

Revealing the epidemiology of pituitary adenomas in Poland

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Classic endocrine conditions, such as acromegaly and Cushing disease, are individually rare. However, when considered together with other disease caused by pituitary adenomas (PAs), like prolactinomas and nonfunctioning PAs (NFPAs), they constitute a major disease class that is often encountered in endocrinology practice. PAs can cause a series of complex clinical syndromes, the specific characteristics of which depend on the cell of origin, as well as the size and behavior of the tumor.¹ These clinical conditions often have a gradual onset, manifesting with subtle signs and symptoms that can be initially nonspecific and therefore difficult to identify in the general medical setting. Functional PAs can secrete any of the anterior pituitary hormones (individual or, occasionally, in combination), thereby affecting the reproductive axis, growth and metabolism, thyroid function, and stress responses.² Tumoral impingement on local brain structures (eg, cranial nerves) or pressure-related symptoms can lead to visual loss or headache. Given these factors, greater awareness of PA presentations is necessary across medical specialties, including internal medicine, neurology, ophthalmology, gynecology, and others.

Nearly 20 years ago, we began a process of establishing the true prevalence of PAs. Beginning in Liège, Belgium, we undertook the first community-based study to identify and verify the number of PAs across urban, suburban, and rural sampling regions, in collaboration with community-based medical colleagues.³ Our study design focused on including only cases with radiological, hormonal, and symptom-based data, and we excluded all nontumoral and asymptomatic, incidentally discovered lesions. Exclusion of the latter lesion type permitted us to avoid problems of overdiagnosis of innocuous pituitary lesions identified on head scans performed for reasons unconnected to a pituitary pathology. Our initial study found a prevalence rate of approximately 1 case per 1000 of the general population, of

which 66% were prolactinomas. The study paved the way for a series of similar population-based assessments in the United Kingdom and Switzerland, which confirmed a similar prevalence.^{4,5} Subsequent studies with differing methodologies have addressed the issue of not only prevalence but also the incidence of PAs.⁶ Some of these regional and national studies, performed in such diverse settings as Malta, Iceland, and Argentina, have established beyond doubt that PAs are an important component of the caseload in modern endocrinology practice.⁷⁻⁹

The spotlight now turns to the epidemiology of PAs in a large central European country, Poland. Until now, there have been little data available on pituitary epidemiology in Poland. This gap is addressed by a new single-center study by Derwich-Rudowicz et al¹⁰ published in the current issue of *Polish Archives of Internal Medicine*. Over a 5-year period from 2018 to 2023, the authors analyzed a series of 1111 patients with PAs, yielding an annual incidence rate of 4.11 cases per 100 000 population/year, which is in line with the international rates of 3.9–7.4 per 100 000/year.⁶ The incidence was higher in women than in men, and women were also significantly younger (by about 4 years). The authors elected to study in greater depth a small subset of the diagnosed patients (n = 194) who had undergone neurosurgical resection of their PAs. The surgical group differed from the overall study population in several important aspects, being older and male-predominant. Logically, the surgical series was comprised of individuals with larger tumors (98% were macroadenomas or giant adenomas). Conversely, there was a low proportion of young women with prolactinomas, as they are more frequently treated medically. NFPAs were by far the most common tumor type in the Polish surgical series. Larger tumor size was associated with a higher propensity for hypopituitarism, and NFPAs were associated with increased reporting of invasion and optic chiasm impingement/visual

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disturbance than the second most frequent tumor type, growth hormone-secreting PA.

These new results are a welcome addition to the growing body of work describing the epidemiology of PA worldwide. Further analysis of the Polish dataset could provide more details on the profile of PAs in general, particularly those that are not managed surgically. Such epidemiological results serve a variety of purposes beyond being merely descriptive. For complex conditions, such as PAs, optimal management requires the expertise of multiple specialties, including endocrinologists, neuroradiologists, neurosurgeons, laboratory scientists, and pathologists, ideally in an expert center of excellence.¹¹ As these services require significant training and manpower, in addition to technology and equipment, local epidemiological information on pituitary-related caseloads is a prerequisite for health service investment planning. The collection and reporting of local data from Poland should encourage more groups to undertake detailed epidemiological research studies into clinically-relevant PAs across other regions and countries.

ARTICLE INFORMATION

DISCLAIMER The opinions expressed by the author(s) are not necessarily those of the journal editors, Polish Society of Internal Medicine, or publisher.

CONFLICT OF INTEREST None declared.

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