

Definitions:

1mg = 1000 µg

1 µg = 1000 ng

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COPY PASTE REFERENCE<sup>1</sup>:

***Pharmacokinetic Parameters***

Three patients receiving 0.5% fluorouracil cream and 9 receiving 5% fluorouracil cream had measurable plasma concentrations of fluorouracil. In the remaining patients, fluorouracil plasma concentrations were below the limit of quantification (<0.25 ng/mL). Treatment with 5% fluorouracil resulted in higher initial mean plasma drug concentrations compared with 0.5% fluorouracil (Figure 1). The highest individual concentrations in the 3 patients in the 0.5% fluorouracil group ranged from 0.258 to 1.87 ng/mL.

The highest individual concentrations in the 9 patients in the 5% fluorouracil group ranged from 2.03 to 27.2 ng/mL.

Of the 3 patients with detectable fluorouracil plasma concentrations in the 0.5%

Fig 1 - The highest individual concentration in the 5% fluorouracil group was 27.2 ng/mL

“5% fluorouracil cream 1 g twice daily (total daily dose, 2 g) at daily clinic visits for up to 28 days, as tolerated”

→ What is the density of 5-FU in one liter of blood?

1 liter of blood = 1000 ml x 27.2 ng = 27,200 ng = 27.2 µg

→ How many liters of blood are there in the human body?

The total volume of blood in the human body is 7% to 8% of the person’s body weight.

→ How much 5-FU will there be in the blood of a person who weighs 80 kg?

80 kg x 8% x 27.2 µg = 174.08 µg ≈

0.17 mg

REFERENCE:

1. Levy S, Furst K, Chern W. A pharmacokinetic evaluation of 0.5% and 5% fluorouracil topical cream in patients with actinic keratosis. Clinical therapeutics 2001;23:908-20.