Current progress on internal medicine in China—2006 Part II

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Abstract A lot of progress has been made on internal medicine in the past year. Here a great deal of data were collected about internal medicine in China by searching for some most important medicine magazines published in China in 2006. Because there are so many articles on internal medicine, some representative reports were selected and further reviewed. In the part II, a summary of advances made in four branches includes nephrology, hematology, endocrinology and metabolism, rheumatology.

Keywords internal medicine; China; nephrology; hematology, endocrinology and metabolism; rheumatology

1 Introduction

Many annals reported on internal medical advances in China. Updates are specifically designed to present recent, rapid evolution or development of concepts and practices. Content should offer guidance in clinical practice, with references to additional authoritative sources. A lot of national and international conferences about internal medical diseases were held in various areas in China. Along with colleagues from other countries, Chinese doctors have made great progress in all fields of internal medicine. Some new practices on nephrology, hematology, endocrinology and metabolism, rheumatology are reviewed as follows.

2 Nephrology

2.1 Chronic kidney disease

The annual meeting of nephrology disease was hold in Xiamen by Chinese Society of Nephrology in CMA (Chinese Medical Association) on November 1 to 4, 2006 [1]. This meeting mainly discussed the chronic kidney disease (CKD), the most common disease in china. The CKD has become a worldwide health problem because of its potential to progress to kidney failure and its major contribution to cardiovascular morbidity and mortality. Clinical researchers from nine units including the First Hospital in Peking University investigated 603 patients with CKD (beyond the age of 18, male 309 and female 294). The causes of CKD included primary or secondary glomerulopathy (40.2%), hypertension (13.8%), obstructive nephropathy (13.6%), renal vascular diseases (9.9%), diabetic nephropathy (5.7%), chronic renal tubule mesenchyma disease (6.9%), cystic nephropathy (2.6%) and unknown cause or other diseases (7.3%).

Zhang and his colleagues [2] from the First Hospital of Peking University investigated the prevalence of kidney damage and risk factors in 2,353 residents older than 40 years in Beijing. They found that albuminuria was detected in 6.2% of subjects, reduced renal function in 3.0%, hematuria in 0.8%, and non-infective pyuria in 0.09%. Approximately 9.4% of subjects had at least one indicator of kidney damage. Diabetes and systolic blood pressure were independently associated with albuminuria. Hyperuricemia, albuminuria, age, hypercholesteremia and gender were independently associated with reduced renal function. The prevalence and risk factors of CKD in population older than 40 years in a Chinese metropolis are similar to those of developed countries. According to this report, there were about 44 million Chinese people suffering from CKD in China. Clinical researchers from 12 Shanghai hospitals investigated 571 patients with CKD from 2004 to 2006. They reported that patients in the early of CKD may present disorders of calcium-phosphorus metabolism, secondary parathyroid hormone accentuation and cardiovascular complication.

Chinese eGFR Investigation Collaboration collected 684 patients CKD from nine renal institutes of university hospital located in nine different geographic regions of China. They used 99mTc-diethylene triamine pentaacetic acid (99mTc-DTPA) plasma clearance by dual plasma sampling method as reference GFR (rGFR), the original abbreviated modification of diet in renal disease (MDRD) equation was modified by...
the following two methods. First, a racial factor for Chinese was added to the original abbreviated MDRD equation. Second, multiple linear regression was applied to the training sample, and the coefficient associated with each variable in the original abbreviated MDRD equation was modified respectively. The result showed that the two modified abbreviated MDRD equations based on the Chinese CKD patients offered significantly advantages in different CKD stages. It could be applied to GFR estimation in substitution of original abbreviated MDRD equation [3]. Contribution of the MDRD equation based on cystatin C is the same as based on creatinine. But valuation equation combining cystatin C and creatinine was the best to evaluate the early renal function change [4].

