



Actas Urológicas Españolas

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Original – Voiding dysfunction

Analysis of overactive bladder and urinary incontinence in males in the age range between 50 and 65 years. EPICC study[♦]

E. Martínez-Agulló^a, J.L. Ruíz-Cerda^a, S. Arlandis-Guzmán^a, P. Rebollo^{b,*}, M. Pérez^c, J. Chaves^d, and the EPICC Cooperative Study Group

^aDepartment of Urology, Hospital Universitario La Fe, Valencia, Spain

^bBAP Health Outcomes Research, S.L., Oviedo, Spain

^cMedical Department, Laboratorios Almirall S.A, Barcelona, Spain

^dMedical Department, Pfizer S.A, Madrid, Spain

ARTICLE INFORMATION

Article history:

Received 22 December, 2009

Accepted 5 January, 2010

Keywords:

Overactive Bladder
Urinary Incontinence
Men

ABSTRACT

Introduction: The Overactive Bladder syndrome (OAB) and Urinary Incontinence (UI) result in an important personal and economic impact. This work concentrates on the detailed analysis of OAB and UI (derived symptoms and tendencies in medical consultation and resource consumption), in a sample of working men aged 50–65.

Material and methods: This study is within the framework of the EPICC study of the Spanish Association of Urology (epidemiologic, observational, multicentric, national study) and concentrates on the detailed analysis of the characteristics of the sample of working men aged 50–65 (N=1071) and of the subgroup of individuals with VH and/or UI (N=55).

Results: 0.56% of the subjects presented UI, 3.55% OAB, 1.03% presented both pathologies. Taking into account those individuals with UI and/or OAB, 45.45% had problems to retain urine, and 16.36% suffered leakage daily; 45.45% suffered uncontrollable urge to urinate daily; 23.64% had never sought medical advice, 65.45% had visited a urologist, 14.55% would like to visit a specialist in incontinence; 40% had received treatment, from which 81.82 had received pharmacologic treatment.

Conclusion: In this study, specific data about VH and IU in the reported sample are presented, including those referring to the magnitude of these conditions and use of sanitary resources in subjects with UI and/or OAB, aiming at contributing to a better diagnosis and handling of patients and resources.

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*Author for correspondence.

E-mail: pablo@baphealth.com (P. Rebollo).

[♦]P. Arañó Bertrán, S. Arlandis Guzmán, S. Armengol, D. Castro Díaz, J. Conejero Sugrañes, I. Expósito, M. Giménez-Cidre, JM. Pena Outeriño, C. Rioja Sanz.

Análisis del síndrome de vejiga hiperactiva y de la incontinencia urinaria en varones en la franja de edad de los 50 a los 65 años. Estudio EPICC

R E S U M E N

Palabras clave:

Incontinencia Urinaria
Vejiga Hiperactiva
Hombres

Introducción: El síndrome de Vejiga Hiperactiva (VH) y la Incontinencia Urinaria (IU) tienen un elevado impacto tanto personal como económico. Este trabajo se centra en el análisis detallado de la VH y la IU (síntomatología derivada y tendencias en consulta y consumo de recursos) en una muestra de varones laboralmente activos de entre 50 y 65 años.

Material y métodos: El presente trabajo se enmarca en Estudio EPICC de la Asociación Española de Urología (estudio epidemiológico, observacional, multicéntrico y de ámbito nacional) y se centra en el análisis detallado de las características de la muestra de varones laboralmente activos, con edades comprendidas entre los 50-65 años (N = 1.071) y del subgrupo de sujetos con VH y/o IU (N = 55).

Resultados: El 0,56% de la muestra presentó IU, el 3,55% VH y el 1,03% ambas patologías. En la muestra de sujetos con IU y/o VH el 45,45% tiene problemas para retener orina y el 16,36% tiene pérdidas a diario; el 45,45% sufre deseos incontrolables de orinar diariamente; el 23,64% no ha consultado al médico, el 65,45% ha consultado al urólogo, el 14,55% desea consultar al especialista en incontinencia; el 40% ha recibido tratamiento, de ellos el 81,82% recibió tratamiento farmacológico.

Conclusión: Se presentan datos específicos sobre presencia de VH y IU en la muestra especificada y sobre la magnitud de las afecciones y uso de recursos sanitarios en sujetos con IU y/o VH, con el fin de contribuir a un mejor diagnóstico de estos trastornos y manejo de pacientes y recursos.

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Introduction

According to the definition of the International Continence Society (ICS), urinary incontinence (UI) represents objectively demonstrable, involuntary urine leakage, while overactive bladder syndrome (OAB) is defined by the presence of urge, with or without urge incontinence, often accompanied by frequency and nocturia¹.

