ADDITIONS AND CORRECTIONS

Biodistribution and toxicity of 2,4-divinyl-nido-*o*-carboranyldeuteroporphyrin IX in mice: Erratum

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There are several errors in the article "Biodistribution and toxicity of 2,4-divinyl-nido-*o*-carboranyldeuteroporphyrin IX in mice" by Michiko Miura, Peggy L. Micca, John C. Heinrichs, Detlef Gabel, Ralph G. Fairchild and Daniel N. Slatkin, *Biochem Pharmacol* **43**:467–476, 1992.

On the thirteenth line of the caption to Fig. 2, p. 469, ". . . the difference . . ." should have read ". . . the absolute value of the difference . . .", as is evident from the arithmetic operator ABS in program WLCOXNPD's line 410, Fig. 2. On the fourteenth line of the same caption ". . . less than . . ." should have read ". . . less than or equal to . . .", as is evident from the "<=" relation on the same program line.

If one uses the allowable percent difference (F%) option of program WLCOXNPD (p. 469, program line 240), the computed sum of corrected ranks can occasionally be wrong. For example, if F% = 80% is used with the three simulated data 2, 3, 3 as series 1 and the two simulated data 1, 1 as series 2, series 1's corrected rank sum should be 11. However WLCOXNPD erroneously yields 12. Program WLCOXN%D (Fig. 1), which differs from WLCOXNPD in some statements of lines 260 and in lines 360 through 430, solves the problem. It supersedes WLCOXNPD.

Three minor errors in the 1992 article are attributable to the cited inadequacy of WLCOXNPD. First, the 2-day glucose concentrations (Table 3; $N_2 = 8$) yield a control rank sum ($N_1 = 5$) of 56 using F = 10% with WLCOXNPD but 54 with WLCOXN%D, so that superscript *b* should have been *d*. Second, the 4-day CPK assays (Table 4; $N_2 = 6$) yield a control rank sum ($N_1 = 6$) of 50.5 using F = 40% with WLCOXNPD but 49.5 with WLCOXN%D, so that groups M and N are nearly but not quite different statistically at P = 0.10. Thus, superscript *a* (Table 4) was inappropriate. Third, in Table 1, the leukocyte concentrations ($N_2 = 16$) 3 hr after reaching a VCDP dose of 210 μg/g body weight (group C) yield a control ($N_1 = 11$) rank sum of 89 using F = 10% with WLCOXNPD but 90 with WLCOXN%D, so that superscript *a* should have been *b*. Correction of these errors should not affect the discussion or the conclusions of the 1992 Miura *et al.* article.

The attention of readers is respectfully drawn to typographical errors in the dedication of the 1992 article by Miura *et al.* (second footnote, p. 467), which should read ". . . dedicated to Ralph Grandison Fairchild (1935–1990)."

Program WLCOXN%D [MS DOS 3.21/GW-BASIC 3.20]

