EDITORIAL : VAN DIE REDAKSIE

RECENT PROGRESS IN ALDOSTERONE RESEARCH

The sodium-retaining action of aldosterone is now well known and its importance in the homeostatic regulation of electrolyte and, indirectly, fluid balance has been clearly demonstrated. However, there are still many problems to be solved and it appears that the answers will not be long delayed, judging from the intense research activity in this field.

One of the main problems upon which some light has recently been shed, is the mechanism by which aldosterone secretion of the adrenal is initiated. Denton *et al.*,[1] in a neat series of experiments, showed that the denervated transplanted adrenal can adequately secrete aldosterone. The conclusion to be drawn from this work is that the stimulus to the adrenal must be on a humoral basis, especially because in cross-circulation experiments the transplanted adrenal responded equally well. The identity of the hormone responsible is unknown and other work has shown that it is not ACTH.[2] The site of production of the hormone is also unknown, although there is some very good evidence that the centre which controls its secretion is probably situated in the region of the pineal and the subcommisural body in the diencephalon.[3]

The stimuli affecting the central receptor have been demonstrated to be changes in extracellular volume.[4] Experiments illustrating the part played by the vagus in transmission of stimuli set up by volume changes are of great interest.[5] Constriction of the inferior vena cava (which locally reduces intravascular volume) produces an increase of aldosterone, whether the vagus is sectioned or not. But when the constriction is released, the aldosterone level does not fall unless the vagus is intact. It appears, then, that the stimulus for the increase in aldosterone level is independent of the vagus and is transmitted by other pathways, but this is not the case in decrease in the aldosterone level.

Another well-known fact is that urinary aldosterone is increased in amount in oedematous states. It is presumed, therefore, that aldosterone is directly implicated in the production of oedema. However, the fact that there is no oedema in some cases of aldosterone-secreting tumour (Conn's syndrome) raises a serious difficulty. To complicate matters further, it has been clearly shown that some patients with gross oedema due to congestive cardiac failure have low aldosterone levels in the urine.[6] Explanations offered as a solution to these problems do not appear to be very convincing. It is predicted that a further search in the 'amorphous fraction' of adrenal secretion may yield more hormones of vital importance which, together with aldosterone, influence electrolyte metabolism.

From the practical point of view, two substances which antagonize aldosterone, and hence diuretic properties, have been under investigation. Amphenone and derivatives act directly on adrenal steroidogenesis, reducing, among other hormones, the output of aldosterone.[7] The toxicity of this compound, however, precludes its general usefulness. The spirolactones, which are also steroid compounds, appear to produce their effects by blocking the sodium-retaining action of aldosterone and DOCA on the renal tubules.[8] Although the application of these substances is still very much in the experimental stage, the work provides some indication of the direction in which diuretic therapy of the future is progressing.

1. Denton, D. A., Goding, J. R. and Wright, R. D. (1959): Brit. Med. J., **2**, 522.
2. Venning, E. H., Dyrenfurth, I. and Beck, J. C. (1956): J. Clin. Endocr., **16**, 1541.
3. Farrell, G. L. (1959): Recent Progr. Hormone Res., **15**, 275.
4. Bartter, F. C., Biglieri, E. G., Pronove, P. and Delea, C. S. (1958): *An International Symposium on Aldosterone*. p. 100. London: Churchill.
5. Mills, I. H., Caspar, A. and Bartter, F. C. (1958): Science, **128**, 1140.
6. Wolff, H. P., Koczorek, U. R. and Buchborn, E. (1958): *Op. cit.*,[4] p. 193.
7. Renold, A. E., Crabbe, J., Hernando, L., Nelson, D. H., Ross, E. J., Emerson, K. and Thorn, G. W. (1957): New Engl. J. Med., **256**, 16.
8. Liddle, G. W. (1958): Arch. Intern. Med., **102**, 998.

DIE KOSTE VAN MEDIESE DIENSTE

Die Minister van Gesondheid het onlangs besluit om 'n kommissie aan te stel met die opdrag om die hoë koste van mediese dienste en medisyne in Suid-Afrika te ondersoek, en om aanbevelings te maak oor hoe hierdie koste verlaag kan word.