UI and OAB are prevalent in the general population, particularly in elderly individuals. The EPICC cooperative study of the Spanish Association of Urology establishes the prevalence of OAB and/or UI in Spain at close to 10% in women between 25-64 years of age, versus about 5% in males between 50-65 years of age, and above 50% in individuals over 65 years of age in both sexes².

Although these are not clinically serious conditions, they have an important impact upon patient quality of life, and can adversely affect self-esteem and autonomy³⁻⁵. Other pathologies that also have a marked impact upon patient quality of life have been associated to OAB and/or UI, such as lower urinary tract infections or depression⁶⁻¹⁰. In males, OAB is moreover associated with erectile dysfunction and an impaired sex life¹¹.

On the other hand, urinary symptoms such as OAB and UI constitute an important economic burden from the healthcare¹²⁻¹⁴ and occupational perspective, since they are known to be associated with lessened labor productivity, particularly in the case of individuals with urge incontinence¹⁵. In Spain the estimated annual cost per patient with urinary symptoms of this kind is 262 euros¹³.

The impact of alterations of the lower urinary tract, including OAB and UI, is therefore important, and is not limited to the diagnosed population. As a result, adequate diagnosis and treatment are necessary from the clinical, economic and human perspectives¹⁶⁻¹⁸.

The present study, set within the context of the EPICC cooperative study of the Spanish Association of Urology, offers a detailed analysis of OAB and UI in relation to the derived symptoms and the medical consultation and resource consumption tendencies, in a sample of active working men aged 50-65 years.

Subjects and method

The results of this study are set within the context of the EPICC cooperative study of the Spanish Association of Urology, which explores the prevalence in Spain of UI, nocturnal enuresis and OAB, in different groups of the general population². The present study focuses on the detailed analysis of the characteristics of one of the groups considered in the EPICC study, corresponding to active working men aged 50-65 years (N=1071). The general characteristics of the study and of the methodology used for data collection can be seen in the reference to the EPICC study².

The present study involved the administration of a structured questionnaire, following patient consent, together with the recording of data needed to detect signs of urinary incontinence and OAB in the general population, with the purpose of determining the prevalence of these

disorders. In addition, clinical data complementary to the study in the general population were recorded, along with information on the magnitude of the disorders and the use of healthcare resources in those individuals that proved positive in the screening for OAB or UI. Thus, data were collected on the presence of the following pathologies: frequent urinary infections, arterial hypertension, diabetes, cerebral paralysis / stroke, Parkinson's disease and other disorders. We also collected information on the presence of benign prostatic hyperplasia, prostatitis and prostate cancer. For the detailed description of the sample of patients with UI and/or OAB, we made use of a complete list of urinary symptoms. Lastly, in order to evaluate healthcare resource utilization in these patients with UI and/or OAB, we collected information on the clinical practice followed in the detection and treatment of the disease (medical consultation, hospitalization, diagnostic tests used and treatments provided).

The sample was classified according to whether the patients presented UI (cases in which urine leakage had occurred on more than one occasion in the last year, and with a frequency of leakage of at least three times a year), OAB (cases reporting a sudden and irresistible urge to urinate, with a frequency of urge sensation of at least three times a year), both pathologies, or neither pathology. The group of subjects with UI and/or OAB was defined as the group comprising the individuals with UI, OAB, and both pathologies.

Statistical analysis

Data processing was based on dual information input by independent personnel, and the generation of consistency

filters. Logic filtering of the data was carried out. These operations were carried out with data management software approved by the regulatory agencies (Oracle® Clinical), and the statistical analyses and tables were generated with SAS, version 9.1.

Quantitative variables were reported as the mean and standard deviation, while qualitative variables were expressed as absolute frequencies and percentages. Normality was checked with the Shapiro-Wilk test. Comparisons between groups were made with the chi-squared test in the case of qualitative variables, and using the Student t-test in the case of quantitative variables. Statistical significance in all tests was accepted for $p < 0.05$.

