



INTERNATIONAL SOCIETY OF HYPERTENSION

A Scientific Council of the
World Heart Federation



Hypertension News – an Electronic Newsletter

Opus 4

May 2004

Dear ISH members,

Thanks for all your support and for answering the questionnaire enclosed to Opus 3 of Hypertension News. From the many answers we have drawn the conclusion that the news letter is well liked and easy to open. There were several suggestions. However, some readers wanted the Newsletter to be longer whereas others wanted it to be shorter; some wanted more figures and tables whereas others wanted less figures and tables.....As a result of the questionnaire, we now send to you in a simple Word 1998 format which allows us a figure or two in colours. Hopefully, those of you who have older computers and who have difficulties in opening the attachment, will tell us so we can send a rtf file instead – which unfortunately will be much bigger.

We have continued to work on the membership list and we now have a working e-mail address to >93% of our members. In an appendix to this newsletter, please find two lists of members who we can not reach (those without known e-mail address as well as those where the e-mail address does not work. Please take a look and see if you can help us. If so, please contact Ms Malin Larsson (malin.larsson@famned.umu.se) and provide correct addresses.

In this issue of Hypertension News several reports concern the meeting in Brazil where almost 3000 of us experienced a very well organised meeting. Let me joint the line and congratulate the Brazilian organisers to a very well conducted meeting.

Next issue (Opus 5) should reach you in September/October.

Best wishes,

Lars H Lindholm
Officer at Large of ISH
Newsagent

Opus 4 has the following content:

1. The new Presidents address, M Alderman
2. The past Presidents summary of the ISH Council meeting in Brazil, L Beilin
3. Report from the 20th ISH meeting held in Brazil, A Ribeiro et al.
4. Hypertension in Argentina, F Ramos et al.
5. Comments from the Chairman of the Board of Management of J Hypertension, L Landsberg

ISH Feb 2004 Report on Council Meetings 20th International Scientific Meeting, San Paolo

Lawrie Beilin
Past president of ISH
Perth, Australia

I should like to congratulate Artur Ribiero and Oswaldo Kohlman and their fellow local program organisers for the excellent 20th International Scientific meeting staged in San Paolo. Close to 3000 delegates attended and the program and satellites overall exhibited the high quality characteristic of previous ISH meetings. It was gratifying to see over a thousand South American physicians and scientists given the opportunity to hear and meet not only with an array of distinguished international speakers but with many younger investigators.

Many members of ISH contributed to the program and a few with the difficult task of raising resources to cover meeting costs. The pharmaceutical companies who along with the Brazilian Hypertension Society and the Oswaldo Ramos Foundation helped sponsor the meeting should also be singled out for their foresight in investing in the future of Hypertension research in a particularly difficult economic environment. As expected there was an excellent social program of various aspects of Brazilian culture. The meetings of the Executive of Scientific Council and its subcommittees and working parties dealt with a broad range of issues related to the running of the Council, its future directions, its official Journal and relationships with other cognate societies.

Stemming from the ISH strategic planning committee initiatives a series of discussions centred around means of enhancing research and research infrastructure in lower and middle income countries. Meetings were held with Dr's Claude Lenfant and Pat Mulrow as representatives of the World Hypertension League (WHL), and Dr John Dirks and colleagues from the International Society of Nephrology and with the WHO-ISH Liason committee. The WHL is an organisation which technically is a branch of ISH but has largely run its own agenda which relates specifically to its mission of hypertension education and management. There is obviously overlap with the objectives of ISH and it was agreed that the two organisations should attempt to coordinate their activities to a greater extent. The satellite meeting on Hypertension in Low and Middle Income Countries run by WHL in San Paolo was a good example of such cooperation. The worldwide activities of the International Society of Nephrology as presented by Dr John Dirks, were particularly impressive, including a wide range of regional educational visits each year, a large number of Fellowships.

