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Experience:

<http://ah.ntu.edu.tw/web/Teacher!one.action?tid=133>

Market Needs:

Current main cardioplegia solutions are Plegisol[®], Custodiol HTK[®] solution in the market and del Nido solution. Since mid-1970s, Plegisol[®] (St. Thomas Hospital solution) became the predominant cardioplegia solution. Owing to short duration of Plegisol[®], multiple redoing may be needed during surgery. Custodiol HTK[®] is an attractive cardioplegia solution by providing cardio-protection as a single dose, but it is expensive, cold storage requirement and short shelf life. del Nido Solution is a modified hyperkalemia cardioplegia solution, providing long duration and cardio-protection properties and has increased use in the US since 1995. However, del Nido Solution (crystalloid component) must be mixed immediately before use due to stability issue.

Our formulation adapted the advantages of del Nido Solution and solved the stability issue. Our formulation could be stored in the room temperature long enough to be a commercial product. Instead of adding multiple solutions before clinical use, ready-to-use products ensure more medication safety and convenience.

Despite extensive studies led to the development of a variety of cardioplegia solutions in an attempt to achieve better myocardial protection, there is little become commercial product. Plegisol[®] experienced drug shortage in 2016; Custodiol HTK[®] needs Cold Chain Logistic and is expensive. Our formulation will play a leading role in the market of cardioplegia solutions.

Our Technology:

- (1) Adapting the advantages of del Nido Solution: the same electrolyte concentration of del Nido solution (crystalloid component), the same pharmacologic mechanism, single dose administration during surgery. The present product reduce the additional procedures before completing the del Nido solution.
- (2) Solving the stability issue: through formulation optimization, improve the stability of del Nido solution. Our formulation could be stable store in room temperature for a long period of time, makes the commercialization possible.

Strength:

Our formulation could be stored in the room temperature long enough to be a commercial product.

Competing Products:

Custodiol[®] HTK solution and Plegisol[®]

Intellectual Properties:

Non

Contact (do not need to fill out): Center for Industry-Academia Cooperation, NTU

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