

Comparison of preoperative parental anxiety status in children who undergo circumcision with local and general anesthesia

Lokal anestezi altında ve genel anestezi altında sünnet yapılan çocukların ailelerinin anksiyete durumlarının karşılaştırılması

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Özet

Amaç: Bu çalışmada genel anestezi ve lokal anestezi altında sünnet olan çocuklarının ailelerinde oluşan anksiyete açısından fark olup olmadığını araştırmayı amaçladık.

Gereç ve Yöntemler: Kasım 2019 ile Mart 2020 tarihleri arasında sünnet olan çocukların aileleri sünnet öncesi değerlendirildi. Aileler gerekli bilgiler verildikten sonra özgür olarak anestezi şeklini seçtiler. Hastane anksiyete ve depresyon skalası çocukların anneleri tarafından sünnet sabahı dolduruldu. Hasta yaşı, anne yaşı, anne mesleği, anne eğitim durumu ve kaçınıcı çocuklarının sünneti olduğu kaydedildi. Verilerin analizinde SPSS 17.0 kullanıldı. P değerinin anlamlılık sınırı <0.05 olarak kabul edildi.

Bulgular: 108 hasta lokal anestezi ile, 69 hasta genel anestezi ile sünnet operasyonu geçirdi. Anestezi tipleri, çocuk yaşları, anne yaşları, anne eğitim düzeyi ve anne tecrübeleri arasında anksiyete açısından fark saptanmadı (p = 0.26; 0.227; 0.875; 0.592; 0.485; 0.508 sırasıyla).

Lokal anestezi altında sünnet edilen çocukların annelerinin ortalama depresyon skorları 5.08+/-3.45 idi. Genel anestezi altında sünnet edilen çocukların annelerinin depresyon skorları 5.89+/-3.49 idi. Anestezi şekilleri, çocuk yaşları, anne yaşları, anne tecrübeleri arasında depresyon açısından fark yoktu (p = 0.130; 0.777; 0.696;

Abstract

Objective: We aimed to investigate whether there is a difference in anxiety between the families of children who have circumcised with local anesthesia or general anesthesia.

Materials and Methods: The families of uncircumcised male patients were evaluated just before the circumcision operation between November 2019 and March 2020. The patient's family chose a form of anesthesia freely. Hospital anxiety and depression scales were filled by the mothers of the patients on the morning of the operation. Child's age, maternal age, maternal profession, maternal educational status and how many children of the same family have circumcision were recorded. SPSS 17.0 was used to analyze the data. The significance limit of p value was accepted as <0.05

Results: 108 patients were operated under local anesthesia and 69 patients were operated under general anesthesia. There was no difference between anesthesia types, child ages, maternal ages, maternal professions, maternal education, maternal experience in terms of anxiety (p = 0.26; 0.227; 0.875; 0.592; 0.485; 0.508 respectively).

The mean depression scores of the mothers of circumcised children performed under local anesthesia were 5.08+/-3.45. The mean depression scores of the mothers of circumcised children with general anesthesia were 5.89+/-3.49. There was no

The study was approved by the Ethics Committee of Nevşehir Hacı Bektaş Veli University (Approval number: 55831188-929-E380. Date: 2019, Oct 18). All research was performed in accordance with relevant guidelines/regulations, and informed consent was obtained from all participants.

0.460). Depresyon skorları ev hanımlarında çalışan kadınlardan daha yüksekti ($p < 0.001$). Ayrıca depresyon skorları düşük eğitilmiş annelerde yüksek eğitilmiş annelere göre daha yüksekti ($p = 0.002$).

Sonuç: Sünnet, ailelerde ciddi kaygıya neden olmayan ve lokal anestezi altında yapılabilen günlük ameliyatlardan biridir.

