Marie-Pierre Flament, Pediat Therapeut 2016, 6:5(Suppl)
http://dx.doi.org/10.4172/2161-0665.C1.030

2nd Global Congress and Expo on
Pediatric Cardiology & Healthcare
September 22-24, 2016 Las Vegas, USA

Multi-particulate dosage form for pediatric use

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In recent years, regulations on pediatric medicines have induced an increased need for research into novel child - appropriate dosage forms. Indeed, children cannot be considered as "small adults" as they present different anatomical and physiological characteristics. Whatever the route of administration, the age-appropriateness of the formulation is of major importance and has to be taken into consideration. The development of new pediatric dosage forms encounters technical complexities such as dose modification, ease of administration/swallowing, taste-masking, chemical and physical stability, preservation, considerations of a multi-phase and/or multi-use product, packing, providing/designing the measuring device. Innovations are important and the research of new ways to deliver medicines tends to improve compliance, convenience and pharmacokinetics. Recently, the World Human Organization recommended that small sized solid forms or orally disintegrating solid forms should be favored. Solid multi-particulate systems such as pellets have the advantage to cover a broad range of doses for different patients. Dose adjustment can be accurately done by means of dosing device such as a multi-particulate counting device. Developing multi-particulate dosage form with fast disintegration can be useful for children as they present both advantages of solid and liquid formulations. This led to the concept of Orally Dispersible Tablet which disintegrates rapidly in the mouth into small particles or pellets. Their small size enables them to be well distributed along the gastrointestinal tract improving the bioavailability while reducing local drug concentration, risk of toxicity and side effects. They offer easy swallowing and dose flexibility for pediatric patients and caregivers.

Biography

Marie-Pierre Flament obtained a PhD (1994) in Pharmaceutical Technology from the University of Lille by studying nebulization for pulmonary delivery of alpha 1 protease inhibitor. She became Lecturer at the University of Lille in 1995 and Professor in Pharmaceutical Technology in 2012. She is Vice-dean of the Faculty Engineering and Health Management (Lille) since 2015. She is a member of the research unit INSERM U 1008 "Controlled Drug Delivery Systems and Biomaterials". Her research activity focuses mainly on pulmonary drug delivery and paediatric formulations but also on powder characterization, extrusion-spheronization, compression and coating.

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