Results

The study sample consisted of 1071 active working males between 50-65 years of age, representing 89% of the subjects of these characteristics invited to participate in the study. A total of 0.56% of the sample presented UI, 3.55% OAB and 1.03% both pathologies. The prevalence of OAB and UI in the group aged 55 years or older was almost twice as high as in the group of subjects under age 55 years (5.55% vs. 3.27% for OAB, and 1.96% vs. 1.08% for UI). Table 1 summarizes the personal and sociodemographic characteristics of the study sample, based on the presence or absence of the considered urinary disorders. The group of subjects with UI and the group of patients with OAB presented mean ages similar to those of the patients without any of the considered urinary disorders (56.00, 56.45 and 55.88 years, respectively), while the age was seen to be older among the patients with both disorders (59.36

Table 1 – Personal and sociodemographic characteristics of the study sample (N=1071)

	UI	OAB	Both	Neither
Age	56.00 (5.55)	56.45 (4.06)	59.36 (4.48)	55.88 (4.35)
Weight (kg)	76.33 (7.28)	80.93 (11.45)	78.64 (15.31)	80.68 (10.83)
Height (cm)	169.33 (9.50)	170.53 (6.29)	168.45 (7.37)	171.24 (6.65)
Marital status				
Single	33.33%	0.00%	18.18%	6.89%
Married	66.67%	94.74%	72.73%	84.35%
Widowed	0.00%	2.63%	9.09%	2.36%
Divorced	0.00%	2.63%	0.00%	5.91%
Education level				
Illiterate	16.67%	0.00%	9.09%	4.43%
Primary	50.00%	44.74%	63.64%	47.64%
Secondary	16.67%	31.58%	0.00%	21.56%
University	16.67%	23.68%	18.18%	24.31%
Profession				
Liberal profession	0.00%	10.53%	0.00%	9.84%
Employee (directive post)	16.67%	13.16%	18.18%	13.78%
Employee (no directive post)	50.00%	52.63%	36.36%	53.15%
Worker	33.33%	10.53%	27.27%	18.01%

Table 2 – Description of the total sample in terms of urinary symptoms and other health problems (N=1071)

	UI	OAB	Both	Neither
Symptoms				
Bothersome desire to urinate	0.0%	34.21%	27.27%	1.57%
Sudden and irresistible urge to urinate	0.0%	100.00%	100.00%	4.53%
Urination more than 8 times a day	33.33%	55.26%	72.73%	4.53%
Waking up at night more than once to urinate	33.33%	57.89%	45.45%	8.96%
Urination more than twice at night	16.67%	26.32%	36.36%	1.77%
Urine leakage on more than one occasion in last year	100.00%	10.53%	100.00%	0.20%
Health condition				
Very good / good	33.33%	76.31%	27.27%	75.98%
Regular	66.67%	18.42%	63.64%	21.06%
Poor / very poor	0.0%	5.26%	9.09%	1.58%
Health problems	66.67%	60.53%	72.73%	52.17%
Disorder				
Frequent urinary infections	16.67%	5.26%	27.27%	1.28%
Hypertension	0.0%	36.84%	27.27%	32.87%
Diabetes	0.0%	13.16%	9.09%	9.84%
Cerebral paralysis / stroke	16.67%	2.63%	0.0%	0.49%
Parkinson's disease	0.0%	0.0%	0.0%	0.10%
Other diseases	66.67%	28.95%	45.45%	23.33%
Prostate disorders				
Benign prostatic hyperplasia	0.0%	28.95%	27.27%	3.94%
Prostatitis	16.67%	18.42%	27.27%	3.05%
Prostate cancer	16.67%	0.0%	0.0%	0.39%

Table 3 – Health disorders in patients with UI and/or OAB and in patients without these urinary symptoms (N=1071)

	With urinary symptoms*	Without urinary symptoms	χ^2	p
Health problems	63.64%	52.17%	2.754	0.097
Disorder				
Frequent urinary infections	10.91%	1.28%	27.628	<0.001
Hypertension	30.91%	32.87%	0.110	0.7400
Diabetes	10.91%	9.84%	0.059	0.808
Cerebral paralysis / stroke	3.64%	0.49%	7.872	0.005
Parkinson's disease	0.0%	0.10%	0.055	0.815
Other diseases	36.36%	23.33%	4.985	0.026
*Incontinence and/or overactive bladder				

years). Table 2 provides a description of the sample in terms of urinary symptoms and other health problems. As can be seen in table 3, there were no significant differences in the prevalence of arterial hypertension, diabetes or Parkinson's disease between the group of subjects with UI and/or OAB and the group without such urinary symptoms. In contrast, the differences were significant in relation to the prevalence of urinary infections cerebral paralysis / stroke and the rest of illnesses. Frequent urinary infections were more prevalent in subjects with UI or both pathologies versus those who only suffered OAB.

