

A nationwide survey of adrenal incidentalomas in Japan: the first report of clinical and epidemiological features

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Abstract. The aim of this study was to reveal clear epidemiologic and clinical characteristics of incidentally discovered adrenal masses, termed adrenal incidentalomas (AIs), and to establish appropriate managemental and therapeutic regimens in Japan. This study had been originally carried out as a project of a research proposed on behalf of the Japanese Ministry of Health, Labour and Welfare, from 1999 to 2004. This nationwide multicenter study on AIs included 3,672 cases with clinically diagnosed AIs, involving 1,874 males and 1,738 females, with mean age 58.1 ± 13.0 years (mean \pm SD). In the present study, we focused on the investigation of the real prevalence of various adrenal disorders with AI. The mean nodule size of AI based on computed tomography was 3.0 ± 2.0 cm. Compared to non-functioning adenomas (NFAs), tumor diameters were significantly larger in adrenocortical carcinomas (ACCs), pheochromocytomas, cortisol-producing adenomas (CPAs), myelolipomas, metastatic tumors, cysts, and ganglioneuromas ($p < 0.01$). Endocrinological evaluations demonstrated that 50.8% of total AIs were non-functioning adenomas, while 10.5%, including 3.6% with subclinical Cushing's syndrome, were reported as CPAs, 8.5% as pheochromocytomas, and 5.1% as aldosterone-producing adenomas. ACCs were accounted for 1.4% (50 cases) among our series of AIs. In conclusion, while almost 50 % of AIs are non-functional adenomas, we must be particularly careful as AIs include pheochromocytomas or adrenal carcinomas, because they may be asymptomatic. To our knowledge, this is the first and the largest investigation of AI, thus providing basic information for the establishment of clinical guidelines for the management of AI.

Key words: Adrenal incidentaloma, Non-functioning adenoma, Cortisol-producing adenoma, Aldosterone-producing adenoma, Pheochromocytoma