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“Improved” Sample Extraction before Liquid Chromatography of Prednisone and Prednisolone in Serum

To the Editor:

A recent Letter (1) reported on improvements in our extraction procedure for prednisone and prednisolone (2) by use of a commercially supplied column-type extraction tube ("Clin-Elut," cat. no. 1003; Analytichem International, Harbor City, CA 90710).

The sample extraction procedure reported (1) was repeated by our group using two different batches of Clin-Elut tubes. We do agree that the extraction procedure was shortened, but we do not agree that the method was improved because, as demonstrated in Figure 1 (left), the chromatogram shows additional unidentified peaks and a delay in reaching the baseline after injection of the sample. A few injections of "Clin-Elut" extracts onto the column containing a 2-μm frit let the pressure rise from 1000 psi to an unacceptable pressure of 3000 psi. This plugging of the column was probably due to very fine particles eluted from the extraction tube. Thus we found it necessary to open the column in order before liquid chromatography of prednisone and prednisolone in human serum. Clin Chem 28, 2326–2327 (1982). Letter.

1. Stewart JT, Honigberg IL, Turner BM, Davenport DA. Improved sample extraction

Fig. 1. Dual-pen recordings of chromatograms

To the Editor:

Somatostatin in Diabetes

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Somatostatin, besides being of importance in the control of pituitary hormone release, may also have an important physiological role in the regulation of endocrine pancreas. The development of an immunoassay for somatostatin can contribute to an understanding of the pathogenesis of different types of diabetes mellitus. Only a few groups have reported values for man, and changes in somatostatin after some stimuli are not yet quite clear.

We have measured somatostatin in plasma in normal persons, in persons with impaired glucose tolerance (IGT), and in diabetic type II subjects after an oral glucose tolerance test (OGTT), according to the National Diabetes Data Group criteria (1), always with glucose basal concentrations <7.8 mmol/L.

Samples of whole blood were collected into pre-chilled tubes containing EDTA and aprotinin (Trasylol, Bayer), and the plasma was immediately separated by centrifugation (2000 x g, 10 min, 4°C). The plasma was stored at –80°C until use, then thawed in an ice bath.

We used an RIA kit to measure somatostatin (Immunonuclear Corp., Stillwater, MN 55082), involving an extraction procedure (acetone) and washing with organic solvent. The RIA was performed as described in the manufacturer's literature.

For a group of 119 subjects, the mean basal reference value was 21.5 (SD 7.8) ng/L. The OGTT was performed in a group of 38 subjects (18 control, 10 IGT, and 10 diabetics type II). In the three groups, the maximum increase among the basal values and those obtained during the OGTT were