

DORSAL FORESKIN LOCAL ANESTHESIA (DFLA), A NEW RAPID AND SAFE METHOD FOR INFANT CIRCUMCISION ANESTHESIA

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Purpose: Circumcision is the most common elective newborn surgical procedure. In 1999, the American Academy of Pediatrics Task force on Circumcision recommended that local anesthesia be administered for neonatal circumcision. The author has performed in excess of 8000 circumcisions, initially without, and then with anesthesia, utilizing DPNB (dorsal penile nerve block), ring block or EMLA. With all of the above modalities an irritable focus occurred on occasion, resulting in the child crying for up to 45 minutes post circumcision. Irritable focus manifests itself as a complication when the child experiences the numbness and tingling effect and will not stop crying until the anesthetic wears off. Therefore, a new method for anesthesia, Dorsal Foreskin Local Anesthesia (DFLA), was developed in hope of eradicating this annoying complication as well as other known potential problems and complications which include hematoma, infection, skin necrosis, absorption of lidocaine with potential for convulsions or blood dyscrasia and nerve damage. Also, pain with injection and prolonged waiting for the anesthetic to take effect are causes for concern.

Materials and Methods: Six hundred and twenty-six infants were observed, ranging from one day to 83 days old. The majority, 584, was performed on or after the eighth day in the home. 42 were performed in a newborn nursery. All circumcisions were performed with a Gomco clamp. Infants were observed and notations made during the injection of anesthetic; the circumcision with dressing; and the immediate post-circumcision period. Responses were noted as: (0) no overt signs of distress, (1) minimal transient signs, lasting no longer than 5 to 10 seconds, including increased sucking, increased respiratory rate, arching of the back or whimpering, which ceased when the infant resumed sucking or (2) persistent crying.

Results: Of 626 infants observed, 573 had no reaction to injection of lidocaine and 46 had transient reactions, which ceased when they started sucking the sugar solution. Therefore 619 infants had little or no reaction to injection of local anesthesia. The remaining 12 boys cried during the injection and 10 of them continued to cry during the circumcision. However, 8 stopped crying when they were diapered and swaddled. During the circumcision 383 did not cry and 206 had minimal, transient reactions. Of the 37 that cried more during circumcision, 13 stopped crying immediately after the procedure and 15 were easily pacified, while 9 continued to cry. Post-circumcision, 487 did not cry and 112 quickly stopped crying with burping or pacification. Of the 27 infants who cried afterwards, 14 cried during the circumcision 13 either did not cry (3) or transiently cried (10). Most crying occurred when the foreskin was separated from the glans penis.

Conclusions: Sophisticated studies have been performed to document and quantify the pain of circumcision and responses to anesthesia for circumcision. Determination of heart rate, blood pressure and cortisol levels confirm what is obvious with observation; infants experiencing pain manifest it with crying and body language. DFLA is a safe, easy to perform and effective method for administering local anesthesia for newborn and infant circumcision. Since all lidocaine is removed with circumcision there is no potential for most known side effects.