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PEACHY, another fruitful study

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Summary

The results of the PErioperAtive CHildhood ObesitY (PEACHY) study showed an alarmingly high incidence of obesity amongst children presenting for surgical procedures under general anaesthesia in the UK. The study was performed by the Paediatric Anaesthesia Trainee Research Network (PATRN), a network of trainee anaesthetists seeking to quantify important clinical problems. Networks and consortia that facilitate collaboration amongst clinicians and academics working in a wide range of types of hospitals are particularly important in the current era, as they have the potential to gather data rapidly on important clinical problems, and by their size improve the power to identify factors associated with rare complications. Collaboration amongst clinicians within networks instead of competition between clinicians can have wide-ranging benefits that extend beyond research, and can include improvements in training, rapid dissemination of protocols, and knowledge concerning new problems, ultimately improving general standards of care.

Keywords: anaesthesia; obesity; paediatrics; research consortia; research networks; trainee

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In the current issue of the *British Journal of Anaesthesia*, Burton and colleagues[1] of the Paediatric Anaesthesia Trainee Research Network (PATRN) report the results of the PErioperAtive CHildhood ObesitY (PEACHY) study. By choosing this name for their study, they maintain a trend established by the initiators of recent 'fruitful' prospective observational paediatric anaesthesia studies (APRICOT: Anaesthesia PRactice In Children Observational Trial [APRICOT],[2] NEonate-Children sTudy of Anaesthesia pRactice IN Europe Epidemiology of Morbidity and Mortality in Neonatal Anaesthesia [NECTARINE],[3] and PAediatric unPlanned dAY case Admissions [PAPAYA][4]). The PEACHY study addressed the incidence of overweight and obesity in children, which is becoming alarmingly high. The WHO reports that the overall incidence has trebled since 1975 and that it affects almost 40 million children under the age of 5 yr and 340 million adolescents.[5] The adverse health effects have been further highlighted the high morbidity and mortality rates amongst patients with obesity and COVID-19.[6]

Childhood obesity has implications relevant to anaesthesia, as children with obesity commonly have significant comorbidities that increase the risks of critical events during anaesthesia. The PEACHY study showed that amongst the paediatric surgery population, the proportion that has obesity was alarming and indeed was higher than that reported by the National Child Measurement Programme.[7] Around 10% (414) of the 4200 patients included in the study underwent adenotonsillectomy. Those affected by obesity suffered more frequently from snoring than heathy children and were also more prone to difficult facemask ventilation at induction of anaesthesia. As pointed out by the authors, their study has several limitations. The most relevant limitations are its observational nature and the sample size, which was based on the power to determine the prevalence of obesity (the primary outcome). Although the sample size may seem large, it was insufficient for analysis of potential associations amongst BMI and secondary outcomes with low event rates, of which critical respiratory events are particularly relevant. Although the current findings are essentially confirmatory, and should not immediately lead to changes in clinical practice, there is much that is commendable about the study, particularly around the keyword 'research network'.

Firstly, the study is a testament to an ever-increasing grass roots movement amongst paediatric anaesthetists who have harnessed the power of collaboration to engage in 'professional citizen science' that generates data that can help to improve patient care and outcomes. The recently published NECTARINE study[3] and the APRICOT before it[2] were the results of international collaborations fostered and funded by the European Society of Anaesthesiology and Intensive Care Clinical Trial Network. The PEACHY study and the PAPAYA[4] study before it were the fruits of a network of motivated and enthusiastic anaesthetic trainees founded by two senior British anaesthetic trainees: the PATRN. It is a loose collaborative that provides UK anaesthetic trainees with opportunities to become involved in multicentre research and audit projects with financial and logistical support of the Association of Paediatric Anaesthetists of Great Britain and Ireland (APAGBI).[8–10] It maintains a presence in every hospital where trainees and non-consultant doctors are involved in the provision of paediatric anaesthesia care. This well-coordinated trainee network is unique and serves as an example to other anaesthetists, regardless of their grade and the system in which they work.

Secondly, large prospective multicentre (and ideally multinational) studies can generate large databases containing data from enormous numbers of patients. Especially in Europe, large cohort studies have been performed to determine the incidence of, and risk factors for, rare events. Although they share the confounds inherent in all observational studies, amongst which is that they can only identify association rather than causation,[11] we believe that their shortcomings are outweighed by their benefits, including their ability to collect high external validity data rapidly. To generate sufficiently representative databases large enough to identify risk factors or rare events, well-run and coordinated research networks are needed. If regulatory requirements are harmonised across Europe (including the UK), with a single central ethical approval procedure, multinational observational studies will be much easier to set up.

Thirdly, there has been increasing debate on the issue of who should provide paediatric anaesthesia care in recent years. The importance of the basic principles of good care, such as maintenance of physiological homeostasis and normality, has been emphasised by groups, such as Safetots.[12] Many (paediatric) anaesthetists believe that high-quality clinical care and with low risk of adverse events requires involvement of certified paediatric anaesthetists. Paediatric anaesthesia fellowships and programmes already exist in Scandinavia, the UK, and Switzerland, but not in much of the rest of Europe. Ideally, competency-based curricula for postgraduate training and continuous professional development should be standardised to ensure harmonisation of standards of training, certification, and care. Here, too, networks can play a role by exchange of information and sharing of experience. An investment in trainee networks is a wise investment in the future of our specialty. National scientific societies responsible for clinical standards, provision or accreditation of education and training, and dissemination of knowledge should follow the lead of the APAGBI.

Finally, recent events during the COVID-19 pandemic have again emphasised the value of collaboration, which enabled clinical academics to provide practise recommendations rapidly, some of which required timely and frequent updates once more evidence became available. The crucial factors were rapid and large-scale exchange of information. Existing networks were used to pass on the information and experiences gained by experts in areas where the pandemic struck early. Information exchange via informal person-to-person channels, and via social media, was particularly important in the early stages, and crucially made the information rapidly available to clinicians working outside of academic institutions.

The paediatric anaesthesia community has become a much more cohesive and collaborative group during the last decade. Multicentre and multinational projects, such as the Pediatric Anesthesia & NeuroDevelopment Assessment (PANDA)[13] and General Anaesthesia versus Spinal,[14] have answered important questions, stimulated lively discussions within the community, and prompted teaching and education about how best to deliver high-quality paediatric anaesthesia. However, many questions remain to be answered.[15] Trainee networks, such as PATRN, and broader networks, such as those performing the UK National Audit Projects that involve colleagues from the full range of types of hospitals,[16,17] should be encouraged. Information flow should continue on a large scale, and with no borders, even after the COVID-19 pandemic is over. We applaud the PATRN for their good example and for their good work, and look forward to the future fruits of their collaboration and of that of other groups.

Authors' contributions

ND and ARA contributed equally in writing this editorial.

Declarations of interest

ND declares no conflicts of interest. ARA is an editor of the *British Journal of Anaesthesia*, but played no role in the handling or processing of the article related to this, and he declares no conflicts of interest.

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The PATH to patient safety

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Summary

Communication is critical to safe patient care. In this issue of the *British Journal of Anaesthesia*, Jaulin and colleagues show that use of a Post-Anaesthesia Team Handover (PATH) checklist is associated with fewer hypoxaemia events in the PACU, reduced handover interruptions, and other important metrics related to improved communication. The PATH