A) BRIEF PAPERS ON RESEARCH AND CLINICAL EXPERIMENTS

Does Carvedilol Reduce Requirements for Laser Photocoagulation in Diabetic Retinopathy to a Minimum?

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Dear Editor,

Diabetic retinopathy is a microvascular complication of diabetes mellitus and its prevalence is closely related to long term diabetes, chronic hyperglycaemia, nephropathy and hypertension.[1] It has been shown that a decrease of blood pressure decreases retinopathy progression.[2] The benefits of hypotensive treatment for microvascular and macrovascular complications can be seen from blood pressure values <130/80 mmHg. To achieve this it is necessary to use combined therapies.[1]

Given the close relationship between diabetic retinopathy, diabetic nephropathy and hypertension, we have studied 63 patients with diabetic nephropathy due to diabetes mellitus type 2 (DM2) who came in to our outpatient offices consecutively. The patients had a mean age of 65.24 + 7.47 years, 26 were women and 37 were men. Statistical analysis was carried out with the statistical software package SPSS 15.0 for Windows.

The patients were divided into 2 subgroups: one group that had not received photocoagulation (n = 26) and another group that had received it (n = 37). The clinical characteristics and the number of patients treated with carvedilol in both subgroups can be seen in Table 1.

In the subgroup of patients that had not received photocoagulation, 35.7% were being treated with carvedilol in comparison with 14.3% in the group who had received photocoagulation (p = 0.017). Since there were no differences in their mean blood pressure, it can be inferred that the effect of carvedilol is independent of its hypotensive effect.

Carvedilol has a blocking effect on beta-adrenergic receptors combined with vasodilator action based on the blockage of alfa-1-adrenergic[3] receptors. In experimental studies carvedilol has been shown to have protective and antioxidant[4] effects on perivascular inflammation.[5] These effects could, in part, be explained by the results of our study. Although it is probably limited by the number of patients studied, the finding that the percentage of patients who received carvedilol in the subgroup that did not receive photocoagulation is significantly higher than in the group that did receive photocoagulation should be taken into account when treating patients suffering from diabetic nephropathy. Subsequent studies should evaluate if carvedilol prevents the development of diabetic retinopathy.

Acknowledgements

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Table 1. Subgroups of patients with diabetic nephropathy caused by DM2 based on whether they had or not received photocoagulation

	No photocoagulation (n = 26)	Photocoagulation (n = 37)
- Sex (male/female)	11/15	15/22
- Age (years)	66.92 + 8.03	64.83 + 7.25
- BMI (kg/m^2)	31.09 + 8.20	31.26 + 7.93
- Time of evolution of DM2 (years)	14.48 +6.51	17.78 +8.41[a]
- HbA_{1c} (%)	7.25 + 1.17	7.68 +1.79
- ClCr (ml/min)	70.67 + 55.59	57.62 + 21.31[a]
- MBP (mmHg)	95.31 + 7.58	92.83 + 8.48
- Proteinuria/24 h (n = 14)[b]	1.16 + 1.44	0.95 + 1.42
- Patients with treatment with ACEI/ARA-II	5/11	6/22
- Patients with treatment combined ACEI + ARA-II	9	9
- Yes/No treatment with carvedilol	6 (85.7%)/ 20 (35.7%)	1(14.3%)/ 36 (64.3%)[c]

[a] p <0.005 (Student t test for comparison of independent simple mean values)
[b] 49 patients did not have microalbuminuria or proteinuria.
[c] Fisher exact statistical test for the comparison of percentages, bilateral and unilateral exact significance: p = 0.017.

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B) BRIEF CASE REPORTS

Renal amyloidosis in common variable immunodeficiency

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Dear Editor:

Common variable immunodeficiency (CVID) is the most prevalent symptomatic primary antibody deficiency, characterized by hypogamaglobulinemia, normal or decreased B-cell number and impaired antibody response leading to chronic and recurrent infections, mostly in the respiratory and gastrointestinal tracts[1,2]. However, a significant proportion of patients manifest features of immune dysregulation, including polyclonal lymphocytic infiltration, autoimmunity, enteropathy and malignancy[3].

Secondary amyloidosis is an extremely rare complication of CVID[4], mostly reported in middle aged males[5-7]. This manifestation refers to the extra-cellular tissue deposition of serum amyloid A (SAA) protein fibrils with β-sheet structure, which could be due to chronic and recurrent infections in this group of patients[8]. The self-assembly by amyloid proteins cannot progress in the soluble condition of dissembled precursor proteins alone, while it is speeded up by seeding with preformed amyloid fibrils[9] which described as «seeding mechanism». Also, enzyme inhibitory function against SAA proteins was confirmed in AA type of amyloid formation and deposition[10]. All reported CVID cases with amyloidosis had a sever status of infectious disease or underling complications like cor pulmonale, congestive hepatomegaly, bilateral bronchiectasis, severe respiratory failure[7] and tuberculosis[6]. Recurrent infections could be considered as the main cause of the amyloidosis development; although recurrent infections could be as a consequence of inadequate IVIG therapy, long delay diagnosis can also prone patient to chronic and recurrent infections[7].

We report herein a 50-year old male with a history of recurrent respiratory tract infections and diarrhea from early childhood. The diagnosis of amyloidosis was made for this patient based on histopathological findings of renal biopsy, once he hospitalized due to edema and massive proteinuria at the age of 48 years. Renal fine needle aspiration biopsy revealed deposition of amorphous pink hyaline eosinophilic material in glomerulus, tubular basement membrane (TBM), interstitial area and vessel walls of arterioles; it was documented by green appearance fibrils under polarized light which stained and bind with Congo red (figure 1). As the patient experienced several episodes of infections, immunological studies were performed which showed significant decreased in all serum immunoglobulin levels, compatible with diagnosis of CVID (table 1). Regular hypo-osmolar

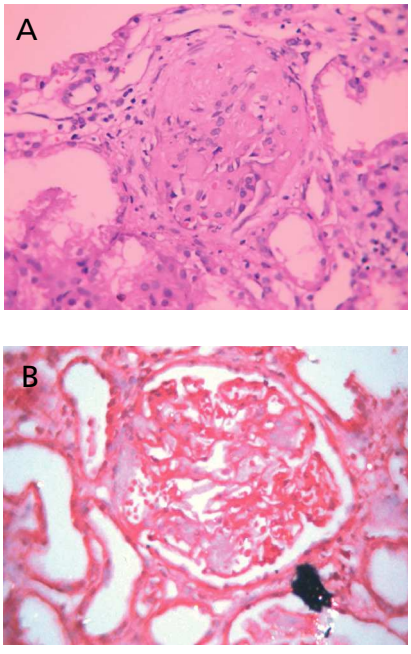

Figure 1. Renal glomerule with deposition of amorphous pink material proved to be amyloid by Hematoxyline, Eosin staining (A. X400) and special reacting to Congo-red stain (B. X400).