Dr. Chan and colleagues did not report whether they stained their patient's tissue for amyloid and we, as well as others interested in this issue, would be most curious to know whether this possibility had been explored. Furthermore, in our study, elevated levels of alkaline phosphatase correlated with the presence of hepatic amyloid. In the light of our previously reported observations in regard to "diabetic" renal lesions in nondiabetic animals, it would be important to rule out the possibility that this was merely secondary amyloid rather than diabetic nephropathy in nondiabetic patients.

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Diabetic Nephropathy With Normal Glucose Tolerance: A Reply

We would like to thank Dr. Albisser for his interesting letter raising the point of the histopathological similarity between diabetic nephropathy and renal amyloidosis. We are familiar with the interesting work of Dr. Albisser and his colleagues[1] regarding the occurrence of amyloidosis in dogs infused with insulin.

The differential diagnosis of nodular glomerulosclerosis includes diabetes mellitus, amyloidosis, and light-chain disease. Because of these similarities, kidney biopsies that show nodular glomerulosclerosis are routinely tested for amyloidosis by a Congo red test that was negative in our patient. Moreover, the electron-microscopic picture did not show the classic amyloid fibrils. These two findings practically rule out amyloidosis as an underlying cause for the nodular glomerulosclerosis in our patient. We have also excluded light-chain disease by several investigations including serum and urinary immunoelectrophoresis, urinary Bence Jones proteins, staining of the kidney biopsy for K- and λ-light chains. All these tests were negative. Moreover, in the pathological sample of our patient there were other lesions typical of diabetic nephropathy including hyaline caps and capsular drops. In the electron-microscopic examination the mesangial nodules were made of layers of mesangial matrixlike material, which is characteristic for diabetic glomerulosclerosis.

The occurrence of severe proliferative retinopathy in association with nephropathy in this patient further indicates a relationship to diabetes rather than to amyloidosis or light-chain disease.

Although we agree with Dr. Albisser that not all nodular glomerulosclerosis is caused by diabetes, in this particular case report we think it is.

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Hand Warts Associated With SMBG

The importance of self-monitoring of blood glucose (SMBG) in controlling glucose levels and adjusting insulin dosage in children with type I diabetes has been well established. Although many children have SMBG performed by parents, some children prefer more active participation in the management of diabetes and regularly perform capillary glucose measurements on themselves. Recently, a child who has been performing SMBG developed an unusual complication.

A 10-yr-old girl with a 4-yr history of type I diabetes has had episodic, profound hypoglycemia usually associated with changes in activity. In an effort to prevent these, capillary glucose values have been monitored at least twice daily. During the past year, the child has assumed an increasing role in performing these measurements. The accuracy of glucose values as determined by the child has proven to be quite satisfactory. She has not objected to performing the tests but has preferred not to cleanse her fingertip with either an alcohol or water wash before obtaining a blood sample. The child was known to have several common warts on her knees and has had some of these removed in the past. However, some warts remain. Recently, the child developed a number of lesions on her fingertips. On close inspection, these lesions were found to be warts located in the areas where the child had been performing finger punctures for capillary glucose monitoring. The fifth digits and areas of the fingers other than the fingertips, which were never used for blood sampling, were uninvolved. The patient has had the warts chemically removed. She has been carefully following handwashing techniques since this episode and has had no further occurrences.

There can be no doubt that SMBG has provided a means of controlling diabetes that was previously unavailable. Problems associated with accuracy of glucose readings have been

addressed previously in detail. The above case illustrates, as a previous letter has pointed out,[1] that another aspect of SMBG, the preparation of the finger prior to blood sampling, may at times cause significant difficulties if not performed correctly.

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Nonstaphylococcal Abscesses in Diabetic Individuals

The incidence of colonization of the skin and nasopharynx by *Staphylococcus aureus* is increased in diabetic patients taking insulin compared with the normal population and diabetic patients using oral agents.[1-3] It is generally assumed that the usual causative agent of furuncles, carbuncles, and similar abscess processes in diabetic subjects is *Staphylococcus aureus*.[4,5] Although many of these infections are indeed caused by *Staphylococcus aureus*, some of them may be caused by other bacteria and also may be polymicrobial.

Over a period of 6 mo, nine diabetic patients were admitted to Rancho Los Amigos Medical Center with closed abscesses that were found to be caused by organisms other than *Staphylococcus aureus*. The patients presented with localized pain and swelling but with few systemic manifestations. The sites involved were scalp, breast, groin, flank, thigh, and calf.

Culture material was obtained under aseptic conditions either by needle aspiration or during surgical incision and drainage. Culturette swabs (Marion Scientific, Kansas City, MO) were used for aerobic cultures and specimens that were sent for anaerobic cultures were placed in an anaerobic transport medium (Anatrans, Carr Scarborough Microbiologicals, Decatur, GA). Aerobic cultures were plated on blood agar, Columbia CNA, and MacConkey media (BBL, Cockeysville, MD) and incubated at 35°C in 6–8% CO_2 for ≥48 h. Anaerobic cultures were plated on CDC anaerobic blood agar, phenylethylalcohol blood agar, and laked blood agar with kanamycin and vancomycin (BBL). The specimen was also inoculated into thiogycollate broth. The plates were incubated anaerobically at 35°C and held for ≥7 days. Anaerobic cultures were performed in five of the nine patients.

The organisms isolated were *Staphylococcus epidermidis* (N = 4), *E. coli* (N = 3), Enterococcus (N = 3), *Proteus mirabilis* (N = 2), *Serratia marcescens* (N = 1), *Streptococcus viridans* (N = 1), and *Citrobacter freundii* (N = 1). Five patients had monomicrobial infections, two with *Staphylococcus epidermidis* and one each with *Citrobacter freundii*, *Proteus mirabilis*, and *Serratia marcescens*. Four patients had polymicrobial infections, three with three organisms and one with two organisms. *Staphylococcus epidermidis* was the most frequently isolated organism (four of nine patients). Enterococcus and *E. coli* were found in three patients each and *Proteus mirabilis* in two. Aerobic gram-negative organisms were found in six of nine abscesses. Despite intravenous antibiotic therapy and an initial incision and drainage, only one patient healed without further surgical intervention.

Anaerobic cultures were obtained in five of the nine patients. In these patients no anaerobes were isolated.

Abscesses in diabetic individuals may be mono- or polymicrobial and may be caused by organisms other than *Staphylococcus aureus*, including S. *epidermidis*, diphtheroids, enterobacteriaceae, and Enterococcus. The findings of this study are similar to those of Meislin et al.,[6] with the exception that Enterococcus was among the isolates and no anaerobes were found. However, specific collection and culture techniques for anaerobes were not carried out in four of nine of the patient cases in the current report. The findings in our study were similar to those of Meislin et al. in that the clinical appearance of an abscess caused by *Staphylococcus aureus* is not distinguishable from that caused by other organsims. The *Staphylococcal epidermidis* identified in our patients were cultured from closed abscesses using aseptic techniques and represent, in our opinion, infecting bacteria, not skin contaminants.

In summary, this study demonstrates that soft tissue abscesses in the diabetic patient may be polymicrobial and may be caused by bacteria other than *Staphylococcus aureus*. Appropriate antibiotic therapy, directed at the causative organism(s), and surgical intervention in addition to the initial incision and drainage may be required for healing.

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