Die lede van die Kommissie bestaan uit prof. H. W. Snyman, dekaan van die Fakulteit van Geneeskunde van die Universiteit van Pretoria (voorsitter); dr. R. S. Verster van Bloemfontein; prof. J. N. de Villiers van die Universiteit van Stellenbosch; prof. D. G. Steyn van die Universiteit van Pretoria; dr. I. J. Louw van die Transvaalse Provinsiale Administrasie; dr. A. W. Lategan, direkteur van die Buro van Standaarde; dr. M. D. Marais, ekonomiese raadgewer van Sanlam; mev. J. A. Mostert; mnr. O. H. B. Attwell, gewese hooflanddros in Durban; en mnre. N. Hall en G. R. Kempff van die Departement Gesondheid (sekretarisse). Die aanstelling van hierdie Kommissie sal groot belangstelling wek by lede van die mediese professie, verteenwoordigers van die farmaseutiese firmas, sowel as by lede van die algemene publiek.

Die stygende koste van mediese dienste, insluitende die koste van medisyne, is maar een faset van die spiraal van stygende lewenskoste in die algemeen, en dit is 'n wêreldwye probleem. Soos bekend het verskeie oorsese lande orals oor die wêreld elkeen op sy eie manier sy eie oplossing vir hierdie probleem gesoek. Ons eie pogings in hierdie land om die probleem van stygende mediese koste die hoof te probeer bied, sluit onder andere in die ontwikkeling van verskeie stelsels van vrye of gedeeltelik-vrye hospitaaldienste; 'n uitgebreide stelsel van mediese bystandsverenigings; 'n stelsel van goedgekeurde mediese hulpverenigings aan wie se lede kragtens 'n ooreenkoms met die Mediese Vereniging van Suid-Afrika 'n voorkeurtarief toegestaan word; mediese versekeringskemas wat deur versekeringsmaatskappye beheer word—oor die beleid en optrede waarvan daar tans nog groot verskil van mening sowel as onte-

vredenheid bestaan; en 'n Mediese Diensplan—'n versekeringsmaatskappy wat deur dokters self op 'n nie-profytbasis gedryf word en wat die ondersteuning van die Mediese Vereniging geniet.

Oor al hierdie pogings en ondernemings en oor baie meer sal die Kommissie hulle moet uitspreek. Dat die Kommissie voor 'n moeilike en delikate taak staan, ly geen twyfel nie. Om hierdie rede wil ons graag 'n dringende beroep doen op alle belanghebbende partye om hulle volle steun en medewerking aan hierdie Kommissie toe te sê en om alle moontlike informasie wat van belang mag wees aan die Kommissie voor te lê. Die besluite van hierdie Kommissie en die aanbevelinge wat hulle sal maak, sal sonder twyfel 'n diepgaande uitwerking hê op die hele toekomstige verloop en struktuur van mediese dienste in ons land.

THE COST OF MEDICAL SERVICES

The Minister of Health has recently appointed a commission to investigate all the factors responsible for the high cost of medical services and medicines in South Africa and to make recommendations on how this could be reduced.

The members of the commission are: Prof. H. W. Snyman, Dean of the Faculty of Medicine at the University of Pretoria (chairman); Dr. R. S. Verster, of Bloemfontein; Prof. J. N. de Villiers, of the University of Stellenbosch; Prof. D. G. Steyn, of the University of Pretoria; Dr. I. J. Louw, of the Transvaal Provincial Administration; Dr. A. W. Lategan, Director of the Bureau of Standards; Dr. M. D. Marais, economic adviser to Sanlam; Mrs. J. A. Mostert; Mr. O. H. B. Attwell, former Chief Magistrate of Durban; Mr. N. Hall and Mr. G. R. Kempff, of the Department of Health (secretaries). The appointment of this Commission will arouse the interest of members of the medical profession, and representatives of the pharmaceutical firms as well as of members of the public.

The rising cost of medical services, including the cost of medicines, is only one facet of the spiral of rising cost of living in general, and it is a world-wide problem. Several overseas countries have, as is well known, each made its own attempt to solve this problem. Our attempts to find a solution include, among others, the development of various systems of free or partly free hospital services; a system of medical benefit societies; a system of approved medical aid societies whose members are, by virtue of an agreement which exists between the societies and the Medical Association of South Africa, entitled to the privilege of a preferential tariff of fees; medical insurance schemes operated by insurance companies—about whose policy there is disagreement and dissatisfaction; and the Medical Services Plan—a medical insurance scheme run by doctors themselves, with the blessing of the Medical Association, on a non-profit basis.

The Commission will have to report on and make recommendations regarding these and many other aspects of the problem under discussion. There is no doubt that the Commission has a difficult and delicate task before them. We should therefore, like to appeal to everybody concerned to cooperate fully in ensuring the success of this inquiry, by submitting every possible item of information for scrutiny and evaluation. The conclusions and recommendations of this commission will almost certainly have a profound effect on the future course and structure of medical practice in this country.