An open workshop on promotion of hypertension research in lower and middle income countries was attended by over 20 delegates. These issues were also discussed at the International Forum attended by Presidents of many of the National Hypertensions societies from around the world. Council subsequently resolved to continue this aspect of the Strategic planning group's activities through a 'Lower and Middle Income Strategic Initiatives Working Group' which will be chaired by Robert Fagard.

The possibility of establishing a cardiovascular research consortium that embraced other cognate societies also relates to ongoing discussions with the World Heart Federation. From ISH viewpoint we must clearly lead on hypertension related matters, by making known the formidable expertise available from our membership and working closely with other cognate groups on global and regional initiatives. This will require energy and commitment on behalf of Council members.

WHF have invited ISH to participate in organising a meeting on Preventive Cardiology at Iguacu Falls in Brazil May 21-25 2005, to which Council responded positively. Judy Whitworth emphasised the importance of our ongoing relationship with WHO through the WHO-ISH liason committee. Recent outcomes of the Committee included publication of the updated statement on Guidelines for Management of Hypertension in the Journal of Hypertension in 2003, a successful Stroke meeting in Melbourne with two important statements on blood pressure management and Stroke published in the Journal, a meeting on Prevention and Pathophysiology of Hypertension in Bagnaia in Italy proceedings of which will be published in Clinical and Experimental Hypertension and presentation of the Statement on Guidelines at a meeting in Bangalore.

Progress with planning for future meetings is well advanced, notably for Fukuoka 2006, details of which were presented by Dr's Ogihara and colleagues. The 2008 meeting will be held jointly with ESH in Berlin and ISH 2010 will be in Vancouver. Council Executive voted to have the 2012 meeting in Sydney following submissions from Sydney, Beijing and Capetown.

The contract between ISH and local organisers for International Scientific meetings is close to finalisation for the next two meetings and will be used as template for the future. This delineates the respective responsibilities of ISH and local organisers, defines sharing of any profits of such meetings and enshrines an audit as an essential safeguard for the participants. The importance of ongoing dialogue and collaboration with industry was discussed and to this end an ISH- Industry Liason working party was established and will meet annually.

Dr Lew Landsberg as Chair of the Board of Management of the Journal of Hypertension noted the continuing success of the Journal under the Editorship of Professor Zanchetti. A small fall in impact factor seems to have been shared by a number of cardiovascular journals. The possibility of increasing the frequency of publication of the journal is under review. ISH and ESH are renegotiating their contract with the publishers to try and ensure that the returns to the societies are more commensurate with the expertise provided and with the profits that currently accrue to the Publisher.

At the Awards ceremony in addition to those announced previously a Distinguished Members Award was given to Professor Heinz Rahn for his outstanding contributions to ISH. The Pfizer award was given to Dr J Romero from Boston. The Austin Doyle award was shared by---. A new award for best poster was offered by Clinical Science and given to ----.

Outgoing members of Council Executive Dr Mimran as Past President and Dr Saruta were thanked for their contributions. New members welcomed to Executive were Dr Fujita from Japan and Dr We from China. 26 new members were voted to join ISH and further strategies discussed to encourage nomination of young and not so young scientists and physicians. In closing I have appreciated the opportunity to serve as President of ISH. I have also enjoyed being able to communicate via this newsletter and thank the Editor for this initiative. I look forward to continue working with the incoming President Dr Mickey Alderman and with Council. My thanks to all members of ISH, and especially to its Executive and Officers who in their very busy lives contribute so actively to its ongoing success.

The 20th Scientific Meeting of ISH 2004 in São Paulo, Brazil

Artur Beltrame Ribeiro

Oswaldo Kohlmann Jr.

Maria Helena C. Carvalho

Our 20th scientific meeting was held in São Paulo, Brazil, February 15 to 19, 2004 and we are happy to report on it. Attendance was a little under 3000 participants from 75 Countries, most numerous delegations excluding Brazil were Greece, Portugal, USA, Argentina and Japan.

