

Erkek sünnetinde kaygı, endişe ve korkuyu azaltmak için anestezi seçimi

Selection of anesthesia to reduce anxiety, worry and fear in male circumcision

Muhammet Güzelsoy¹, Ali Rıza Türkoğlu¹, Serpil Sancar², Soner Çoban¹, Dursun Ünal¹, Murat Öztürk¹, Halil Güzelsoy³, Hakan Demirci⁴

¹ Sağlık Bilimleri Üniversitesi Bursa Yüksek İhtisas Eğitim ve Araştırma Hastanesi Üroloji Kliniği

² Sağlık Bilimleri Üniversitesi Bursa Yüksek İhtisas Eğitim ve Araştırma Hastanesi Pediatrik Cerrahi Kliniği

³ Özel Hayat Hastanesi Üroloji Bölümü Bursa

⁴ Sağlık Bilimleri Üniversitesi Bursa Yüksek İhtisas Eğitim ve Araştırma Hastanesi Aile Hekimliği Bölümü

Özet

Amaç: Lokal anestezi(LA) veya genel anestezi (GA) ile yapılan sünnet işleminin neden olduğu stresi yani kaygı, endişe ve korkuyu Venham resim testi (VPT) ve fasyal imaj skalası (FIS) ile değerlendirmek.

Yöntem ve Gereçler: Ailesinden onam alınan 50 si ga, 40 i la ile sünnet yapılan 90 çocuk çalışmaya dahil edildi. Sünnet öncesi ve sonrasında tüm çocuklar VPT ve FIS testlerini doldurdu. İstatistiki analiz için SPSS 16 kullanıldı.

Bulgular: Sünnet yapılan çocuklar LA alanlar ve GA alanlar olarak 2 gruba ayrıldılar. LA verilen çocukların yaş ortalaması 7,75±2,04(4-12 yaş), GA verilen çocukların ise 7,28±1,4(4-12 yaş) idi. İki grup arasında yaş farkı yoktu (p=0,233). VRT ile FIS korele idi. Lokal anestezi ile sünnet yapılan grupta FIS %57 ve VRT %22 arttı (sırasıyla p=0,0001 ve p=0,001). Genel anestezi ile yapılan sünnet grubunda ise FIS'teki artış %7, VPT deki artış %0,69 idi ve bu artışlar anlamlı değildi (sırasıyla; p=0,520, p=0,385).

Sonuç: Sünnet işleminde uygulanan anestezi yönteminin çocukta oluşturacağı stres(korku, kaygı ve endişe) VPT ve FIS ile tespit edilebilmektedir. LA ile yapılan sünnetin GA ile yapılan sünnet işlemine göre VPT ve FIS değerlerini anlamlı olarak daha fazla yükselttiği için çocuklarda daha fazla strese neden olabileceği fikrine ulaştık. Bu nedenle anestezi süresinin uzunluğu ve GA'nin olası risklerine rağmen 4-12 yaş grubu çocuklarda daha az strese neden olacağı için GA tercih edilmelidir.

Anahtar Kelimeler: anestezi türü, sünnet, stres, VPT, FIS

Abstract

Aim: To evaluate the stress created by the concern, anxiety and fear experienced during the circumcision procedure performed under local anesthesia(LA) or general anesthesia(GA) with the Venham picture test(VPT) and facial image scale(FIS).

Method and Materials: We included in the study a total of 90 children who were circumcised, 50 under general anesthesia and 40 under local anesthesia, after consent was obtained from the family. All children completed the VPT and FIS tests before and after the circumcision. SPSS 16 was used for statistical analysis.

Results: The children who were circumcised were divided into 2 as the LA and GA groups. The mean age was 7.75±2.04(4-12) years in the LA and 7.28±1.4(4-12) years in the GA group with no statistically significant difference (p=0.233). VPT results were found to be correlated with FIS results. FIS results increased 57% and VPT results 22% after the procedure in the LA group(p=0.0001 and p=0.001, respectively). This increase rate was 7% and 0.69% respectively in the GA group and these increases were not significant(p=0.520, p=0.385, respectively).

Conclusion: The stress (fear, concern and anxiety) caused by the anesthesia method used during the circumcision procedure in the child can be detected using VPT and FIS. We concluded that circumcision performed with LA may cause more stress in children than with GA as the VPT and FIS values were significantly higher. GA should therefore be preferred in children aged 4-12 years as it will cause less stress, despite the anesthesia duration and the possible risks.

Keywords: anesthesia type, circumcision, stress, VPT, FIS

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Yazışma / Correspondence

Muhammet Güzelsoy

Mimar Sinan Mah. Emniyet Cad. Polis

Okulu Karşısı Yıldırım / BURSA

Tlf: 0 224 2955000

Cep: 0 532 4513863

Fax: 0224 295 54 97

E-mail: muhammetguzelsoy@yahoo.com.tr

INTRODUCTION

Circumcision has been performed for thousands of years. Images of circumcision rituals have been found in stone age cave drawings and ancient Egyptian graves (1). It is widely practiced in Jews (1) and Muslims for religious purposes (2). It can be performed for hygiene or medical purposes in other societies. It is probably the oldest and most common procedure performed in males (3). The circumcision rate is 42-88% in the USA, 35% in Canada and lower in Europe, Australia and Asia (4).