A detailed analysis was made of the sample of subjects with UI and/or OAB (N=55). In this context, 45.45% of these individuals were seen to have problems retaining urine; 27.27% were able to retain urine for less than two hours; 36.36% suffered urine leakage; and 16.36% suffered leakage on a daily basis (47.06% of the patients with UI). In turn, 29.09% experienced a desire to urinate before leakage; 12.73% suffered leakage on walking; 10.91% on laughing; and 9.09% on coughing or sneezing. On the other hand, 9.09% suffered nocturnal leakage; and 45.45% experienced daily irresistible desire to urinate (51.02% of patients with OAB). As regards

the detection and treatment of these disorders, 23.64% of the subjects with UI and/or OAB had not sought medical help; 65.45% had consulted the urologist; and 7.27% had visited the general practitioner. In turn, 14.55% expressed a wish to receive adequate care by a specialist in incontinence; 11% had been hospitalized; and 3.64% had reported to the emergency room due to problems of incontinence. A total of 40% of the subjects had undergone radiological or ultrasound exploration; and 12.73% had undergone urodynamic testing. Forty percent had received treatment: of these, 81.82% received drug treatment; 27.27% were prescribed hygiene-dietary measures; 18.18% underwent surgery; 13.64% were subjected to physiotherapy; 4.55% were catheterized; and 5.46% required padding (supplied by the social security system in 66.67% of the cases). On the other hand, 1.82% of the subjects with UI and/or OAB had suffered falls associated with their urinary problems.

Discussion

The present study offers a detailed analysis of the results obtained in the EPICC cooperative study of the Spanish Association of Urology, in relation to parameters directly and indirectly related to urinary symptoms, in a population group represented by active working males between 50-65 years of age.

Of the disorders considered in our series, OAB was almost 7 times more prevalent than UI (3.55% vs. 0.56%). The greater prevalence of OAB versus UI in males has already been reported elsewhere^{19,20}, and may be explained by the relationship between OAB and the prostate disorders found in the male population, particularly after 50 years of age²¹. In our study, as can be seen in Table 2, 28.95% of the subjects with OAB had benign prostatic hyperplasia, and 18.42% prostatitis — these percentages being clearly greater than those found in subjects with UI and in those without urinary disease.

The data on the prevalence of OAB and UI in the study sample are clearly lower than those previously reported for the male population in Spain²² and elsewhere²³⁻²⁵. The differences are probably due to the characteristics inherent to the study samples considered, since our series involves a highly selected group of individuals excluding the oldest age intervals. Furthermore, more differentiated and restrictive criteria were used in our study for the assigning of subjects to urinary disease groups. The age range considered in our series clearly conditioned the recorded prevalences of OAB and UI, since both disorders are very infrequent under 50 years of age, while in individuals over age 65 the prevalences of both illnesses increases greatly.

The subjects with OAB and/or UI showed significantly more frequent urinary infections than those subjects without such urinary problems, in coincidence with the observations of other authors²⁶. However, we found no significant differences between the two groups in terms of the prevalence of diabetes — in contrast to the observations of the aforementioned study.

Almost one quarter of the subjects with UI and/or OAB had not sought medical help for their problem, while the

majority (65.45%) had visited the urologist. The proportion of patients with these disorders who claimed to have visited a physician, about 75%, is clearly superior to that reported in other studies (43-45%)^{27,28}. Since medical consultation is correlated to patient sex and the type and severity of the condition²⁸, this difference may be due to the fact that ours was a highly selected population, in contrast to the mentioned studies, which were based on the general adult population. Furthermore, since the two mentioned studies were carried out in the United States, differences between the health system in that country and the system in Spain may also have exerted an influence. On the other hand, the proportion of subjects with OAB and/or UI in the present study who received pharmacological treatment is greater than reported in the above study²⁷ (38.2% vs. 22.5%). This difference likewise may be explained by differences in access to the healthcare services and in the types of treatment used between the two countries. In our study, 14.55% of the subjects with UI and/or OAB expressed a wish to receive adequate specialized treatment for their incontinence, while in other studies the corresponding percentage is higher — approximately 30% among patients with lower urinary tract problems²⁹. In this case the difference may be due to the fact that we considered two concrete disorders among the range of urinary tract diseases, along with the differences in healthcare system accessibility in the different countries (increases accessibility being associated with a greater number of patients already attended).

As has been commented, urinary symptoms represent an important personal, healthcare and economic burden, and moreover also affect the working activities of the affected patients³⁻¹⁸. This study in working males between 50-65 years of age has offered a detailed analysis of the prevalence of symptoms associated to OAB and UI, and of the tendencies in terms of diagnosis and healthcare resource utilization, with a view to improving the management of patients with urinary symptoms, from the clinical and economic perspectives.

Conflicts of interest

The authors declare no conflicts of interest.

Acknowledgements

The authors thank all the physicians who have participated in the EPICC study for their collaboration. Thanks are also due to Laboratorios Almirall, S.A. and Pfizer, S.A. for providing the infrastructure needed for conducting the EPICC study.

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