The Scientific Program was met as planned except for the presentation of one state of the art lecture whose speaker could not come. Eight industry sponsored satellite symposia were presented and had full room attendance. The six investigator initiated satellite symposia were also very productive. The ISH/WHL symposium was very successful, very well attended and focused in hypertension in developing countries and had 15 speakers from all continents in the main meeting. We had 35 state of the art lectures, 8 symposia, 3 debates, a section on new data on trials with 5 update presentations and 1 how to session delivered by 127 professors from 30 countries. A Presidential Lecture, the Franz Volhard Award and Lecture and a ISH/WHO Special Lecture were also presented. A major participation for the work of the attendees was given by 166 oral presentations and 743 posters presented by delegates from 51 countries. Poster sections were very well attended due to the large space in the program and the pleasant physical area reserved.

Continuous medical education was also an important part of our activities with 16 breakfast workshops and 16 lectures on the Hypertension Specialist Teaching. In order to assure the scientific program importance the organizing committee sponsored travel grants for 75 delegates from countries experiencing economic hardship and 48 young investigators travel grants. Also a special Oswaldo Ramos award was given to a Latin America young Investigator and, thanks to the Organizing Committee of our Check Republic meeting three awards (Jirí Widimsky SR award) were given to 3 young investigators from Latin America. All the official awards of our Society were also delivered. Social events were also as planned and the numerous attendance of the various events very gratifying for the organizers. The carnival dinner was a very happy and friendly farewell for all participants.

The organizing committee wishes to thank all those members of our Society who always believed we could have a successful meeting in Brazil and also worked hard in all phases of our meeting playing a pivotal role in its success. We are happy to have been able to organize our society meeting and receiving so many friends

Epidemiology of Hypertension and Diabetes Mellitus in LatinoAmerica with particular analysis of Argentina

Felipe Ramos
Ramiro Sánchez
Buenos Aires, Argentina

Argentina, a country with an area of 2.8 millions of Km², has 37.5 million of inhabitants, 4.5% foreigners. This population is 90% caucasian and urban, a 10% is over 65 years old, and the life expectancy is 77 years old for women and 70 for men. Cardiovascular disease accounts for 34% of overall mortality. Half of the population has some kind of health insurance, and there is a relative excess of physicians (1/330) and a lack of nurses (1/1250). A significant increase in people older than 60 years old with a parallel in the incidence of chronic diseases is expected along the next decades.

Arterial Hypertension and Diabetes mellitus are chronic diseases that non-properly treated develop long term complications impairing quality of life and life expectancy, and increase treatment costs. Hypertension may be classified as: essential (the most frequent) or secondary (particularly to nephropathy).

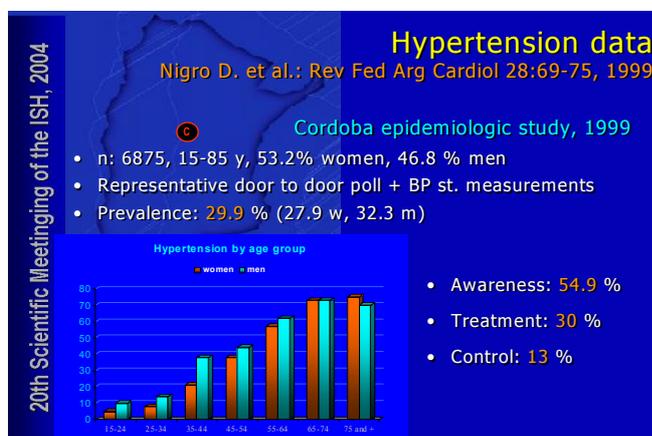
Most common clinical forms of diabetes are: type 1, type 2 and gestational diabetes. Type 1 diabetes is caused by a marked reduction of the beta cells mass caused by autoimmune destruction. In type 2 diabetes there is a decreased response of target tissues to insulin action (insulin resistance) associated to a beta-cell dysfunction. Gestational diabetes consists on an abnormality in carbohydrate metabolism developed during pregnancy.