Anahtar Kelimeler: Sünnet, genel anestezi, lokal anestezi, aile anksiyetesi

significant difference between anesthesia types, child ages, maternal ages, maternal experience ($p = 0.130; 0.777; 0.696; 0.460$). Depression scores were higher in housewives than working woman ($p < 0.001$). Also, depression scores were higher in low educated mothers than high educated mothers ($p = 0.002$).

Conclusion: Circumcision is one of the daily surgeries that does not cause serious anxiety in families and can be performed under local anesthesia.

Keywords: General anesthesia, local anesthesia, parental anxiety

INTRODUCTION

One in three men in the world is circumcised(1). It has been reported that circumcision has benefits in terms of preventing the transmission of sexually transmitted diseases and penile cancer(2). Circumcision can be performed either for medical requirements such as phimosis, paraphimosis, urinary infection and vesicourethral reflux or for cultural-religious purposes(3-5). Circumcision is usually performed in childhood. In these individuals, general anesthesia or local anesthesia can be given before the operation(6). Parents, whose children undergo operation may exhibit a degree of anxiety(7). Parents as well as other family members also may witness the procedure performed under local anesthesia if they are eager to do so. This may provide confidence in the family (8). On the other hand, parents whose children are receiving general anesthesia for circumcision may end up with more anxiety (7).

In this study, we investigate whether there is a difference in anxiety level between the families whose children are circumcised under local anesthesia and general anesthesia. Furthermore, the association of anxiety and parental intellectual indices, such as status of literacy and the level of education were evaluated.

MATERIAL AND METHODS

Following the approval of the local ethics committee, parents, whose children were circumcised between November 2019 and March 2020, were questioned using the validated surveys gauging the level of anxiety just before the circumcision. Patients with hypospadias, balanitis and whose parents have a history of psychiatric disorder were excluded from the study. Parents

were informed and consented in terms of the preferred type of anesthesia, pros and cons of the procedure and complications which can be faced after the procedure. Hospital anxiety and the depression scales were completed by the parents before the operation. Patients and parents age, parents profession, level of education and previous experience of filial circumcision were recorded.

Parental observation and attendance were allowed in the circumcisions performed under local anesthesia. Local anesthesia was administered in the fashion of circumferential and penile block (9). Following the circumcision, the family was informed in detail about the post-operative care both in person by the physician and with an information form to take home, which explained the routine for post-operative care and the natural healing process. In the group where circumcision was performed under general anesthesia, parents were able to accompany their child to the main door of the operating theatre until they were sedated before they were taken to surgery room. General anesthesia was performed with ketamine and midazolam. After the circumcision under general anesthesia, the family was allowed in to the recovery room to be present for the awakening process of the child. Patients circumcised under local anesthesia were discharged right after the procedure however, patients who received general anesthesia were observed for at least for three hours after surgery at the clinic. Complications were recorded within 90 days following the surgery. Ten days after the surgery patients were invited for a routine examination.

SPSS 17.0 (Chicago, Illinois, USA) was used to analyze the data. Descriptive statistics are mentioned in

mean with standard deviation. Parametric tests including ANOVA, chi square and t-test are used to compare means and frequencies. Linear regression analysis was utilized when both dependent and independent variables are determined in scale. The level of significance for p-value was accepted within 95% confidence.

RESULT

Between November 2019 and March 2020, a total of 177 families registered for filial circumcision. One hundred and eight (62%) patients were operated on under local anesthesia (LA) and 69 (38%) patients were operated on under general anesthesia (GA). The mean parental age was 29.89 ± 6.02 years and the mean child age was 1.5 ± 2.37 years (2 months-14 years). The mean anxiety and depression scores of parents were 6.46 ± 3.81 and 5.40 ± 3.48 , respectively.

