Assignment 1 solutions for m2001534

Dagan Lonsdale

This document is not designed to be a perfect example of what you should have done in the assignment, it simply provides some example text alongside tables and figures.

In this study, 50 mg of drug ND42 was given to 10 participants. Table 1 summarises the characteristics of the study participants. The median weight was 71.9kg (range 59.9 to 96.7kg). Fourteen samples were taken from each participant over a 24 hour period. Figures 1 & 2 show the time concentration profile for individuals and a mean profile respectively.

Tables 2 and 3 show a summary of the non-compartmental analysis of these data. Mean $AUC_{0\text{-}\tau}$ was 10.3 mg.h/L. C_{max} was 0.952 mg/L , which was reached in a median time of 4.5 hours (median) with a range of 1.5 to 5 hours. Mean CL/F was 4.57 L/hr and V/F was 32.1 L. The drug had a mean elimination half life of 4.42 hours.

Table 1: Summary of participant characteristics

Characteristic	**N = 10**
Weight (kg)	71.9 (69.3, 79.3)
Height (m)	1.72 (1.69, 1.78)
Female	3 (30%)

[1] Median (IQR); n (%)

Table 2: Standard pharmacokinetic analysis using PKNCA

$AUC_{0\text{-}\tau}$ (h.mg/L)	C max (mg/L)	T max (hours)	Half life (hours)	$AUC_{0\text{-}\infty}$ (h.mg/L)
10.3 [24.5]	.	.	.	.
.	0.952 [20.7]	4.50 [1.50, 5.00]	4.99 [1.13]	10.9 [27.5]

Tmax: median [range], half-life: arithmetic mean [standard deviation]. Other parameters are presented as geometric mean [coefficient of variation]

Table 3: k_e, Cl/F and Vd/F estimates using a non-compartmental approach

Elimination rate constant (k_e)	Clearance/F (L/hr)	Volume of distribution/F (L)
0.124 [15.0]	4.57 [27.5]	32.1 [14.2]

Parameters are presented as geometric mean [coefficient of variation]

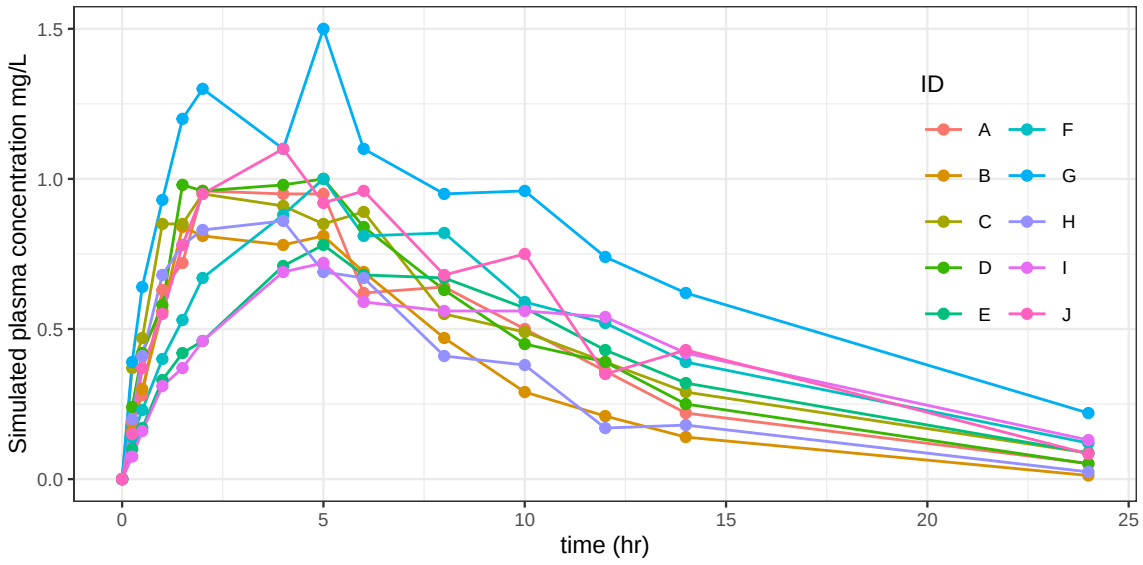

Figure 1: Concentration-time plot for drug ND42

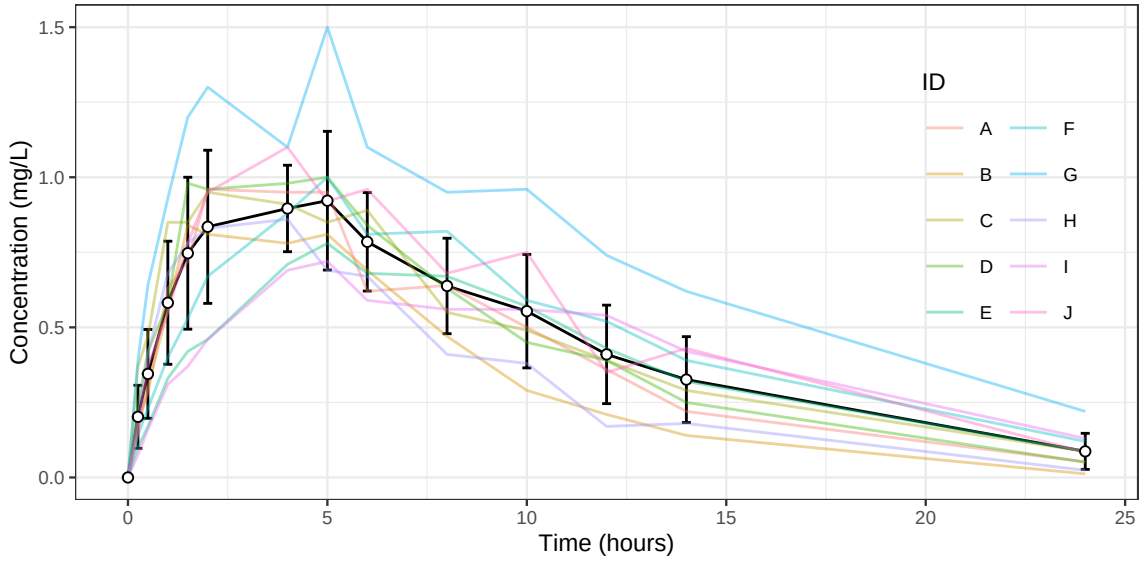

Figure 2: Concentration-time plot for drug ND42, showing individual plots in colour and mean concentration with standard deviation superimposed (black line)