The prevalence of hypertension in the adult general population in different countries of the region (national surveys or systematic randomized samplings), adjusted by age, ranks between 26 and 42 %.^(2, 3, 4)

The prevalence of diabetes in adults in this area is close to 7 %, with ethnical and environmental particularities (urban or rural).^(2, 5, 6,7)

The prevalence of hypertension among the population with diabetes is 1.5 to 3 fold higher than in the non diabetic, in the same age segment.⁽⁸⁾

In Argentina, a survey made in Córdoba city showed a prevalence 2.3 fold higher than in general population.⁽⁹⁾



Prevalence of hypertension in type 1 diabetes is close to 30%; it develops after many years of disease, and generally as a consequence of diabetic nephropathy.^(10, 11)

On the other hand, in type 2 diabetes, hypertension may be present at the time of diagnosis or even it precedes overt hyperglycemia.⁽¹²⁾

In newly diagnosed type 2 diabetics, the prevalence of hypertension is around to 60 %.⁽¹³⁾ In type 2 diabetes there are several factors making difficult to determine if hypertension is secondary to diabetes: in fact this patients with type 2 are usually older and more frequently obese than non diabetic subjects. Due to the fact that prevalence of diabetes in Western populations increases with age and degree of obesity⁽¹⁴⁾, the higher frequency of hypertension in them could be a consequence of these two factors. However, after adjustments by age and overweight/obesity, the prevalence of hypertension was still 1.5 fold higher in subjects suffering from diabetes⁽¹²⁾.

In some ethnic groups, diabetic nephropathy could be the primary cause of hypertension in type 2 diabetes, like observed in the Pima Indians⁽¹⁵⁾ and in black individuals.⁽¹⁶⁾

The association of hypertension, impaired glucose tolerance or type 2 diabetes, insulin resistance, hyperlipidemia and central obesity, characteristic of the metabolic syndrome is well documented. Subjects with diabetes and hypertension are at a high risk of both macroangiopathy (coronary arterial disease, cerebrovascular and peripheral vascular), and of microangiopathy (renal failure and diabetic retinopathy)^(9, 17-21). Although the relation between diabetic neuropathy and arterial hypertension remains unclear, some epidemiologic studies describe a frequent association of both conditions, which suggested the hypotheses that hypertension may facilitate its development.^(22, 23)

Clinical Economics in Diabetes and Hypertension

Diabetes and hypertension constitute worldwide a heavy economical and social burden, because they associate to co morbidities and lead to chronic complications, diminishing quality of life and increasing costs.^(24, 25)

It is worldwide estimated that medical care accounts for a 5 to 10% of the health assigned budget.⁽²⁶⁾

Several studies have analyzed cost- effectiveness and cost - benefit of hypertension treatment in general population, showing that these dimensions are modified according on the presence of co morbidities and complications.^(27, 28)

In spite of these clear evidences about the convenience of intensive treatment of arterial hypertension in type 2 diabetes, it is frequently seen that subjects suffering from both diseases that not receiving an adequate treatment. In an Argentinean study, in 5% of diabetes patients with hypertension, blood pressure has not been checked during a full year.⁽²¹⁾

Quality of care within the region is far of being appropriate: in spite the fact that a 42% of type 2 diabetes subjects received treatment for their hypertension⁽³¹⁾, at least a 60% of treated subjects maintain values above established targets (according the ALAD Consensus⁽³²⁾ and the 7^o JNC Report).^(33, 34) Costs study in type 2 diabetes performed in Europe (CODE 2) showed similar results.⁽³⁵⁾

