

Supplemental Material Code

Population Pharmacokinetic Model of Intramuscular and Oral Dexamethasone and Betamethasone in Indian Women

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NONMEM control stream for BET with an excerpt from a data set

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$PROB BETAMATHASONE PK
$INPUT ID TIME AMT CMT CONC DV EVID MDV BLQ PER SEQ BW
$DATA C:\BET.CSV IGNORE=C
$SUBROUTINES ADVAN13 ATOL=12 TOL=12
$MODEL NCOMPARTMENTS=5
COMP=(IM)
COMP=(PLASMA)
COMP=(PERI)
COMP=(PO)
COMP=(IMA)
$PK
      CL      = THETA(1)*EXP(ETA(1))
      V       = THETA(2)*EXP(ETA(2))
      KAIM    = THETA(3)*EXP(ETA(3))
      KAIMA   = THETA(4)*EXP(ETA(4))
      KAPO    = THETA(5)*EXP(ETA(5))
      FR      = THETA(6)*EXP(ETA(6))
      FRA     = THETA(7)*EXP(ETA(7))
      CLD     = THETA(8)
      VT      = THETA(9)
      F4 = FR
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F5 = FRA
;INITIAL CONDITIONS
A_0(1) = 0
A_0(2) = 0
A_0(3) = 0
A_0(4) = 0
A_0(5) = 0
$DES
DADT(1) = - KAIM*A(1)
DADT(2) = KAIM*A(1)+KAPO*A(4)+KAIMA*A(5)-CL/V*A(2)-
          CLD/V*A(2)+CLD/VT*A(3)
DADT(3) = CLD/V*A(2)-CLD/VT*A(3)
DADT(4) = - KAPO*A(4)
DADT(5) = - KAIMA*A(5)
$error
IPRED=-10
IF (CMT.EQ.2) IPRED= LOG(A(2)/V)
SD=SQRT(SIGMA(1))
LLOQ=LOG(0.1)
IF (BLQ.EQ.0) THEN
  F_FLAG=0
  Y=IPRED + EPS(1)
ENDIF
IF (BLQ.EQ.1) THEN
  F_FLAG=1
  Y=PHI((LLOQ-IPRED)/SD)
ENDIF
$EST METHOD=COND INTERACTION LAPLACIAN NUMERICAL SLOW PRINT=1
MAX=9999 SIG=3 NOABORT

```

\$THETA

\$THETA

(0,5.95 ,) ;1. L/h CL
(0,67.5,) ;2. L V
(0,0.971,) ;3. 1/h KAIM
(0,0.00638,) ;4. 1/h KAIMA
(0,1.21,) ;5. 1/h KAPO
(0,0.935,) ;6. FR
(0,0.819,) ;7. FRA
(0,0.173,) ;8. L/h CLD
(0,4.94,) ;9. L VT

\$OMEGA BLOCK(2)

0.021 ;1. CL
0.0155 ; COV(CL,V)
0.0188 ;2. V

\$OMEGA

0.0441 ;3. KAIM
0.147 ;4. KAIMA
0.241 ;5. KAPO
0.0182 ;6. FRA
0.00773 ;7. FRA

\$SIGMA

0.0211

\$COV PRINT=E SLOW

\$TABLE ID TIME CMT MDV IPRED CIWRES SEQ PER

C	ID	TIME	AMT	CMT	DV	EVID	MDV	BLQ	PER	SEQ	BW
2	0	6000	1	.	1	1	0	1	21	54.7	

2	0.0001	.	2	-2.3035	0	1	1	1	21	54.7
2	0.5	.	2	3.2742	0	0	0	1	21	54.7
2	1	.	2	3.8296	0	0	0	1	21	54.7
2	1.5	.	2	3.9077	0	0	0	1	21	54.7