To the Editor

It was unfortunate that the errors we found in our study (1) could not have been corrected before its appearance in *Diabetes*. This not being the case, we provide the following corrigendum.

CORRIGENDUM FOR LIMITATIONS IN THE USE OF [2-^{14}C]ACETATE FOR MEASURING GLUCONEOGENESIS IN VIVO

1. Page 733, column 2, paragraph 1, line 4 should read "33 subjects," not "35 subjects."

2. Page 733, column 2, paragraph 1, line 15, a sentence should be added reading "in some subjects a radial artery was cannulated and used for blood sampling."

3. Page 733, column 2, paragraph 2, line 6 should read "for at least 260 min," not "for 5 h."

4. Page 733, column 2, paragraph 2, line 7 should read "two to four," not "four" and "arterial or arterialized," instead of just "arterialized."

5. Page 733, column 2, paragraph 2, line 11, add sentences reading "these subjects also received a 50 μCi bolus of [^{14}C]bicarbonate. The additional subjects infused with [3-^{14}C]lactate also participated in a previously published study (3)."

6. Page 733, column 2, paragraph 3, line 6 should read "4 h and 45 min," not "5 h."

7. Page 733, column 2, paragraph 3, line 7 should read "during the last 45 min," not during the last hour."

8. Page 734, column 1, last paragraph, line 17, "(2.84 ± 0.09)" becomes "(2.84 ± 0.06)."

9. Page 735, Table 2, last column, the ratio-values for subjects 5, 6, and 7 should read "2.52, 2.69, and 2.70" instead of "2.70, 2.75, and 3.07"; a foot note should be added stating "subjects 5, 6, and 7 acetate data is also given in Table 1."

This is the sequence of events that led to this unfortunate circumstance. Part of the data presented in the study was a composite of previous studies (from references 1 and 14a) performed to answer different scientific questions. In 1985–1986, we started a series of experiments aimed at validating the use of [2-^{14}C]acetate for measuring gluconeogenesis in vivo. We infused healthy volunteers with [2-^{14}C]acetate for 4 h and afterwards obtained two plasma samples at 20-min intervals for measuring the distribution of the label within the plasma glucose molecule (2). Subsequently, we infused different subjects with [3-^{14}C]lactate to study lactate metabolism after an oral glucose tolerance test (3). In these subjects, we also calculated the distribution of the ^{14}C-label within the plasma glucose carbons, and we used the data to partially correct gluconeogenesis from lactate for the Krebs' cycle carbon exchange but did not report the measurements. In 4 of these subjects, the isotopic equilibration time was comparable with that used for the subjects infused with [2-^{14}C]acetate. Further investigations on lactate metabolism led us to infuse additional subjects with [3-^{14}C]lactate and obtain basal arterial blood samples after 4 h of isotopic equilibration (4). With these samples, among the other measurements needed for investigating lactate metabolism, we obtained the distribution of the ^{14}C-label within the plasma glucose molecule. To prime the endogenous bicarbonate pool to allow measurement of plasma lactate oxidation, these subjects also received, at the beginning of the study, a 50 μCi bolus of [^{14}C]bicarbonate.

In the meantime, we started to understand that the technique we had used to measure gluconeogenesis might have been marred by serious limitations. We realized, as described in the introduction to the study, that one of the major assumptions on which our technique relied could be tested by infusing the same subject with [2-^{14}C]acetate and [2-^{14}C]octanoate on different days. This is why we performed the acetate-octanoate experiments in an additional 7 subjects. In 3 of these subjects (subjects 15, 16, and 17 in Table 1 and subjects 5, 6, and 7 in Table 2), we also obtained the distribution of the label within the plasma glucose molecule with the different isotopes. The results of these studies confirmed the existence of a serious limitation in the [2-^{14}C]acetate technique used to measure gluconeogenesis. We also realized that another indication of a limitation in the [2-^{14}C]acetate technique could be obtained from the comparison between the distribution of the label within the plasma glucose molecule obtained with the use of a different isotope. In analyzing the mean results relative to the distribution of the label within the plasma glucose molecule for subjects infused for at least 4 h with [2-^{14}C]acetate or [3-^{14}C]lactate, we realized that there was indeed a difference in the label distribution obtained with the different isotope. We felt, of course, compelled to publish this observation, because the data that we obtained in our previous studies needed to be at least in part reevaluated in light of these findings.

However, when writing the METHODS section of this study, we oversimplified the study design and, although we partially acknowledged the previous publications, we forgot to mention that data for 4 of the subjects infused with [3-^{14}C]lactate had been obtained during a study published previously (3) in which the values for the distribution of the label within the plasma glucose molecule had not been reported.

Furthermore, we described the acetate infusion only as performed in the subjects infused with both acetate and octanoate (infusion starting at time 0 and blood samples obtained at time 240, 255, 260, and 275) and did not mention that some of the subjects infused with [3-^{14}C]lac-

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tate also received a [^{14}C]bicarbonate bolus. Finally, we did not state clearly that the results obtained during [2-^{14}C]acetate infusion in 3 of the subjects used for the comparison between [2-^{14}C]acetate and [2-^{14}C]octanoate infusions, were also used in the comparison of the glucose labeling pattern between subjects infused with [2-^{14}C]acetate and [3-^{14}C]lactate.

Furthermore, the numbers given in Table 2 for the *r* values obtained during acetate infusion in subjects 5, 6, and 7 were, because of a mistake in the electronic recalculation of the data, incorrect. Instead of 2.70, 2.75, and 3.07, they were 2.55, 2.69, and 2.70. This, of course, does not alter in the least (if anything it strengthens) the conclusions made in the study that the *r* values obtained with labeled octanoate infusion are greater than those obtained with labeled acetate infusion.

When making the final statistical calculations for the publication, we analyzed two separate data sheets: one contained the data for subjects infused with [2-^{14}C]acetate and subjects infused with [3-^{14}C]lactate, by unpaired Student's *t* test, and the other contained the paired data for the [^{14}C]acetate and the [^{14}C]octanoate infusions, by paired Student's *t* test. The subjects were only identified by numbers, and some data were quite old. This might offer a partial justification as to why the error was not picked up as well as to why, because of careless oversimplification, we were not accurate in describing the methods used.

We are extremely sorry and embarrassed by all this. The mistakes that we made did not alter, however, the conclusions of the study.

Regarding the confusion about the description of the methods, we want to emphasize that it did not alter the interpretation of the data. All samples for both protocols were actually obtained after a comparable equilibration time. The only thing we gained from our inaccurate oversimplification is the embarrassment of writing this letter. We wish to offer our sincere apology for all this.

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