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PHARMACOKINETICS OF BENZATHINE PENICILLIN G

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Benzathine penicillin G kinetics were studied in patients with rheumatic heart disease after single intramuscular injection of 1.2 million units of benzathine penicillin G. Penicillin G plasma concentrations were measured by microbiological assay and fitted by least squares linear regression analysis to a monoexponential equation. Calculated elimination half-life ($t_{0.5}$) and rate constant (k_{el}) were 16.5 ± 3.8 day and $0.0532 \pm 0.011 \text{ day}^{-1}$, respectively. Body clearance (Cl) was $570 \pm 50.9 \text{ litre.day}^{-1}$ and the area under the curve ($AUC_{0 \text{ to } \infty}$) was $1.66 \pm 0.19 \mu\text{g.ml}^{-1}.\text{day}$. The result shows that monthly intramuscular injection for rheumatic fever prophylaxis may be adequate.

Note: Pharmacokinetic parameters were shown as mean \pm sem.