Retraction

Hoeldtke RD, Bryner KD, McNeill DR, Hobbs GR, Riggs JE, Warehime SS, Christie I, Ganser G, Van Dyke K: Nitrosative stress, uric acid, and peripheral nerve function in early type 1 diabetes. *Diabetes* 51:2817–2825, 2002

The editors received a request to publish a retraction of the above manuscript. What follows is the letter that provides the authors' explanation for this request.

Franz M. Matschinsky
Editor in Chief

Dear Dr. Matschinsky,

We reported a few years ago that protein-bound nitrotyrosine was increased in early type 1 diabetes and showed a negative correlation with motor nerve conduction velocity (1). We measured nitrotyrosine and tyrosine by high-performance liquid chromatography (HPLC) followed by electrochemical detection and expressed our results as the ratio of nitrotyrosine to tyrosine, which we found to be $0.34 \pm 0.12 \times 10^{-3}$ in the control subjects and 0.778 ± 0.04 in diabetic patients. Unfortunately, at the time we published these data, we were unaware of a study by Frost et al. (2), who performed alkaline hydrolysis of the plasma protein followed by mass spectrometry and reported a much lower nitrotyrosine-to-tyrosine ratio (0.044×10^{-3}). A few years later, Shishehbor et al. (2) performed acid hydrolysis of serum protein and reported a ratio in nondiabetic patients of 5.2×10^{-6}, also much lower (100-fold) than we observed. Because of these discrepancies, we have reassessed our HPLC method and performed a more in-depth analysis of the electrical properties of the peaks we have previously identified as nitrotyrosine using a multichannel CoulArray liquid chromatograph (ESA, Chelmsford, MA). We observed that the electrical properties of the compound we "identified" as nitrotyrosine on the basis of HPLC retention time differed from the authentic compound in many samples and concluded that interfering substances were obscuring the true nitrotyrosine peaks. We have used a second HPLC column and eliminated the interferences from some of our samples, and this decreased the estimated ratio of nitrotyrosine to tyrosine by approximately a factor of 100. On the basis of these considerations, we have concluded that our previously published nitrotyrosine data (1) are invalid. We therefore formally retract this publication. Increased nitrotyrosine has been documented in other laboratories in clinical diabetes using other methods (3,4).

REFERENCES

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Sincerely,

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