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10    PRINT"Program WLCOXN%D runs Wilcoxon two-sample tests corrected for an
      allowable percent difference between coupled data. Null data are not accepted."
20    PRINT"Any two numbers within two series of data being compared are ranked
      equal----if they do not differ by more than an allowable percent difference."
30    DIM N(2),C(3),V(3,100),H(20,100),A(20),W(3,100):PRINT"Up to 20 sets of data, with
      up to 100 data per set, may be entered for possible testing.":FOR G=1 TO 20
40    PRINT "Enter the number of data in set #"G"(If all data sets have been recorded,
      enter 0)":A(G)=100:INPUT A(G):Q$ = "There are no more data to be recorded."
50    IF A(G)=0 THEN PRINT Q$ ELSE PRINT"There are"A(G)"data in set #"G
60    GOSUB 490: IF Z$="N" OR Z$="n" THEN 40
70    IF A(G)=0 THEN 140 ELSE 80
80    FOR I=1 TO A(G):PRINT"Datum"I"of set #"G:INPUT H(G,I):NEXT I
90    PRINT "Data set #"G"may now be reviewed for errors":FOR I=1 TO A(G)
100   PRINT "Datum "I" of set #"G" is " H(G,I):GOSUB 490
110   IF Z$="N" OR Z$="n" THEN 120 ELSE 130
120   PRINT "Datum #" I "of set#" G:INPUT "=" ;H(G,I):GOTO 100
130   IF H(G,I)=0 THEN PRINT"Null datum not accepted":GOTO 120 ELSE NEXT I:NEXT G
140   PRINT "Any pair of data sets may be tested by the modified Wilcoxon two-sample
      test.These are temporarily labeled series 1 and series 2":FOR I=1 TO 2
150   PRINT"Which data set# is temporarily labeled series"I"?":INPUT"Set # ";B(I)
160   PRINT"Series"I" is set #"B(I):GOSUB 490:IF Z$="N" OR Z$="n" THEN 150
170   NEXT I:FOR Z=1 TO 2:N(Z)=A(B(Z)):FOR I=1 TO N(Z):W(Z,I)=H(B(Z),I)
180   NEXT I:NEXT Z:P=N(1):Q=N(2):S=P+Q:FOR J=1 TO 2
190   FOR I=1 TO N(J):PRINT"Datum #"I", series"J"is"W(J,I):NEXT I:GOSUB 510:NEXT J
200   FOR L=1 TO 2:FOR K=1 TO N(L)-1:X=W(L,K):FOR J=K+1 TO N(L)
210   IF W(L,J)<=W(L,K) THEN W(L,K)=W(L,J):W(L,J)=X:X=W(L,K)
220   NEXT J:NEXT K:NEXT L:FOR I=1 TO 3:FOR J=1 TO S:V(I,J)=W(I,J):NEXT J:NEXT I
230   PRINT"In the standard Wilcoxon test, the allowable percent difference % = 0"
240   INPUT"Enter allowable percent difference (default %=0), %=?",F:GOSUB 490
250   IF Z$="N" OR Z$="n" THEN 230
260   FOR I=1 TO 3:FOR J=1 TO S: W(I,J)=V(I,J):NEXT J:NEXT I:D=Q
270   FOR I=1 TO P:FOR J=1 TO D:IF W(1,I)<=W(2,J) THEN 300
280   IF J=D THEN W(2,D+1)=W(1,I):W(3,D+1)=W(1,I)
290   NEXT J:D=J:NEXT I:GOTO 320
300   FOR K=D+1 TO J+1 STEP -1:W(2,K)=W(2,K-1):W(3,K)=W(3,K-1)
310   NEXT K:W(2,J)=W(1,I):W(3,J)=W(1,I):J=D:GOTO 290
320   PRINT"The data in series 1 are now listed in ascending numerical order:"
330   FOR I=1 TO P:PRINT"In series 1,the ordinal rank of"W(1,I)"is"I:NEXT I
340   GOSUB 510:FOR I=1 TO S:IF W(3,I)=0 THEN 360
350   PRINT"In series 1&2 combined, the ordinal rank of"W(2,I)"is"I
360   NEXT I:GOSUB 510:T=0:FOR I=1 TO S:IF W(3,I)=0 THEN 410
370   R=0:X=0:FOR J=1 TO S
380   IF ABS(W(3,I)-W(2,J))<=F*ABS(W(3,I)+W(2,J))/200 THEN R=R+J:X=X+1
390   NEXT J:T=T+R/X
400   PRINT "In series 1&2 combined, the corrected rank of "W(3,I)" is "R/X
410   NEXT I
420   PRINT "In series 1&2 combined, the corrected rank sum for series 1 is" T
430   PRINT "The allowable percent difference used for this result is"F"%"
440   B$="?":INPUT"Should the rank sum be calculated for a different allowable
      percent difference? (Y/N)",B$:IF B$="Y" OR B$="y" THEN 230
450   C$="?":INPUT"Should another couple of data sets be compared? (Y/N)",C$
460   IF C$="Y" OR C$="y" THEN 500
470   PRINT"Program execution has been halted":INPUT"To end, enter END then RETURN,
      otherwise enter RETURN:",Z$:IF Z$="END" OR Z$="end" THEN 480 ELSE 450
480   PRINT"Program execution has ended.":END
490   Z$="?":INPUT"If wrong,enter N then RETURN.Otherwise,only RETURN:",Z$:RETURN
500   FOR Z=1 TO 3:FOR I=1 TO S:W(Z,I)=0:NEXT I:NEXT Z:GOTO 140
510   PRINT"To continue, enter CONT then RETURN (or key F5) after Ok.":STOP:RETURN
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Fig. 1. List of a self-prompting MS DOS 3.21/GW-BASIC 3.20 program named WLCOXN%D for ranking and calculating the rank sums of data sets being compared in pairs by the Wilcoxon Two-Sample Test. The acceptance regions for rank sums corresponding to the significance limits 0.10, 0.05, 0.02, 0.01, 0.005, 0.002, and 0.001 ($N_1 \leq 25$; $N_2 \leq 50$) were calculated by W. Seewald, Swiss Federal Institute of Technology, Zurich (1977) and published in *Geigy Scientific Tables* (Ed. C. Leitner), 8th Edition, pp. 156–162, Ciba-Geigy, Ltd., Basel, Switzerland, 1982. Program WLCOXN%D enables the user to correct the ordinal ranks of the data for virtual as well as for numerical ties when a certain "allowable" percent uncertainty is attributed to the data. The corrected rank of a datum is computed by first identifying the uncorrected ordinal rank of each datum in the merged data set. The corrected rank of a datum is then the arithmetic mean of its own uncorrected ordinal rank and the uncorrected ordinal ranks of all other numbers within its "allowable" range in the merged data set. This range is defined by an allowable percent difference [F%, $0 \leq F < 200$; lines 240 and 380] such that the absolute value of the difference between the datum being rank-corrected and any other datum within the allowable range is less than or equal to an allowable percent of the arithmetic mean of the two data. WLCOXN%D will yield standard ordinal ranks and rank sums when zero is assigned to F either deliberately or by default [line 240].