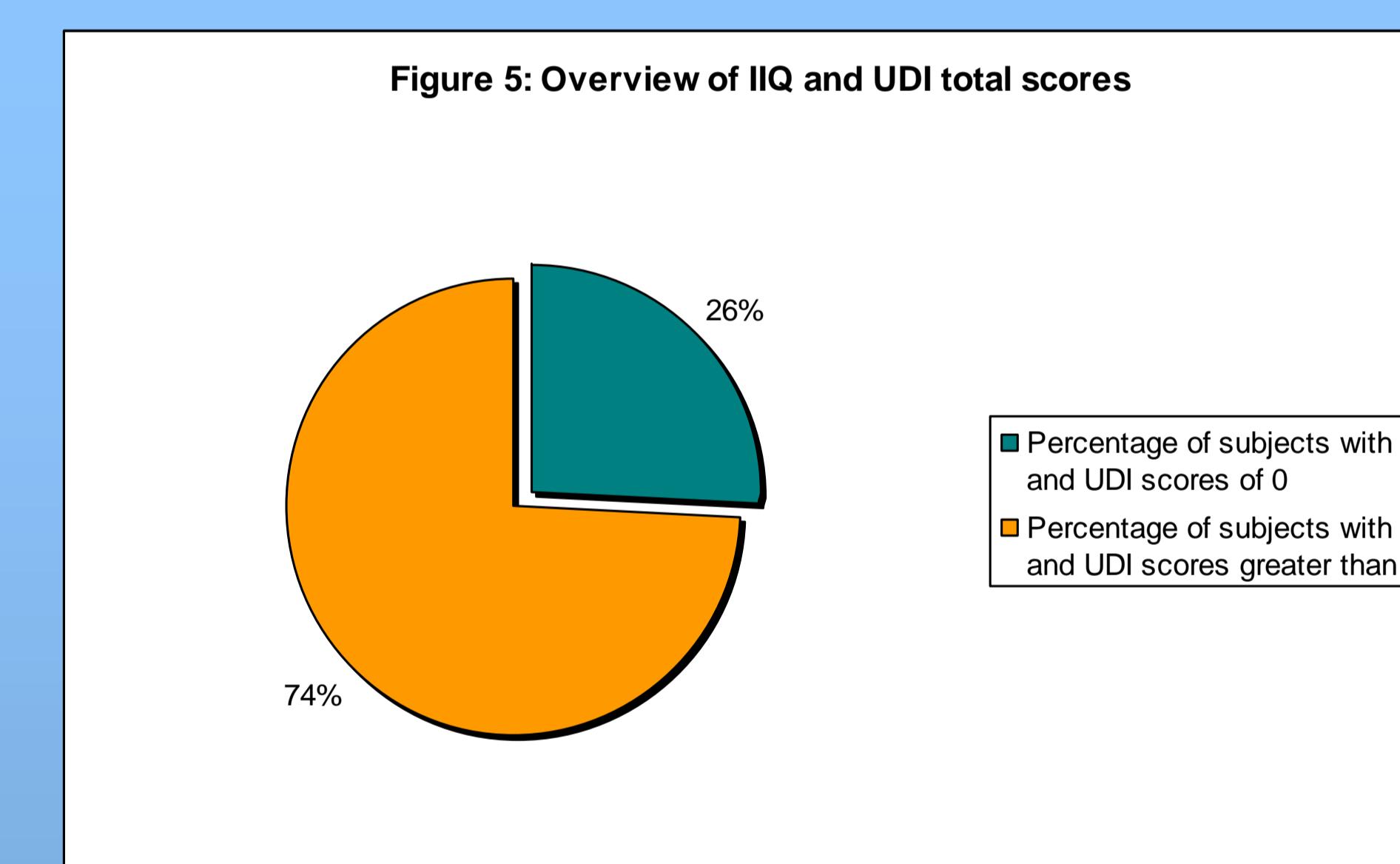
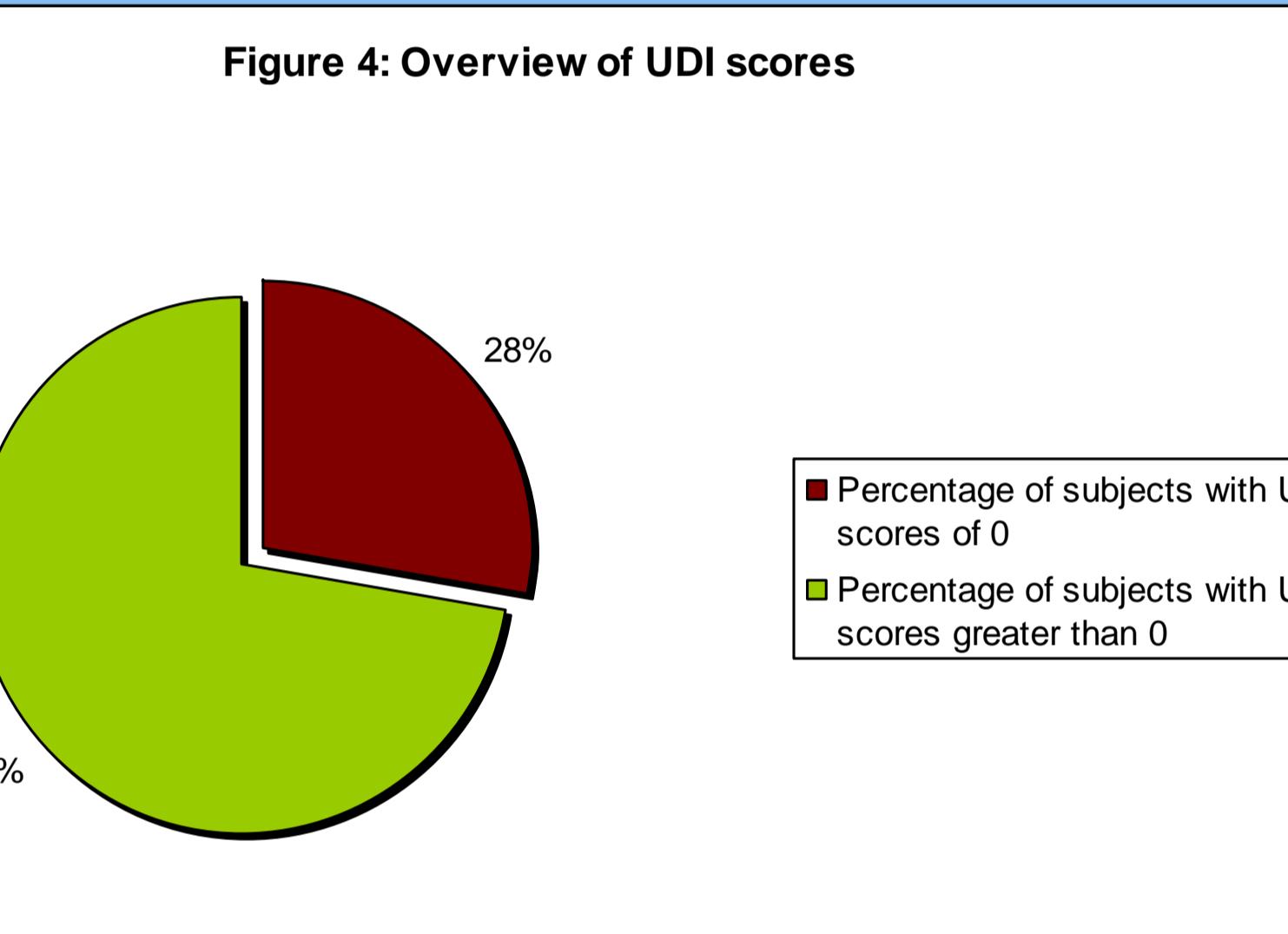
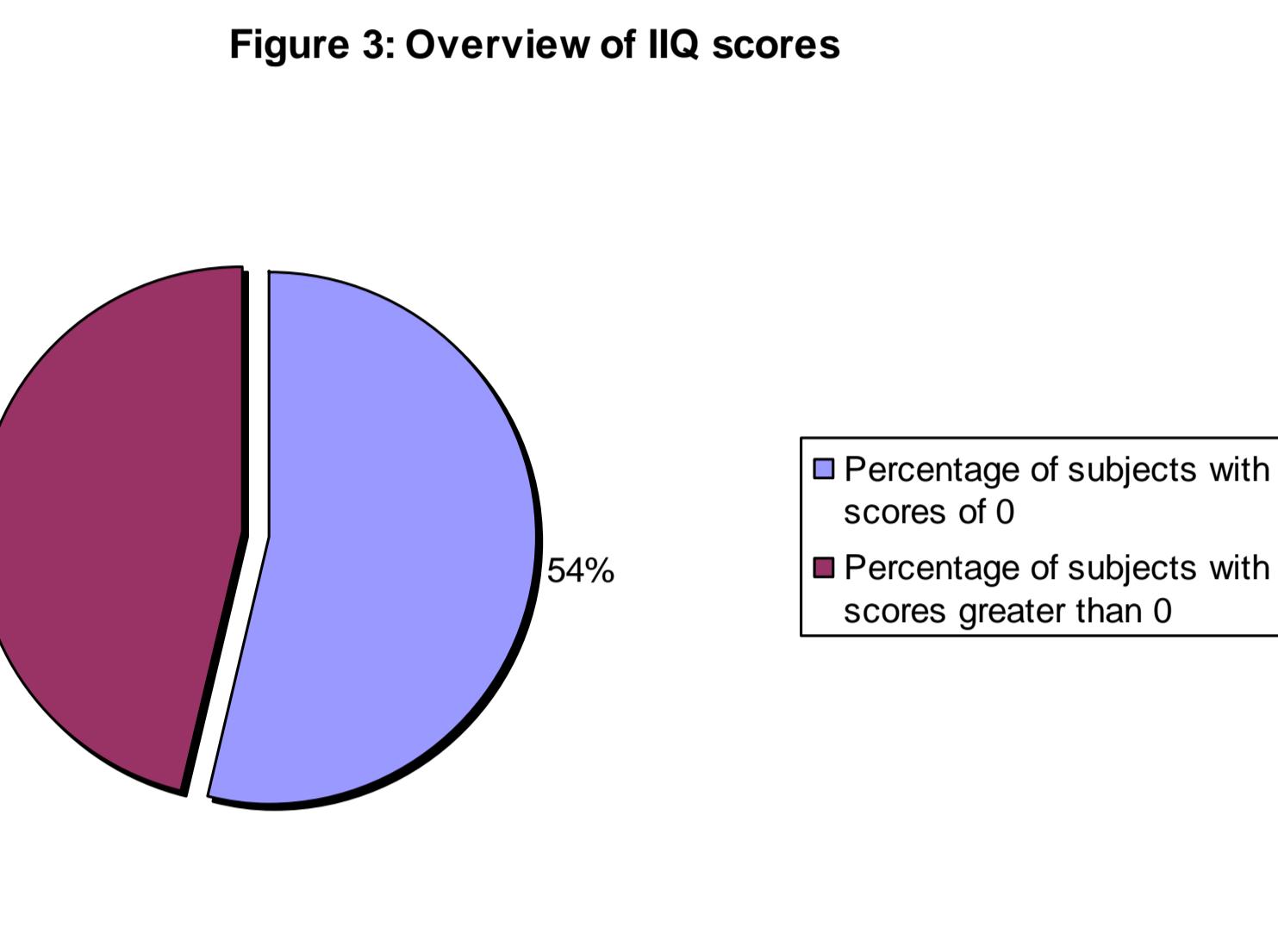


Figure 1: IIQ and UDI



Figure 2: Image of Bladderscan employed in this study



RESULTS

We studied 147 patients with RRMS, 73% were female and 27% were male, with a mean age of 49.5 years. Mean EDSS was 2.5. Sevent-nine (54%; Figure 3) and 41 (28%; Figure 4) patients reported no urinary symptoms, scoring zero in the IIQ and UDI scales, respectively. Thirty-eight patients (26%; Figure 5) were asymptomatic on both scales. Twenty-three percent of the patients with an IIQ of 0 and 17% of patients with a UDI of 0 had an abnormal PVR (Figure 6). From the 38 patients with zero scores on both scales, 16% had an abnormal PVR (Figure 6), with one-third of these patients having PVR above 100 cc.

CONCLUSIONS

In our series, we found that 16% of our RRMS patient with no urinary symptoms have an abnormal PVR and can potentially be at risk for urologic complications. PVR measurements should be included as part of routine monitoring in this population.