The sky is clear: robotic surgery is now a valuable player in pediatric urology practice

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Robotic-assisted laparoscopic surgery (RALS) is one of the trending topics in pediatric urology in the last two decade. Historically, the first introduction of this technology in pediatric urological surgeries started with pyeloplasty [1]; then it had increasingly being used in daily practice worldwide. Since then, the numbers of publications have increased and the feasibility of the robotic surgery has been tested for a variety of the procedures [2].

RALS has additional advantages over conventional laparoscopy and allows for increased maneuverability, 3D vision, increased comfort and ease at suturing. This especially helps the surgeons during reconstructive procedures which are the ideal type of surgeries in pediatric patients. The well-established benefits of robotic surgery which are mentioned in the pediatric urology guidelines are; decreased pain, shorter hospital stay and better cosmesis [3].

On the other hand, the availability of these costly equipments are limited which also limits the production of the new scientific data. Majority of the publications demonstrate the retrospective case series of a single center which have decreased the evidence basis of RALS. However, comparative studies and randomized controlled trials are also increasingly being produced recently.

This topic issue has gathered the worldwide known pediatric robotic experts together and allowed them to share their valuable experiences within the same issue. A total of nine valuable articles including four original articles have been published. The articles published in this topic issue are being discussed briefly below.

Satyanarayan and Peters reported the history, present and future of RALS especially focusing on pyeloplasty and vesicoureteral reflux (VUR) [4]. Then pyeloplasty; the most common surgery for the use of the robotic platform

in children and infants was systematically reviewed by the Chicago group [5]. Once again it has been found that RALS has advantages such as decreased hospitalization, decreased operative time, lower complications and equal success rates compared to open surgery.

The authors from Philadelphia reported the largest series of consecutive RALS using 5 mm instruments in children [6]. Excellent operative outcomes were reported for pyeloplasty, ureteral reimplantation and ureteroureterostomy.

The first randomized controlled trial (RCT) on pyeloplasty comparing conventional laparoscopy and robotic surgery in children was reported by the Istanbul group [7]. Although the success and complication rates were found similar, operative time was significantly lower for RALS in children.

A focused literature review on the RALS for ureteral reimplantation was reported by the authors from the Texas group [8]. Another literature review for robotic-assisted bladder neck procedures for neurogenic bladder patients was reported by Gargollo et al. [9].

Researchers from Ghent reported the first case series of robotic-assisted surgery for ectopic organs and differences of sexual development patients in the literature [10].

Robotic detrusorotomy compared with open surgery for refractory overactive bladder in children was reported by Subramaniam [11].

Finally, the cost effectivity of robotic technology is widely being discussed by the authors from Toronto group [12].

At the end of the day, I would like to thank for the priceless effort of all the authors of these manuscripts and I hope that this topic issue will be a milestone for robotic surgery in the pediatric population.

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