Catheter lock solutions are instilled into central venous access systems to have certain effects in this location. These access systems can be either dialysis catheters, Hickman-type lines or port-a-cath systems. The latter are used mainly in parenteral nutrition and for the administration of medication in oncology patients. These access systems are approved as medical devices and are CE marked. The central venous access is inserted in the subclavian, jugular or femoral veins.

The use of Antimicrobial Lock Solutions has been recommended in the “Hygiene Guideline complementing the German Dialysis Standard” and in the Position statement of European Renal Best Practice (ERBP). Pure heparin solutions containing no antimicrobial agent do not meet this criterion. Antibiotics are associated with the development of resistancy which is a major drawback. Highly concentrated citrate solutions and tauroline-citrate solutions are therefore conceivably useful in this application.

Highly concentrated citrate solutions (30% and 46.7%) cause major adverse effects such as cardiac arrests and embolism that are a significant risk for the patient. TauroLock™ as an antimicrobial lock solution has proven useful in dialysis, oncology and parenteral nutrition for many years and has meanwhile become established in the prevention of catheter-related infections.

TauroLock™ is safe: TauroLock™ is biocompatible and non-toxic. In contrast to highly concentrated citrate there is no protein precipitation if using TauroLock™.

The requirements of antimicrobial catheter lock solutions:

What should they do and what can they do?

Antimicrobial Catheter Lock Solutions

Rollex Group Australia Pty Ltd
NSW, QLD, ACT & WA Sales Office:
11 Vangeli Street, Arndell Park NSW 2148
VIC, SA, TAS & NT Sales Office
3/16 Curie Court, Seaford VIC 3198
Ph: 1300 880 441 | Fax: 1300 880 451
Mobile: 0413 556 848
Email: dpashuwala@rollexmedical.com

What is the future of renal care?

Melissa Arnold-Chamney

Adelaide was in the world news last month as Australia’s first dedicated space centre will be built in Adelaide with the centre providing grants of $1 million per year to develop local space business, and encourage research and development (ABC News, 2017). After many years of development, the new Royal Adelaide Hospital opened last month and is a truly advanced hospital, which includes automated guided vehicles, delivering supplies and food throughout the hospital, that “talk” to lifts, specific doors and portable phones. The hospital has other hi-tech features, including a wireless patient–nurse call system, automated dispensing cabinets for medications, telehealth facilities to reach remote areas and it has been built around patient needs.

With these new advances, it left me considering the future for renal care and what might occur in the not too distant future. The rapidly evolving field of data science offers unparalleled opportunities to enhance the wellbeing of populations and individuals with kidney disease and substantially reduce avoidable health care usage and expenditures (Crowley & Meyer, 2017). Work has begun to unlock the potential of our own cells to generate new patient-matched identical kidney tissues. Research in the field of stem cells continues and rudimentary kidney tissues have been formed, which as research in this area continues will become more architecturally complex and functional (Taguchi et al., 2014). Increased understanding of how the brain stem controls somatic function will lead to enhanced managements for hypertension, obesity, cardiac issues and incontinence. In the future, it will be possible to insert electrodes with “pacemaker” type generators into discrete sets of neurons and use these to modulate the control circuit activities (Freedman et al., 2016).

The world around us is becoming more technologically advanced each year and we are surrounded by sensors, which monitor our activities and guide our selections. It is considered that miniaturised devices will be available while temporary metabolic support is needed such as acute kidney injury. A wearable or implantable artificial kidney device will be able to sense appropriate metabolic parameters and the required fluid removal (Gura et al., 2016). There are so many possible developments in the future that cannot even be considered in this editorial, but it is certain that one day in the future dialysis as we know it will be relegated to the history books as technologies improve.

Finally, I do hope you enjoy reading this issue, which contains articles on a wide variety of topics, including the financial considerations in dialysis treatment, the development of an automated peritoneal dialysis program, conservative management in advanced chronic kidney disease and the use of plastic instead of metal cannula in haemodialysis. There is also a paper highlighting the importance of the KHA-CARI guidelines. Please remember that in 2018 I wish to publish a special edition focusing on Indigenous health issues and so look forward to receiving further articles for this edition.

References


TAKE THE FLEXIBLE APPROACH

ARGYLE™ FISTULA CANNULA FOR HAEMODIALYSIS