Clinical Pharmacology: Advances and Applications

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CORRIGENDUM

Atazanavir–bilirubin interaction: a pharmacokinetic–pharmacodynamic model [Corrigendum]

Lozano R, Domeque N, Apesteguia AF. *Clinical Pharmacology: Advances and Applications*. 2013;5(1):153–159.

On page 155, "Deriving Michaelis–Menten's equation,[26]

$$V = \frac{K_{cat} E_o C}{K_m + C},$$

for bilirubin and ATZ, we have

$$\frac{dV_{ATZ}}{dC_{ATZ}} = K_{cat}^{ATZ} E_o K_m^{ATZ}$$

and

$$\frac{dV_{BIL}}{dC_{BIL}} = K_{cat}^{BIL} E_o K_m^{BIL}$$

at SS, when

$$dV_{ATZ} = dV_{BIL},$$

then we have

$$\Delta[ATZ]_{SS} = \frac{K_{cat}^{BIL} K_m^{BIL}}{K_{cat}^{ATZ} K_m^{ATZ}} \Delta[BIL]_{SS}$$

and

$$\frac{\Delta[ATZ]_{SS1}}{\Delta[ATZ]_{SS2}} = \frac{\Delta[BIL]_{SS1}}{\Delta[BIL]_{SS2}}, \quad [1]$$

where V = glucuronidation reaction rate for bilirubin and ATZ, respectively; E_o = UGT1A1 enzyme concentration; K_m = Michaelis–Menten constant for bilirubin and ATZ, respectively; and K_{cat} = turnover number for bilirubin and ATZ, respectively." should have been written as, "Deriving Michaelis–Menten's equation,[26]

$$V = \frac{K_{cat} E_o C}{K_m + C},$$

for bilirubin and ATZ, we have

$$\frac{dV_{ATZ}}{dC_{ATZ}} = \frac{K_{cat}^{ATZ} E_o K_m^{ATZ}}{\left(K_m^{ATZ} + C_{ATZ}\right)^2}$$

and

$$\frac{dV_{BIL}}{dC_{BIL}} = \frac{K_{cat}^{BIL} E_o K_m^{BIL}}{\left(K_m^{BIL} + C_{BIL}\right)^2}$$

at SS, when

$$\Delta V_{ATZ} = \Delta V_{BIL},$$

then we have

$$\Delta[ATZ]_{SS} = \frac{K_{cat}^{BIL} K_m^{BIL}}{K_{cat}^{ATZ} K_m^{ATZ}} \Delta[BIL]_{SS}$$

and

$$\frac{\Delta[ATZ]_{SS1}}{\Delta[ATZ]_{SS2}} = \frac{\Delta[BIL]_{SS1}}{\Delta[BIL]_{SS2}}, \quad [1]$$

where V = glucuronidation reaction rate for bilirubin and ATZ, respectively; E_o = UGT1A1 enzyme concentration; K_m = Michaelis–Menten's constant for bilirubin and ATZ, respectively; and K_{cat} = turnover number for bilirubin and ATZ, respectively."