References

1. Sowers JR, Zensel MB. Hypertension and Diabetes. *Med Clin N Am* 1988, 72 (6): 1309-1414.
2. Sereday M, Gonzalez C, Giorgini P, De Loreda L, Braguinsky J, Cobeñas C, Libman C, Tesone C. Prevalence of diabetes and obesity in the central area of Argentina. *Diabetes Metab* 2003; 29: 5S28-5S43.
3. Ramirez MO, Pino CT, Furiassi, et . Paraguayan National Blood pressure study. Prevalence of Hypertension in general population. *J Hum Hypertens* 1995; 9: 891-897.
4. Jadue L, Vega J, Escobar MC, Delgado I, Garrido C, Lastra P, Espejo F, Peruga A. Risk factors for non-communicable diseases: methods and overall results of the Carmen program basal survey. *Rev Med Chil* 1999; 127: 1004-1013.
5. Sulbaran TA, Veges AM, Calmon GE. Aspectos epidemiológicos de la hipertensión arterial en la población adulta del Municipio de Maracaibo. *Inves Clin* 1997, 38 (Sup 2) 3-11.
6. Lessa I. Epidemiologia da hipertensão arterial sistêmica e da insuficiência cardíaca na Brasil. *Rev Bras Hiperten* 2001, 8: 383-392.
7. Jimenez, JT, Palacios, M, Cañete, F., Barriocanal, LA, Medina, U., Figueredo, R., Martinez, S., Melgarejo, ME., Weik, S., Kiefer, R., Alberti, KG, Moreno-Azorero, R.: Prevalence of Diabetes Mellitus and associated cardiovascular risk factors in an adult urban population in Paraguay. *Diab Med* 1998, 15: 334-338.
8. Wingard DL, Barrett-Connor E: Herat disease and diabetes. In *Diabetes in America*. Washington, DC, US. Govt. Printing Office, 1995, p. 429-448. NIH publ. No. 95-1468.
9. Nigro D et al. *Rev Fed Arg Cardiol.* 1999, 28:69-75
10. Nishimura R, LaPorte RE, Dorman JS, Tajima N, Becker D, Orchard TJ: Mortality trends in type 1 diabetes: the Allegheny County (Pennsylvania) Registry 1965-1999. *Diabetes Care* 2001; 24: 823-827
11. Mathiesen ER, Ronn B, Jensen T, Storm B, Deckert T: Relation between blood pressure and urinary albumin excretion in development of microalbuminuria. *Diabetes* 39 1990; 245-249.
12. Hypertension in Diabetic Study (HDS): prevalence of hipertensión in newly presenting type 2 diabetic patients and the association with risk factors for cardiovascular and diabetic complications. *J Hyperten* 1993; 11:309-317.
13. Sereday MHS, Damiano MM, Lapertosa SBG, Conejero AM, Luaces MC, Moser MS, Viñes GB, Minoprio JE, Marti ML, Burlando G. Chronic complications in newly diagnosed diabetics. *Diabetes Metab* 2003, 29: 4S7-4S28
14. Eriksson H, Welim L, Wilhelmsen L, Larsson B, Ohlson LO, Svardsudd K, Tibblin G: Metabolic disturbances in hypertension: results from the population study: "Men born in 1913." *J Int Med* 1992; 232:389-395.
15. Nelson RG, Bennett PH, Beck GJ, Tan M, Knowler WC, Mitch WE, Hirschman GH, Myers BD: Development and progression of renal disease in Pima Indians with non-insulin-dependent diabetes mellitus. *N Engl J Med* 1996; 335:1636-1642.
16. Fuller JH, Epidemiology of hipertensión associated with diabetes mellitus. *Hypertension* 1985, 7 Suppl II: 115-117.
17. Hasslacher C, Sted W, Wahl P, Ritz E: Blood pressure and metabolic control as risk factors for nephropathy in type 1 (insulin-dependent) diabetes. *Diabetologia* 1985; 28:6-11.
18. Kannel WB: An overview of risk cardiovascular disease. In *Prevention of Coronary Disease, Practical Management of Risk Factors*. Kaplan, Neward, Stanler, Eds. Philadelphia, WB Sanders, p. 69-83