Circumcision can be performed under local or general anesthesia. It is a painful and traumatic procedure (5) and causes worry, anxiety and fear in the child. Each of these emotions are a source of stress.

Various methods are used to determine anxiety in dentistry (6). Projective tests are preferred as they are easy to administer. The most commonly used projective tests are VPT (7) and FIS (8).

Projective tests aim to determine the level of fear and anxiety by portraying objects or living things that may be the object of the fear or by using pictures in stories. The technique gives an idea about feelings hidden in the subconscious. The children are asked to describe their feelings about the shown pictures with this technique.

We investigated the effect of circumcision and the anesthesia type on these feelings by using the VPT and FIS tests in this study.

METHOD AND MATERIALS

A total of 90 children aged 4-12 years were included in the study after obtaining consent from the family. Children with systemic disease, a psychiatric or neurological diagnosis (or undergoing such treatment), hypospadias, or an oncologic problem were excluded from the study. All the circumcisions were performed for religious purposes.

Three of the physicians involved in the study performed circumcision with local anesthesia (HG, ART, DU) and 3 with general anesthesia (MG, SS, SC). The data of these physicians were collected. The patients were divided into the LA and GA groups.

Hemogram, routine biochemical tests when necessary and PA chest X-ray were performed before general

or local anesthesia. Pre-circumcision FIS and VPT tests were administered to all children by the nurse. Six hours after the circumcision, the same tests were repeated. The presence of any complication was recorded. A single dose of an antibiotic (predominantly from the cephalosporin group) was administered to all children before the procedure. General anesthesia was performed with a laryngeal mask. Local anesthesia was performed by subcutaneous peripheral infiltration of lidocaine without epinephrine to the penis root (9). Bipolar coagulation was used (10).

VPT contains eight different cards and includes pictures of anxious and non-anxious children on each card. Each of the anxious child pictures receive a score of 1 and non-anxious child pictures a score of 0 in this test. The score range is 0 to 8 points.

FIS consists of figures showing five different emotional states. When scoring is performed, the most unhappy face represents 5 and the happiest face 1.

The children were asked to choose the picture they feel is the closest to the one they are experiencing at that moment in both tests. They were requested to identify themselves with the image using questions such as "Which picture represents you the most?", "Which one do you feel close to?" or "Which one seems to be close to you?". A single score was recorded for the FIS, and the total score for VPT.

Permission for the study was obtained from the ethics committee of our institution.

The SPSS 16.0 software program (Statistical Package for the Social Sciences, Version 16.0 SPSS Inc. Illinois, USA) was used for statistical analysis in the study. The Pearson correlation, Mann-Whitney U, Wilcoxon signed-rank and chi-square tests were used. A p value <0.05 was accepted as significant.

RESULTS

We had 40 children circumcised under local anesthesia and 50 under general anesthesia. The mean age was 7.75 ± 2.04 (4-12) years for the LA group and 7.28 ± 1.4 (4-12) years for the GA group, with no statistically significant age difference between the groups ($p=0.233$).

The mean values and change rates of the VPT and FIS scores before and after circumcision are presented in Table 1.

Table 1. VPT and FIS changes based on anesthesia type (Wilcoxon signed-rank test)

	VPT BEFORE	VPT AFTER	INCREASE RATE	P	FIS BEFORE	FIS AFTER	INCREASE RATE	P
LOCAL ANESTHESIA	1.97±2.1 n=38	2.42±1.7 n=38	22%	0.001	2.50±1.3 n=38	3.36±1.3 n=38	57%	0.0001
GENERAL ANESTHESIA	1.44±1.4 n=48	1.45±2.07 n=48	0.69%	0.385	1.85±1.2 n=48	1.98±1.3 n=48	7%	0.520

The change rate of the VPT and FIS tests before and after circumcision is shown below (Table 2).

A statistically significant correlation was found between the VPT and FIS results (Table 3).

Two children who were to receive general anesthesia could not answer the tests. Another two cases that received local anesthesia first were converted to general anesthesia when they became agitated. These 4 children were excluded from the study.

No complication was observed in any of the children.

DISCUSSION

Although circumcising during the newborn period is preferred in western and jewish populations, it is generally carried out within the prepubertal period in muslims. Turkish society prefer between 4 to 12 age range. In this range, circumcision is done via general or local anesthesia.

Physicians preferring local anesthesia suggest that circumcision with LA is quicker and protects the child from potential GA complications. GA is quiet and peaceful for the physician and the child does not remember anything.

