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BENJABHORN SETHABOUPPHA: DISSOLUTION IMPROVEMENT OF  
DIHYDROARTEMISININ CAPSULES AND TABLETS. THESIS ADVISORS:  
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This study was aimed to improve dissolution of dihydroartemisinin capsules and tablets. Two kinds of surfactants, i.e. sodium lauryl sulfate (SLS) and sodium dioctyl sulfosuccinate (SDSS) were employed in the 100 mg dihydroartemisinin capsule formulations at the concentrations of 0.5%- 1.5% w/w. The results revealed that dihydroartemisinin capsules containing surfactant at the concentrations of 1.0 and 1.5% could enhance drug dissolution which was comparable to Cotecxin<sup>®</sup> powder. For the development of 20 mg dihydroartemisinin tablets, use of 1.0% SLS and 5% sodium starch glycolate showed the best fast-released characteristics and had superior dissolution to Cotecxin<sup>®</sup> tablets. Use of surfactant in capsule and tablet formulations could increase wettability and consequently enhance drug dissolution. In addition, disintegrant such as sodium starch glycolate made tablet disintegrated and consequently provided higher surface area to contact with dissolution medium. Solid dispersion using mannitol, polyethylene glycol 6000 and urea systems at drug to carrier ratio 1:9, 2:8 and 4:6 were also employed to improve the dissolution of dihydroartemisinin tablets. Regardless of carriers used, the dihydroartemisinin tablets containing solid dispersion possessed fast release property which was superior to the tablet containing SLS and sodium starch glycolate. The fast release property of dihydroartemisinin solid dispersion tablets might resulted from fine particle or low crystallinity of drug in solid dispersion system.