

Personal Opinion

Diabetic nephropathy in the NIDDM patient on the interface between diabetology and nephrology. What do we have to improve?

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Introduction

The diabetologists' dream is to reduce the nephrologists' workload until the latter are unemployed, at least as far as diabetic patients are concerned. The dream is currently a nightmare as Western countries (those with enough money to provide the population with appropriate health care) are experiencing a dramatic increase of end-stage renal failure (ESRF) in patients with non-insulin-dependent diabetes mellitus (NIDDM) [1,2]. In such patients, development of ESRF competes with premature deaths from ischaemic cardiovascular diseases, mainly coronary heart disease [3].

In the NIDDM survivors reaching ESRF, severe cardiovascular lesions are common. The prognosis of NIDDM patients with uraemia is poor. The major goal of physicians (GPs and diabetologists who are in charge of the patients in the early course of the heterogeneous hyperglycaemic syndrome, still labelled NIDDM) should be to prevent the incidence of diabetic angiopathy. The poor results obtained in the late 80s, led diabetologists from different part of Europe to implement, the Saint Vincent Declaration, in 1990, which aimed to reduce by 50%, the prevalence of severe diabetic micro- and macroangiopathy within 5 years [4]. Physicians were provided recommendations to improve diabetic patients' care. The results of this action are still very disappointing as the percentage of diabetic patients (mainly NIDDM) on renal replacement therapy (RRT) doubled during the period 1989–1995, in metropolitan France (D. Cordonnier and S. Halimi, personal communication), where the proportion of diabetic patients in the dialysis population is much lower than elsewhere in Europe [5].

Why is ESRF associated with NIDDM increasing?

During the last decade a striking increase in the prevalence of NIDDM in the general population was observed worldwide in relation to ageing, the develop-

ment of fast-food, the 'Coca-Cola colonization' and motorization leading to low physical exercise and obesity. Physicians can do little to change the course of our society's evolution. Improved survival of NIDDM patients with albuminuria (mostly due to the wider use of antihypertensive treatment) is also a major cause for the recent increase of NIDDM patients admitted for RRT [6]. Finally it is to be emphasized that a growing proportion of NIDDM present with 'acute' renal failure—up to 50% of NIDDM patients are seen for the first time by the nephrologist with a plasma creatinine over 500 $\mu\text{mol/l}$, resulting in their starting RRT within few days or weeks [7].

In 1997, elderly NIDDM patients are the major and rapidly growing component of diabetic patients on RRT, starting dialysis 'in emergency'. The renal prognosis of insulin-dependent diabetic patients, however, is significantly improved [8].

For the patient on the interface between diabetology and nephrology, what do we have to improve?

In France, and I suppose in most European countries, 90% of NIDDM patients are treated exclusively by GPs, at least until a severe complication occurs. Diabetologists are in charge of the remaining patients, most of them presenting with complications.

Diabetologists are aware that the yearly determination of urinary albumin excretion is mandatory. For those patients with microalbuminuria or proteinuria, at high risk of developing cardiovascular complications and/or ESRF, they are quietly confident that quitting smoking, reducing animal protein intake, achieving strict metabolic control, and effective antihypertensive treatment will reduce albuminuria, preserve renal function, and reduce cardiovascular morbidity and mortality, even if the available evidence in the literature is scarce [9]. Unfortunately a large number of NIDDM patients, mainly those with low socioeconomic status, are very reluctant to comply in the long-term with such a rigid therapeutic regimen. The number of patients lost to follow-up is high, and few years later they will suffer the complication (renal failure) which

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was supposed to be prevented or delayed by the treatment. Even in patients regularly attending the diabetic clinic, present achievements, as good as they are, are far from optimal. Metabolic control is not good, a large proportion of treated hypertensive patients still have blood pressure values over 160/90 mmHg. When a severe decrease in GFR is observed, the collaboration with the nephrologists is not so good. The patient is often referred to the nephrologist too late. The abrupt transfer from diabetology to nephrology is not prepared. Very often in nephrology the antidiabetic and the antihypertensive treatments are substantially modified. Such an attitude will add to the anxiety of the patient, who by now is aware of the constraints of thrice-weekly dialysis.

Early in the course of diabetic kidney disease, diabetologists must improve the education of the patient and his or her family. Patients and their relatives have to be informed on the goals of the treatment, the methods used, the potential undesirable clinical side-effects of the drugs, and the expected benefits. They must be progressively prepared for dialysis. When plasma creatinine exceeds 200 $\mu\text{mol/l}$, joint visits with diabetologists and renal specialists should be implemented. The NIDDM patients with ESRF should be transferred to nephrology after appropriate laser therapy in case of severe retinopathy, after careful cardiovascular evaluation, and if needed myocardial revascularization, which has been shown to improve survival in diabetic patients with ESRF [10].

There is an urgent need to enhance the common reflexion and co-operation of diabetologists and nephrologists on diabetic kidney disease. In my country, joint meetings and actions including la Société Française de Néphrologie et l'Association de Langue Française pour l'Etude du Diabète et des Maladies Métaboliques (ALFEDIAM) have just begun. We hope that this collaboration will be useful to design and implement large, multicentre, long-term, prospective studies to improve our knowledge on the natural history of kidney disease in NIDDM patients which will, in the end, benefit the patients.

The majority of NIDDM patients with renal failure, however, are referred to nephrologists by GPs. The clinical presentation of the patients in a recent survey performed in Germany is very informative. In diabetic patients with renal failure at time of referral to the renal unit, creatinine clearance was lower than 10 ml/min in 37% of the patients. Poor blood pressure control was present in 97%, 75% of them never received an ACE inhibitor [7].

To my knowledge, such data are not available in my country, but my opinion is that they will be quite similar.

The care of NIDDM patients by GPs must be radically changed. Extensive co-operation between diabetologists and nephrologists will be needed to improve GPs knowledge on diabetes and kidney disease.

Will these efforts be successful? I doubt it

During the last few years, French GPs were provided with a large amount of information issued by diabetologists, l'ALFEDIAM, and pharmaceutical companies. Numerous meetings, symposia, special issues of medical journals, guidelines, booklets etc. were devoted to various aspects of NIDDM and complications. Health care delivery to NIDDM patients has nevertheless remained very poor.

For a GP who is in charge of a small number of diabetic patients, the very fast evolution of the knowledge in the fields of diabetes, hypertension, and dyslipidaemia may be impossible to integrate, since he or she must also explore molecular biology, genetics, new antibiotics, AIDS therapy etc., while being faced with poor consideration and increasing financial problems.

In conclusion

To alter the evolution of diabetic nephropathy significantly, diabetologists and nephrologists need to bring epidemiology, basic science, and clinical research together, so as to improve routine care in diabetic patients with various conditions of kidney disease.

To date, the results of the information provided to patients and physicians are disappointing. We have to be more imaginative and to design educational programmes more effective than those currently used.

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