The VPT and FIS tests are used in dentistry to identify the worry, anxiety and fear that lead to stress. We believe these tests can be used to determine effect of different anesthesia techniques on the child after circumcision, as in dentistry. These tests are not normally used in urology practice. We also used these tests in a previous study after circumcision was performed under general anesthesia (11). In the current study, we used the tests after circumcision was performed under different anesthesia techniques.

Our aim was to determine the stress that may occur during circumcision and especially investigate the effect of local and general anesthesia through these tests.

A strong correlation was found between the results of these tests in another study (7). We similarly found a

statistically significant correlation between the results of these two tests in our study (Table 3).

The answer scores were generally increased after the procedure in children circumcised under local anesthesia (Table 2). The increase rate was 22% for VPT and 57% for FIS and was statistically significant (Table 1; p=0.001 and p=0.0001, respectively).

The group that underwent circumcision under general anesthesia gave answers with the same or increased scores after the procedure (Table 2). The increase observed here was lower and not statistically significant at 0.69% for VPT and 7% for FIS (Table 1; p=0.385; p=0.520, respectively). The feelings experienced by the children who were circumcised under local anesthesia were more intense as indicated by the answers with higher scores.

Increased stress in a child who presents to the hospital is an expected situation. The stress increase with local anesthesia was markedly higher than with general anesthesia in our study. This result indicates that the circumcision itself and the hospital environment create a certain degree of stress in the child and this stress was higher with local anesthesia. The serum cortisol level is a physiological marker of stress and has been found to increase significantly with infant circumcision (12,13). Cortisol levels have been compared in children circumcised without anesthesia or after dorsal penile block, and no significant decrease was found in the adrenal cortisol response to the surgical procedure with lidocaine administration. (14). Local anesthesia for circumcision therefore does not seem innocent either. In addition, it is possible that conversion of local anesthesia to general anesthesia will be required due to the lack of a suitable response. We had 2 children where such a conversion was required in this study. Both these children were 7 years old. The relevant scores were FIS before: 1, FIS after: 5, VRT before: 2, and VRT after: 8 in the 1st child and FIS before: 1, FIS after: 5, VRT before: 0, and VRT after: 8 in the second child. Anxiety and concern had reached the highest level in both of

Table 2. The change in the answer scores after circumcision.

	INCREASING ANSWER SCORE	DECREASING ANSWER SCORE	SAME ANSWER SCORE
VPT LOCAL	27	4	7
VPT GENERAL	8	16	24
FIS LOCAL	32	2	4
FIS GENERAL	10	9	29

Table 3: Correlation between FIS and VPT results (Pearson correlation)

	r	p
FIS BEFORE with VPT BEFORE	0.303	0.005
FIS AFTER with VPT AFTER	0.622	0.0001

these examples. The children had no other problem that could increase stress before or during surgery. They also had no additional psychological problem.

Circumcision is a controversial procedure (3). There are both positive and negative opinions on whether it is necessary. Some authors feel it can lead to decreased sexual power, psychopathic and masochistic behavior due to castration anxiety (15), development of insecurity against women (16), negative feelings against the family, increased aggression, decreased self-respect, nightmares (17), orgasm difficulties(18) and negatively affected sexual life in the long term (19). These results are due to both the circumcision itself and the anxiety, fear and pain experienced during the anesthesia. One must consider that the stress experienced with local anesthesia may increase the severity of potential problems mentioned above. It is also possible that these states will become the dominant characteristic of the patient and affect his whole life negatively.

The test mentioned in this article may help physicians that use local anesthesia for circumcision. The mean pre-procedure value was 1.97 ± 2.1 for VPT and 2.50 ± 1.3 for FIS. The greatest integer values are 1 for VPT and 2 for FIS and this value can be accepted as the cut-off to help us determine the stress level using VPT and FIS and then choose the appropriate type of anesthesia. Avoiding local anesthesia seems reasonable in a child who receives more than 1 point for VPT and 2 points for FIS before the procedure.

Certain physicians prefer LA due to the long duration and possible risks of GA. However, we found higher

stress with LA using VPT and FIS. It seems appropriate not to use local anesthesia for circumcision in the 4-12 years age group unless there is a medical necessity. Our recommendation is that families should choose general anesthesia to protect their children from the stress that can lead to the abovementioned negative effects.

The missing aspects of this study are the determination of the cut-off for VPT and FIS as an exact value and the small number of patients. Useful results can be obtained with larger series employing other pain scales.

CONCLUSION

Our results indicate that the stress that occurred during circumcision according to anesthesia type can be detected through VPT and FIS. LA leads to significantly more worry, anxiety and fear compared to GA. Although the duration needed for GA and the possible risks seem to be a disadvantage, it causes less stress in children in the 4-12 years age group. It seems appropriate to perform circumcision between the ages of 4 and 12 years under general anesthesia to avoid the possible negative results.

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