19. Lloyd CE, Klein R, Maser RE, Kuller LH, Becker DJ, Orchard TJ. The progression of retinopathy Over 2 years: The Pittsburgh Epidemiology of Diabetes Complications (EDC) Study. *J Diabetes and its Complications* 1995; 9:140-148.
20. Stamler J, Vaccaro O, Neaton JD, Wentworth D. Diabetes, other risk factors, and 12-yr cardiovascular mortality for men screened in the Multiple Risk Factor Intervention Trial. *Diabetes Care* 1993; 16:434-444.
21. Gagliardino JJ, Olivera EM, Etchegoyen GS, González C, Guidi ML. Evaluación y costos del proceso de atención de pacientes diabéticos. *Medicina (Buenos Aires)* 2000; 60:880-888.
22. Jadzinsky M. Neuropatía: su presentación en el PRAMUDIA. *Rev Soc Argentina Diabetes* 1992; 26:93-96.
23. Knuiman MW, Welborn TA, McCann VJ, Stanton KG, Constable IJ: Prevalence of diabetic complications in relation to risk factors. *Diabetes* 1986; 35:1332-1339.
24. Jonsson B: The economic impact of diabetes. *Diabetes Care* 1998; 21:C7-C10.

25. Gagliardino J, Olivera E: The regions and their health care systems: Latin American. In: *Economics of Diabetes and Diabetes Care. A report of the Diabetes Health Economics Study Group.* Gruber W, Lander T, Leese B, Songer T, Williams H, Eds. 1997:51-59.

26. Laing W, Williams DRR. *Diabetes: a model for health care management.* London, Office of Health Economics 1989 (Nº 92 in a series of papers on current health problems).

27. Johannesson M, Agewall S, Hargord M, Hedner T, Fagerberg B: The cost-effectiveness of a cardiovascular multiple-risk-factor intervention program in treated hypertensive men. *J Intern Med* 1995; 237:19-26.

28. Johannesson M, Dahlof B, Lindholm LH, Ekblom T, Hansson L, Oden A, Schersten B, Wester PO, Jonsson B: The cost-effectiveness of treating hypertension in elderly people: an analysis of the Swedish Trial in Old Patients with Hypertension (STOP Hypertension). *J Intern Med* 1993; 234:317-323.

29. UK Prospective Diabetes Study Group: Cost effectiveness analysis of improved blood pressure control in hypertensive patients with type 2 diabetes: UKPDS 40. *BMJ* 1998; 317:720-726.
30. The CDC Diabetes Cost-effectiveness Group. Cost-effectiveness of Intensive Glycemic Control, Intensified Hypertension Control and Serum Cholesterol Level Reduction for Type 2 Diabetes. *JAMA* 2002; 287:2542-2551.

31. Gagliardino J, de la Hera M, Siri F, y Grupo de Investigacion de la Red QUALIDIAB: Evaluacion de la calidad de la asistencia al paciente diabetico en America Latina. *Rev Panam Salud Publica/Pan Am J Public Health* 2001; 10:309-317.

32. Latin American Diabetes Association. *Guias ALAD 2000 para el Diagnostico y Manejo de la Diabetes Mellitus tipo 2 con Medicina -basada en Evidencia* 2000

33. Elliott WJ, Weir DR, Black HR: Cost-effectiveness of the lower treatment goal (of JNC VI) for diabetic hypertensive patients. *Arch Intern Med* 2000; 160:1277-1283.
34. Chobanian A, Bakris GL, Cushman WC, et al. The Seventh Report of the Joint National Committee on prevention, Detection, Evaluation, and Treatment of High Blood Pressure. The JNC 7 report. *JAMA* 2003; 289:2560-2572.

