

Pharmacokinetics and Drug Residue in Eggs Following Multiple Day Oral Dosing of Amoxicillin-Clavulanic Acid in Domestic Chickens (*Gallus domesticus*)

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Abstract: This study examined the pharmacokinetics of orally administered amoxicillin and clavulanic acid tablets (Clavamox, 125 mg/kg orally q12h for 9 doses) in domestic hens (*Gallus domesticus*) and examined both amoxicillin and clavulanic acid concentrations in eggs. Therapeutic plasma concentrations (0.5 µg/ml) of amoxicillin were not reached at any time point and no amoxicillin was detected in plasma after two hours. Pharmacokinetic parameters could not be calculated. The clavulanic acid half-life was 1.1 hours and it was detected up to 8 hours after dosing. No amoxicillin was detected in eggs 4 days post-dosing, nor was clavulanic acid detected in any eggs during the same time period. Based on these results, orally dosing hens with amoxicillin and clavulanic acid tablets (Clavamox) at 125 mg/kg orally q12h does not reach therapeutic plasma concentrations. Additional studies are needed to examine different doses and formulations of medication to determine better dosing and withdrawal recommendations for domestic chickens.