HOT TOPIC

SHOULD PARENTAL PRESENCE AT INDUCTION BE ROUTINE PRACTICE?

SUMMARY OF KEY POINTS:

- Parental presence on induction of anaesthesia (PPIA) can be a controversial topic, with evolving opinions and attitudes over time and within different cultures.
- There are both positive and negative aspects to PPIA, dependent on multiple factors related to each individual case.

REVIEW OF EVIDENCE

Background:

Induction of anaesthesia is generally acknowledged to be a potentially stressful time for both children and their parents/caregivers, and perioperative anxiety can have negative effects – including increased postoperative delirium, increased analgesic requirements,[1] and also the potential to affect the psychological dynamic of both children and caregivers in future hospital visits.

Although PPIA is widely accepted in the UK, there remains some debate as to the advantages and disadvantages of this practice and its purpose. PPIA is often perceived to be beneficial to the child (minimising anxiety) and helpful for clinicians in facilitating induction of anaesthesia.

Interestingly, it appears that over the last few decades the attitude of many clinicians has changed from a less positive attitude towards PPIA to being generally in favour of it. [2,3] What has changed in the intervening years, and is there appropriate evidence to support it?

Advantages of parental presence at induction of anaesthesia (PPIA)

There are a number of potential advantages associated with PPIA – some studies have shown that it promotes either a decreased dose of premedication for a similarly efficacious effect[4] or enhances the effect of oral midazolam. One study showed that parental presence might even be as effective as administration of premedication.[5] PPIA may be particularly pertinent in children with impaired social functioning or with developmental delay.

It also appears that parents across a wide variety of cultures have an expectation and a preference for being present[6] even if makes them anxious, and there is also improved parental satisfaction with the process.[7] Parents may also be helpful in facilitating induction – the presence of a calm parent can improve a child's anxiety[8], and parents may also feel that their presence is useful to the anaesthetist which can be psychologically rewarding.[7]

Some studies have also shown that both the child and parent are less anxious in PPIA[7] – and that parental anxiety may be decreased when both parents are present, compared to just one .[9] Decreased anxiety was observed in children up to 10 years of age, though with a less pronounced effect in older children.[10]

Disadvantages of parental presence at induction of anaesthesia (PPIA)

On the other side of the argument – the assumption that PPIA is best for children and their families may not be entirely substantiated. It could be argued that this practice may not always be beneficial and may even have the opposite effect.

Perhaps surprisingly, there have been a number of studies including a 2015 Cochrane review incorporating 5 trials showing that PPIA does not reduce a child's anxiety even in infants, and one study even found that oral midazolam was more efficacious than parental presence.[11] Another study also claimed that maternal presence has no additional benefit if the child has already had premedication.[12]

Furthermore – the presence of an anxious parent is associated with an anxious child. Bevan et al (1990)[3] observed that children of extremely anxious parents appeared more distressed with the parent present for induction than when they were separated, and expressed the opinion that the presence of very anxious parents at induction should be "contraindicated".

There are also rare instances where parents may actually directly interfere with care. For instance in this case, where on induction the child was picked up and disconnected from monitoring by the mother – who attempted to wake her child. She agreed to return her child to care of the medical staff after some persuasion, no harm was reported and the operation was subsequently cancelled and re-scheduled.[13]

A balanced approach

What can be concluded from the current evidence – should parents be present for induction or not? Perhaps a more nuanced approach can be considered. In recent years, there has been progression towards a more holistic, family-centred approach towards children and their parents/caregivers, which has addressed a slightly different question: if one of the important aims is to decrease anxiety for children (and parents), which also helps to facilitate anaesthetic induction – are there other ways of doing this?

<u>New ways of improving anxiety</u>

As well as the use of premedication (which has its own disadvantages – behavioural, logistical and safety aspects), there has been an increasing use of technology to facilitate the induction process.

A few studies have shown no difference between use of technology (for instance using a portable device) and PPIA, as separate interventions or combined. Video distraction has also been shown to be more effective than other distraction techniques such as telling stories or analogue non-screen-based games.[11]

Play specialists (recommended by RCOA guidelines)[2] are involved in preparing children and caregivers for surgery – and also use technology, as well as other forms of distraction. Some studies have had a good result from clowns, which were noted to improve the experience for children and caregivers, as well as potentially improving staff morale![1] However, use of clowns is limited by potential for fear/phobias.

It may also be that it is not sufficient to merely look at PPIA, but rather at the behaviour and actions of the parent/ caregiver during the care pathway.[14] A number of studies have commented on the importance of managing parental anxiety due to the association with their child's anxiety. Various suggestions have been made – including acupuncture for parents,[11] but perhaps more pragmatic actions would include appropriate preoperative education – which might be either paper based or audio-visual (including delivery via mobile apps). There is some suggestion that the latter might be superior –

particularly with content specifically targeted towards parental anxiety (rather than for both parent and child), with more focus on addressing common parental questions. The timing of this educational material also needs to be prior to the day of surgery for maximum effect.[1] However, not all families will engage with preparation materials and it may be difficult to ensure that information has been accessed and understood. In some populations, there may also be difficulties with language barriers.

An integrative preparation programme (such as Kain et al's ADVANCE i.e. Anxiety-reduction, Distraction, Video modelling and education, Adding parents, No excessive reassurance, Coaching, and Exposure/shaping) – which is essentially a more formalised, structured and interactive form of preoperative education can also be set up, involving tours of the hospital (virtual or in person), behavioural/psychological preparation and educational play – has also had good results and feedback from parents.[1]

Differences in standard practice: UK vs North America

In contrast to UK practice, in the US and Canada, it appears that PPIA is less common. At one Canadian tertiary centre[15] PPIA is not standard practice, and parents "for the most part were comfortable with their child going unaccompanied into the operating room" and an individualised case by case approach is used, depending on "the child's age, as well as their level of coping and anxiety". The study notes that in some cases the reason why parents did not accompany their children was due to their own anxiety.

In the UK, RCOA guidelines[2] advise that parental presence is "routine in most cases" and that "with the agreement of the anaesthetist, parents should be able to accompany children to the anaesthetic room, remain present for induction of anaesthesia and be able to gain easy access to the recovery area".

However, the guidelines also note that in certain clinical scenarios, for instance in an anticipated difficult airway or neonate – parental presence may not be advised. Also as noted above there may be situations where parental presence may not be beneficial and actually be counterproductive. It is possible that in a culture where parents are "expected" to be present, they may feel pressurised to do so, leading to a more stressful situation for all concerned.

Conclusion:

PPIA, although widely accepted, remains a topic of debate. It has not been proven to reduce perioperative paediatric anxiety, as there are a number of conflicting studies and the degree of facilitation of induction appears variable. Many other factors are also significant – which include the age and social functioning of the child, parental anxiety and behaviour, degree of preoperative preparation and expectations of the child and their family, other adjuncts (e.g. premedication), as well as clinical suitability of PPIA.

Perhaps as a pragmatic conclusion, if clinically appropriate PPIA can be discussed as part of the preoperative anaesthetic conversation with parents on a case-by-case basis, with active involvement of the child's caregiver in the shared decision-making process.

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AUTHORS:

Dr Ruth Han, Anaesthetic Registrar, Evelina London Children's Hospital, ruthhan@nhs.net

Dr Michelle Le Cheminant, Consultant Anaesthetist, The Medical Specialist Group LLP mlecheminant@doctors.org.uk