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APPENDICES

APPENDIX A

EQUATIONS

Equation 1

$$\text{IBW(male)} = 50 + (\text{ht. in inches} - 60)(2.3) \quad \text{.....kg.}$$

Equation 2

$$\text{IBW(female)} = 45.5 + (\text{ht. in inches} - 60)(2.3) \quad \text{.....kg.}$$

Equation 3

$$\text{CrCl(male)} = 98 - \frac{[0.8(\text{age} - 20)]}{\text{Scr}} \quad \text{.....ml/min/70 kg}$$

Equation 4

$$\text{CrCl(female)} = 0.9 \left\{ 98 - \frac{[0.8(\text{age} - 20)]}{\text{Scr}} \right\} \quad \text{.....ml/min/70 kg}$$

Equation 5

$$\text{CrCl(male)} = \frac{(140 - \text{age})(\text{weight})}{(7.2)(\text{Scr})} \quad \text{.....ml/min.}$$

Equation 6

$$\text{CrCl(female)} = \frac{(0.85)(140 - \text{age})(\text{weight})}{(7.2)(\text{Scr})} \quad \text{.....ml/min.}$$

Equation 7

$$\text{Cl} = (1.104)(\text{CrCl}^*) + 28.9 \quad \text{.....ml/min/1.73m}^2$$

Equation 8

$$\begin{aligned} \text{Cl (patient with congestive heart failure)} \\ = (0.33)(\text{weight}) + (0.9)(\text{CrCl}) \quad \text{.....ml/min.} \end{aligned}$$

Equation 9

$$\text{Vd digoxin} = 226 + \frac{(298)(\text{CrCl})}{29 + \text{CrCl}} \quad \text{.....L/70 kg}$$

Equation 10

$$\text{Vd digoxin} = (3.8)(\text{weight}) + (3.1)(\text{CrCl}) \quad \text{.....L}$$

Equation 11

$$\text{Ke} = \text{Cl}/\text{Vd} \quad \text{.....hr}^{-1}$$

Equation 12

$$t_{1/2} = (0.693)(\text{Vd}/\text{Cl}) \quad \text{.....hr.}$$

Equation 13

$$C_{ss,t_1} = \frac{F \cdot S \cdot D}{V_d} \cdot \frac{e^{-K_{e,t_1}}}{1 - e^{-K_e T}} \quad \dots \text{mcg/L}$$

Equation 14

$$C_{ss \text{ ave}} = \frac{F \cdot S \cdot D}{Cl \cdot T} \quad \dots \text{mcg/L}$$

<i>Abbreviation</i>	<i>Parameter</i>	<i>Unit</i>
Cl	Digoxin clearance	ml/min.
CrCl	Creatinine clearance	ml/min
CrCl*	Creatinine clearance	ml/min/1.73m ²
C _{ss}	Digoxin concentration at steady state	mcg/L
C _{ss ave}	Average Digoxin concentration at steady state	mcg/L
D	Digoxin dose	mcg.
F	Bioavailability	-
IBW	Ideal body weight	kg
K _e	Elimination rate constant	hr ⁻¹
S	Salt form factor	-
Scr	Serum creatinine	mg/dl
T	Dosing interval	hr.
t _{1/2}	Elimination half life	hr.
t ₁	The time since the last dose	hr.
V _{d digoxin}	Digoxin volume of distribution	L

APPENDIX B

NEW YORK HEART ASSOCIATION FUNCTIONAL CLASSIFICATION.

<i>Functional class 1</i>
Patients with cardiac disease but without limitation of physical activity . Ordinary physical activity does not cause undue fatigue, dyspnea, or palpitation
<i>Functional class 2</i>
Patients with cardiac disease that results in slight limitation of physical activity . Ordinary physical activity results in fatigue, palpitation, dyspnea, or angina.
<i>Functional class 3</i>
Patients with cardiac disease that results in marked limitation of physical activity. Although patients are comfortable at rest, less than ordinary activity will lead to symptoms.
<i>Functional class 4</i>
Patients with cardiac disease that results in an inability to carry on physical activity without discomfort. Symptoms of congestive heart failure are present even at rest. With any physical activity, increased discomfort is experienced.



VITAE

Miss Somratai Ratisoontorn was born on March 23, 1970, in Bangkok, Thailand. She graduated with a Bachelor Degree of Pharmacy with honour in 1991 from the Faculty of Pharmacy, Chiang Mai University, Chiang Mai, Thailand.