

d-LIVER – A new approach for bridging therapy to transplantation of the chronic liver failure patient

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Background

There is still an unmet need of proper clinical management of chronic liver failure patients awaiting transplantation. End-stage liver disease is associated with (I) high risk of patient death (II) poor patient and carer quality of life and (III) high costs of management. New solutions of monitoring patients' health status to assess the individual health risk and prevent deterioration need to be investigated. Any concept that should be taken up into clinical practice must show demonstrable and quantifiable benefits.

Concept

d-LIVER is a four year European project (October 2011-2015) within the scope of the Seventh Framework Programme (project number 287596). d-LIVER aims to provide a complete solution for remote ICT-enabled home monitoring of chronic liver failure patients. Moreover d-LIVER targets the integration of remote monitoring and control of a bio-artificial liver to replace organ function at the point of need.

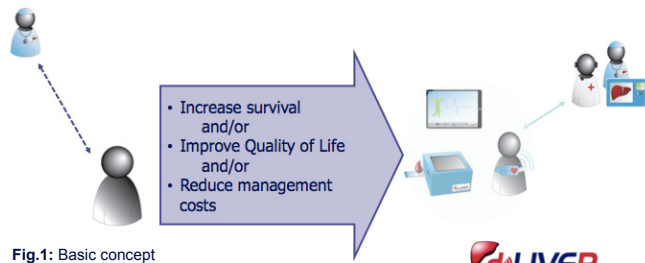


Fig.1: Basic concept



Work progress

In the first two quarter period of this clinical driven IT-, RTD-project main system actors, clinical application scenarios and associated d-LIVER system components as well as software architecture were addressed using detailed and descriptive use cases. To create a common understanding among specialists of different fields, a common project language was implemented. Thus important medical and technical terms as well as the role of d-LIVER players and d-LIVER instruments were defined and explained.

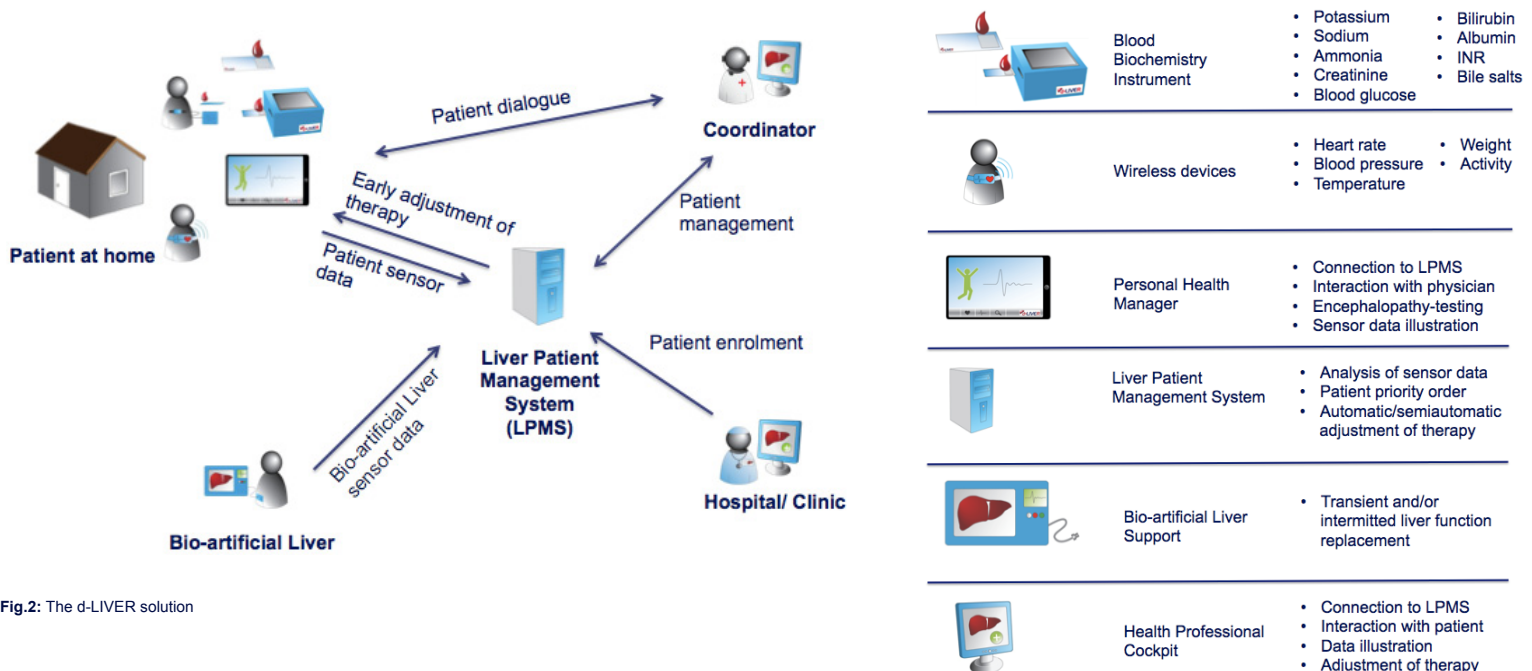


Fig.2: The d-LIVER solution

Fig.3: d-LIVER components

Conclusions

- ◆ d-LIVER may allow remote close meshed monitoring of the chronic liver failure patient in the home environment.
- ◆ Thus this solution might result in a more efficient treatment and reduction of waiting list mortality.
- ◆ In future, liver function might be replaced properly by means of bio-artificial liver devices until a suitable graft is available.

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