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Commentary to ‘Priapism in children: A comprehensive review and clinical guideline’



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The review article on priapism in the paediatric population is timely and comprehensive. It summarises current knowledge of the condition. Although meant for paediatricians, this is, in fact, relevant to those treating adults also. This review should be read by all paediatric urologists, and should be available in all paediatric emergency departments.

There are several interesting findings. Firstly, the quality of the evidence is poor, with only one known published randomised controlled trial, which was performed in the adult population. Secondly, much of the pathophysiology and treatments come from the adult world. Extrapolating this to younger males may be risky. Their recommendation of performing Doppler ultrasound on all cases is very sensible rather than first aspirating—as the converse tends to be the practice in adult medicine. Aspiration can cloud the issue and there have been reported cases of low-flow priapism being converted to a high-flow state by the passage of a needle. It is important for the Doppler study to survey the whole length of the corpora cavernosa as there may be differences in flow proximally and distally. Patients who report a history of prolonged priapism several years prior can still have segmental woody feeling corpora when examined in the flaccid state. These patients also describe erectile dysfunction, which can be more marked in the fibrous-feeling segment. While this is typically distal, it can also be proximal. Hence, the needs to be thorough in the Doppler study on initial presentation.

The review also discusses the pros and cons of giving a general anaesthetic prior to any aspiration/injection. General anaesthetic is important for psychological/psychosexual reasons. I would also recommend a dorsal penile/caudal block once anaesthetised. I have seen adults who were treated without any form of anaesthesia develop symptoms of post-traumatic stress disorder, which add to the complexity of managing any subsequent erectile dysfunction.

Another benefit of performing any aspiration under general anaesthesia is that the anaesthetic team may be able to expedite blood gas analysis, for example in the nearby intensive care unit. An animal study from University College Hospital London [1] demonstrated that measuring glucose (often available as part of the blood gas analysis) was helpful in giving a prognosis of reversibility of the condition. A low glucose implies consumption of substrate and predicts smooth muscle damage. This was in a unit treating adults who may have a penile prosthesis placed acutely [2]. This is probably not appropriate in paediatric cases, although in severe cases in mature teenagers it may be considered.

All urology units should have rapid access to phenylephrine, not waiting for dispensing from the pharmacy at unsociable hours. Remember time is smooth muscle, so consider low-flow priapism like a “myocardial infarct of the penis”. Patients at risk of priapism should be prompted not to wait for the arbitrary 4-h cut-off for the definition of priapism. They should be instructed to keep fasting, attend the emergency department urgently, and prompt staff to get them seen immediately by a urologist/paediatric urologist. The man’s long-term sex life depends on prompt identification and treatment of priapism.

Hopefully, the quality of evidence will improve so more progress can be made in our understanding and management of this condition.

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Response to Commentary to 'Priapism in children: A comprehensive review and clinical guideline'



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The article "Priapism in children: a comprehensive review and clinical guideline" [1] was conceived to act as a reference to all urologists. We feel this topic is complex enough to warrant specialist input, although we hope it will also be useful for paediatricians, emergency physicians, and, haematologists/paediatric haematologists. We feel that paediatric priapism is best managed jointly by a paediatric urologist and an andrologist.

Priapism in any child presents multiple challenges: the taboo of an erection in a child must be overcome by the child, the parents, and even healthcare professionals. This will heighten a child's natural anxiety when admitted to hospital acutely, particularly with a painful condition. Further, the paucity of evidence may lead to anxiety in decision-making for even the experienced specialist. This can be a heady mix in a busy emergency department in the lonely small hours.

Ideally, general anaesthesia would be provided for all children, but in treating a "cardiac arrest of the penis" the provision of anaesthesia must not incur significant delay. Whatever anaesthesia is chosen, transfer to a level 2 or 3 environment (emergency department resuscitation room, high dependency unit, or theatre) for aspiration should ensure rapid access to blood gas analysis and phenylephrine or epinephrine.

The reliability of predicting erectile dysfunction in a child is extremely contentious: a 14-year-old with ischaemic priapism for 72 h reportedly regained potency after shunt formation [2]. However, intra-operative frozen-section analysis of a corporal biopsy has been used in adults to confirm the presence and extent of necrosis [3]. Immediate prosthesis insertion in adults avoids the difficulties created by corporal fibrosis and is associated with higher success rates and fewer complications (including preventing penile shortening).

Researching a condition of which even major quaternary centres see only a few cases annually is clearly very difficult, particularly as it is seen as a taboo by the public. We hope that further collaboration between paediatric urologists and andrologists will expand the evidence base.

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