2.2 Primary glomerulopathy

Wang and his colleagues [5] investigated the susceptibility candidate megsin gene and P-selectin gene of IgA nephropathy by detecting single nucleotide polymorphism from 12 patients with IgA nephropathy and 12 controls from southeast of China. The results showed that 11 SNPs in SERPINB7 gene and 16 in SELP gene were identified in a total of 27 SNPs, with an average frequency of 1 SNP per 503 bp. Ten SNPs, 37% of 27 SNPs, had not been reported in GenBank. Ma [6] investigated the clinical and pathological characteristics and prognosis of IgA nephropathy (IgAN) patients with uniformly thin glomerular basement membrane (TGBM), as well as the relationship between IgAN with TGBM and thin glomerular basement membrane disease (TGBMD). The clinical features of IgAN patients with TGBM were different from those with normal GBM. Some families of IgAN with TGBM may converge with the families of TGBMD, so the electron microscopy examination is necessary for familiar IgAN. Pan [7] analyzed CD2AP mutation from 82 Chinese patients with idiopathic focal segmental glomerulosclerosis (FSGS). He showed that the mutations in CD2AP may cause FSGS in both nephrotic syndrome (NS) and non-NS patients. The decreasing expression of CD2AP resulting from CD2AP gene mutation may affect the expression of podocin.

2.3 Secondary glomerulopathy

Lupus nephritis is an inflammation of the kidney caused by systemic lupus erythematosus (SLE). Researchers from Institute Nephrology of PLA analyzed 1,352 hospitalized cases with lupus nephritis mainly affected women at age of 18 to 50. The most common renal pathology category was type IV (49.1%), other pathology types include type V (41.4%), type II (14.3%), type IV + V (11.7%), type III (5.6%) and type V + III (4.7%). Chen [8] studied the glomerular gene profiling of diabetic nephropathy (DN) by using GeneChip method. He found that different genotypes were given based on the different clinical phenotypes. Combining the analysis of the changed gene expression in the development of proteinuria, histology lesions and serum creatinine level, the gene profiling linked to the progression of DN was found, in which there were a lot of genes related to the metabolism. And some molecules related to inflammation response were also included. Wang [9] reported that K469E polymorphism in the intercellular adhesion molecule-1 (ICAM-1) gene was associated with type 2 DN, and K allele may be susceptible to DN. Zhu [10] reported that oxidative stress damage was active in DN patients. Losartan had antioxidative effect on DN patients. Compared with losartan 50 mg/d, the antioxidative effect of losartan 100 mg/d is more marked, without increasing side effect. Losartan’s antioxidative effect may be involved in its beneficial mechanisms on DN. Liu [11] detected C242T and A640G polymorphism of the p22phox gene by using polymerase chain reaction-restiction fragment-length polymorphism in 194 type 2 diabetic patients, including 71 diabetic nephropathy, and 105 healthy subjects. They suggested that p22phox C242T gene polymorphism was associated with diabetic nephropathy in Shanghai people, p22phox subunit T allele mutation was probably one of predisposing genes of type 2 diabetic nephropathy, and p22phox A640G gene polymorphism was not associated with diabetic nephropathy in Shanghai people. T242 allele, fasting blood glucose, HbAlc, Homa-IS, systolic blood pressure is risk factors of type 2 diabetic nephropathy. Wang [12] surveyed 406 Shanghai Chinese (244 with diabetes mellitus and 162 with impaired glucose regulation). The results suggested that the high prevalence of microalbuminuria and impaired renal function in the hyperglycemic population of Caoyang Community underlines the need for cost-effective programs for the detection of chronic renal disease, and approaches to screen it in the hyperglycemic patients should incorporate assessment of GFR in addition to monitoring urine albumin excretion.

2.4 Polycystic kidney

Zhang [13] studied the genetic heterogeneity of autosomal dominant polycystic kidney disease by linkage analysis with microsatellite DNA tightly linked to PKD1 and PKD2 in Shanghai Han nationality population and to compare the clinical presentation of ADPKD types 1 and 2. The results in this study were similar to those of foreign reports. There is no significant difference of frequencies of complications between the patients of two types. But for the diagnosis age of ADPKD and hypertension, the onset age of ESRD of patients of type 1 are earlier than that of type 2, which suggests that the prognosis of patients of type 2 is better than that of type 1. Rong [14] investigated whether the risk factors of cardiovascular disease exist in early stage of ADPKD patients with normal renal function. Morphologic, mechanical and functional sonographic parameters of arteries were examined by high-frequency ultrasonography in 32 hypertensive and 28 normotensive ADPKD patients with preserved renal function, 25 patients with essential hypertension, and 30 healthy subjects were included in the study. Brachial artery