In conclusion, uraemic patients prior to treatment by HD show a significantly high ammonia concentration in arterial blood, but not in venous blood. Muscle detoxification may contribute to limiting the rise of ammonia in this condition.

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Enzymatic measurement of sweat sodium and chloride
Keevil et al. describe the analysis of sweat sodium using sodium-dependent β-galactosidase activity monitored on a Cobas Mira S analyser. We have reported similar benefits in an adaptation of the same principle to a Cobas Fara, using a combination of pH and the cryptand Kryptofix 221 to modify the linear range and sensitivity of the assay. The activity of β-galactosidase is non-linear over a wide range of sodium concentrations. When the reaction is performed at pH 8.7 and a cryptand concentration of 2.0 mmol/L it is linear up to at least 50 mmol/L.

We developed the method for application to the widely used Wescor 3700-SYS Macroduct system, reported to be a safer procedure than the traditional Gibson-Cooke method. Our assay uses a volume of 10 μL, suitable for the analysis of sweat from the Macroduct collections. It is diluted typically threefold so that abnormal results fall within the working range of the assay.

We also measured chloride by an analogous method utilizing the chloride-dependent activation of α-amylase, now available in kit form from Boehringer Mannheim. This enabled the measurement of both ions of interest from the same analyser cup. The method is suitable for a wide range of analysers available in routine laboratories. Analysis of both sodium and chloride has been suggested to give fewer misdiagnoses, both false negatives and false positives, than either analyte alone.

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