Prevalence of retinopathy among type 2 diabetic subjects with and without microalbuminuria

Dear Editor,

Although microalbuminuria (MA) has been associated with an increased risk of retinopathy in type 1 diabetic subjects, this association is not so clear in type 2 diabetic (T2D) subjects[1-4]. The aim of the present study was to evaluate the relationship between MA and retinopathy in a sample of T2D subjects.

100 selected diabetic subjects with MA (53 males / 47 females, mean age ± standard deviation: 65.5 ± 11.1 years) and 100 matched diabetic subjects without MA (52 males / 48 females, mean age ± standard deviation: 65.4 ± 11.3 years), were recruited in the study. MA was diagnosed when albumin excretion rate, measured by radioimmunoassay, was 30-300 mg/24-hours in at least two out of three 24-hours urine collections over a three month period. Diabetic retinopathy was defined as background (> or = 2 microaneurysms or > or = 2 hemorrhages or > or = 1 more advanced lesions) and proliferative changes.

Prevalence of retinopathy did not differ among diabetic subjects with and without MA (44% vs. 39%, respectively, P=0.47). Univariate logistic analysis showed that retinopathy was associated with age [odds ratio (OR): 1.05, 95% Confidence Intervals (95% CI): 1.02-1.09, P<0.001], duration of diabetes (OR: 1.07, 95% CI: 1.04-1.11, P<0.001), HbA1c (OR: 1.30, 95% CI: 1.04-1.61, P=0.02), hypertension (OR: 1.02, 95% CI: 1.01-1.04, P=0.002), smoking (OR: 0.55, 95% CI: 0.31-0.99, P=0.04), coronary artery disease (OR: 1.82, 95% CI: 0.99-3.30, P=0.05) and insulin therapy (OR: 2.28, 95% CI: 1.26-4.12, P=0.006). After multivariate adjustment retinopathy was associated with age (OR: 1.04, 95% CI: 1.01-1.08, P=0.02) and duration of diabetes (OR: 1.05, 95% CI: 1.01-1.09, P=0.02).

The present study showed that prevalence of retinopathy did not differ among diabetic subjects with and without MA. Previous studies in T2D subjects have showed that MA was associated with retinopathy [1,2]. Diabetes duration and age were among the main determinants of retinopathy[1,2]. Even over the first 5 years before the diagnosis of T2D retinopathy was associated with MA[3]. However, a study in Finland failed to show any relationship between retinopathy and MA[4]. The only determinants of retinopathy were duration of diabetes and poor glycemic control[4]. Increased blood pressure levels and MA predicted retinopathy in non-diabetic control subjects[4].

In conclusion, the present study showed no difference regarding the prevalence of retinopathy among T2D subjects with or without MA.

Conflict of interest statement

All authors declare that they have no conflict of interest.

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Over-diagnosed glaucoma:possible consequences for patients and health care services

Dear editor,

Recent epidemiological studies have reported that a large percentage of glaucoma patients remain undiagnosed and thus are at serious risk of progressive vision loss[1]. The need to minimize this percentage leads to efforts to detect risk factors associated with glaucoma[1]. Early detection requires clinical examinations on specific high-risk target groups, since mass screening examinations for the detection of glaucoma in the general population may not be cost-effective[2].

Although such measures to enhance early glaucoma diagnosis are undoubtedly the primary objective, the overall manage-

ment of glaucoma may also be examined from a different perspective. By working in a tertiary glaucoma reference centre, we occasionally examine patients who have been previously erroneously diagnosed with open-angle glaucoma. A retrospective assessment of these patients' charts from 2005 to 2008 has revealed that out of 108 referrals (41 males, 37.96%) for tertiary glaucoma management, 16 (14.81%) did not strictly meet the criteria for glaucoma diagnosis[3]. All 16 patients (7 males, 43.75%) had previously been diagnosed with glaucoma by qualified ophthalmologists and had been given anti-glaucomatous medications. Glaucoma diagnosis had been widely based on the detection of "elevated" intraocular pressure (IOP) readings in one or both eyes, in some cases about 30-35mmhg, as well as "suspicious" appearance of the optic disk (including occasionally borderline peri-papillary nerve thickness measurements). The usual lack of findings on the visual fields had been attributed to the common knowledge that the visual fields become altered later on, along the course of the disease. Interestingly, in most of these patients, corneal pachymetry as well as gonioscopy had been performed and had been taken into consideration by the referring ophthalmologist. We therefore believe that glaucoma over-diagnosis in these patients did not reflect in any unrecognised presence of ocular hypertension or attacks of angle closure. We believe that in many cases, an elevated IOP reading may be attributed to neuro-psychological effects, as previously described[4]. However, once a diagnosis of glaucoma has been made it may be challenging for subsequent examining doctors to question its validity and take responsibility for discontinuing medications. Hence, a vicious circle of re-examinations and concern begins and it is difficult to break.

The situation may be further complicated by the liberal use of antiglaucomatous medications which add a substantial economic burden to patients and health care systems. This can also cause significant ocular surface morbidity and can compromise the success of any medical or surgical anti-glaucomatous treatment that may actually be required in the future. We therefore believe that both ophthalmologists and primary care physicians, through an active collaboration, should be more aware of the perils of glaucoma over-diagnosis, as well as the risk of missing undiagnosed glaucoma cases.

Conflict of Interest: None to declare

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Myofibroblasts in mucoceles and chronic sialadenitis of minor salivary glands

Dear Editor,

We present our study aimed to detect myofibroblasts (MFs) in salivary mucoceles, and chronic sialadenitis (CS) of minor salivary glands (MSGs) for the better understanding of their pathogenesis and the processes involved in fibrosis, respectively.

Archival specimens of 20 cases of extravasation mucoceles of 10-12 month duration, 6 cases of mucous retention cysts with 1 week-6 months duration and adjacent MSGs (26 cases) together 5 normal lower labial MSgs were used as controls. Immunohistochemical analysis for α-smooth muscle actin (α-SMA) and desmin was performed using the streptavidin-biotin methodin conjuction with morphological analysis (spindle shaped and sometimes stellate) used for MFs identification.

Histologic examination of the adjacent to mucoceles MSGs showed that the degree of fibrosis was normal, low, moderate and severe in 9, 6, 6, and 5 cases, respectively. In 12 cases the adjacent to mucoceles excretory ducts were distended. MFs positive for α-SMA but not for desmin were detected.

In extravasation mucoceles, MFs were found only in one case (1/20) with duration 4 months. In this case, MFs were present in the wall of granulation tissue that was partially substituted by dense connective tissue (Fig.1A). These results indicate that MFs are not involved in pathogenesis of extravasation mucoceles.

MFs were not found in normal salivary glands and this finding agrees with the results for normal submandibular glands[1]. Small number of MFs was seen only in one case (1/5) of CS with severe degree of fibrosis but not in cases with normal (0/9), low (0/6) and moderate degree (0/5) of fibrosis (Fig.1B). These results concur with a previous study in CS of submandibular glands and support the suggestion that MFs are not significantly involved in the processes of fibrosis[1].