35. Jonsson B: Revealing the cost of Type II diabetes in Europe. *Diabetologia* 2002; 45:S5-S12

Comments from the chairman of the board of management

Lewis Landsberg
Chicago, USA

On behalf of the Board of Management of the Journal of Hypertension, it is a pleasure to thank the Editor of our journal, Alberto Zanchetti, the Deputy Editor, Giuseppe Mancina, and the associate and executive editors for the outstanding job that they have done in managing the Journal and selecting outstanding papers for publication.

I would also like to inform the membership of ISH that the Board of Management, on behalf of the ISH and the ESH, with our outside counsel, has begun negotiations over the renewal of our contract with Lippincott Williams & Wilkins, publisher of the Journal. The last contract negotiation enhanced royalties to the societies and we are hopeful that we now can further increase royalties, recognizing the obstacle imposed by the fact that we do not own the Journal. Our legal representation has been outstanding in these negotiations.

It is a particular pleasure to comment as well on a clinical area of interest that has been highlighted yet again in recent issues of the Journal, namely hyperaldosteronism as a cause of hypertension.

In 1955 Jerome Conn published a case of hypertension and hypokalemia both of which remitted after the removal of a benign adrenal adenoma. This syndrome (Conn's syndrome, primary aldosteronism) was correctly attributed to overproduction of the recently described mineralocorticoid, aldosterone, by the adrenal tumor. By the early 1960's the importance of the renin-angiotensin system in the regulation of aldosterone secretion was described by several groups of investigators (including those of Laragh, Genest, and Mulrow). Understanding the physiology of the system provided the basis for diagnostic strategies that could be employed in patients suspected of having this secondary form of hypertension. Thus, suppression of plasma renin activity with volume depletion and non-suppressible aldosterone secretion with salt loading and administration of the potent synthetic mineralocorticoid fludrocortisone, establish the diagnosis. It is now recognized that in addition to adrenal adenomas, hyperaldosteronism can occur as a consequence of bilateral adrenal hyperplasia (called idiopathic hyperaldosteronism) and in some studies this entity is as common or more common than classic Conn's syndrome. These two entities can be distinguished reliably by adrenal vein catheterization with simultaneous samples taken from both adrenal veins and comparison of the aldosterone to cortisol ratio on each side. This distinction is of critical importance since only the unilateral adenomas are cured by surgery. A very rare entity called glucocorticoid suppressible hyperaldosteronism has been shown by Lifton to be caused by the formation of a chimeric gene in which the regulatory portion of the cortisol synthesizing enzyme (11-beta hydroxylase) is fused with the coding sequence of aldosterone synthase putting the synthesis of aldosterone under the control of ACTH. This entity is effectively treated by suppressing ACTH with dexamethasone and can now be excluded in patients with hyperaldosteronism by genetic analysis.

Significant ongoing interest in hyperaldosteronism centers on screening for this entity among the hypertensive population. The papers of Stowasser *et al* (*Jhypertens* 21:2149-2157), Ferrari *et.al.* (*Jhypertens* 22:377-381) and the editorial commentary by Gordon in the same issue address this question. It is now recognized that most patients with hyperaldosteronism are normokalemic (when off diuretics) as predicted originally by Conn. Screening only patients with hypokalemia, therefore, will miss most cases. Only 13 per cent of the patients in the Stowasser study were hypokalemic.

The study by Stowasser *et al* also indicates that limiting screening to patients with “resistant” hypertension will miss many curable cases. Although the traditional estimate that only 1 per cent of the hypertensive population have hyperaldosteronism as a cause mitigates against routine screening, more recent evidence, including the Stowasser study, suggests that the true incidence may be much greater. Since screening can now be readily accomplished by the demonstration of increased plasma aldosterone to renin ratio, widespread screening is at least feasible in many countries. The study by Ferrari *et al*, that compares plasma renin concentration measured by radioimmunoassay with the traditional and more cumbersome determination of plasma renin activity, may increase the feasibility of this approach provided the results are confirmed in a larger study. Such a study of unselected patients with hypertension would help establish the real incidence of hyperaldosteronism as well.