Until now paediatric cardiac anaesthesia is still challenging and remains a fascinating sub-discipline of our specialty. During the last twenty years the outcome in paediatric cardiac surgery is improving rapidly. Even the most complex procedures e.g. in hypoplastic left heart syndrome (HLHS) patients are now operated with acceptable results. Parallel to the improvements of surgery the attempt to wean paediatric patients as early as possible from mechanical ventilation was one of the major goals in anaesthesia. Several studies are indicating that fast-track procedures are improving outcome in the adult as well as in the paediatric cardiac world\(^1\). In children particularly postoperative analgesia is one of the most important factors for successful early extubation after cardiac surgery. Classical opioid based techniques postoperatively (most often used is morphine) are associated with the risk of respiratory depression early after anaesthesia and other side effects. The other important fact is to reduce stress response early after cardiac surgery. For that reason several attempts were made to introduce regional anaesthesia techniques in paediatric cardiac anaesthesia\(^2\). One major concern is the fact that paediatric cardiac surgery is mostly done with the aid of extracorporeal bypass and systemic anticoagulation which can be a risk factor in e.g. epidural anaesthesia (EA). In 2001 an interesting study from the “adult” world was published by Scott and co-workers in A&A where they reported the positive effects on outcome in a relatively large number of patients included in a prospective, randomized study using epidural techniques and early extubation\(^3\). They found a decreased risk of pulmonary infection and a lower incidence of postoperative arrhythmias. However this study was criticized by a number of reasons. Nevertheless the study of Scott initiated a large number of following investigations about the use of regional anaesthesia in cardiac surgery with encouraging results. On the other hands until now its use in adult as well as in paediatric patients is still not routine and there are several editorials published pointing on the controversial arguments of pro’s and con’s about regional anaesthesia in cardiac surgery.

Outcome in complex surgery was also improved by developing and using cerebral and circulatory monitoring methods by anaesthesiologists intraoperatively. The use of transesophageal echocardiography (TEE) should become a routine monitoring method in the hands of (paediatric) cardiac anaesthesiologists\(^4\). It is not acceptable that paediatric patients are leaving the operating room after complex intracardiac repair without visualisation of the result. Modern multiplane TOE probes are available for the use in children down to 3 kg bodyweight.

Paediatric cardiac anaesthesia is complex, with a high grade of specialisation and still a young and fascinating sub-discipline in the whole area of anaesthesiology.