The mean anxiety score of the parents in LA and GA were 6.72 ± 3.87 and 6.05 ± 3.72 , respectively. There was no statistically significant difference between the two groups in terms of parental anxiety ($p = 0.26$). The mean depression score of the parents in LA and GA were 5.08 ± 3.45 and 5.89 ± 3.49 , respectively. There was no statistically significant difference between the two groups in terms of depression score ($p = 0.13$) (Table - 1). From the stand point of categorization by age, patients were divided into 4 groups as 0-1, 1-3, 3-6 and above 6 years of age. The anxiety and depression scores between these four age groups were similar ($p = 0.227$, $p = 0.777$, respectively) (Table - 2). Mean anxiety score

of working mother was 6.14 ± 3.50 and mean anxiety score of housewives was 6.53 ± 3.89 . There was no significant difference ($p=0.59$). Mean depression score of working mother was 3.52 ± 2.61 and mean depression score of housewives was 5.84 ± 3.52 . Housewives' depression score was statistically significantly higher than working mother ($p<0.001$) (Table - 3). There were also no link between maternal age and either anxiety or depression ($p=0.87, 0.69$, respectively). Categorizing the parents in terms of their level of education into primary school, high school and colleague degree, mean anxiety score of primary school educated mother was 6.89 ± 3.80 and mean anxiety score of high school or college educated mother was 6.16 ± 3.81 . Anxiety scores were not different ($p=0.21$). Mean depression score of primary school educated mother was 6.36 ± 3.63 and mean depression score of high school or college educated mother was 4.72 ± 3.22 . Depression scores were higher in low educated mothers ($p = 0.002$) (Table - 4).

Concerning the parental previous filial experience of circumcision, there was no difference between the experienced and inexperienced parents in term of depression and anxiety ($p=0.508$ and $p=0.460$, respectively) (Table - 5). There were 3 complications recorded in the post-operative period including 1 bleeding requiring an extra stitching, 1 surgical field infection treated with local antibiotics and 1 stricture of the penile skin constricting the glans and penile shaft requiring a minor reconstruction.

Table 1. Anxiety and depression scores according to the type of anesthesia

	Local Anesthesia	General Anesthesia	P
Anxiety Score	6.72 +/- 3.87	6.05 +/- 3.72	0.26
Depression Score	5.08 +/- 3.45	5.89 +/- 3.49	0.13

Table 2. Anxiety and depression scores according to child age

	Age Group	Anxiety	Depression
Child Age	0-1	6.79± 4.02	5.24± 3.54
	1-3	5.60± 3.37	5.21± 3.11
	3-6	7.17± 4.04	7.21± 3.63
	>6	5.62± 2.96	4.18± 3.14
	P	0.22	0.77

Table 3. Anxiety and depression scores according to maternal occupation

		Anxiety	Depression
Maternal Profession	Working	6.14± 3.50	3.52± 2.61
	Housewife	6.53± 3.89	5.84± 3.52
	P	0.59	<0.001

Table 4. Anxiety and depression scores according to maternal education

		Anxiety	Depression
Maternal Education	Primary School	6.89±3.80	6.36±3.63
	College or High School	6.16±3.81	4.72±3.22
	P	0.21	0.002

Table 5. Anxiety and depression scores according to experience

		Anxiety	Depression
Maternal Experience	Experienced	6.75± 3.95	5.69± 3.72
	Inexperienced	6.33± 3.76	5.27± 3.38
	P	0.50	0.46

DISCUSSION

In the preoperative period, the anxiety of the parents is significant(7). Any surgical procedure, either minor or major creates a concern in the families. For the purpose of eliminating this concern, detailed information should be provided to the families. Although, enlightening the families reduces anxiety, it does not fully eliminate it. Families may think that local anesthesia is less hazardous than general anesthesia. Moreover, accompanying the child, helping to distract him during the procedure may lead to helping them to reduce their anxiety. In our study, no difference was observed between GA and LA in terms of parents' anxiety and depression scores ($p=0.26$ and $p=0.13$, respectively).

The best way to control parental anxiety is to inform them in detail(10, 11). There are also studies showing that mothers have more anxiety before elective surgery than fathers(7). In our study, all forms were filled by the mother of the child in order to avoid any difference in the evaluation. Thus, in this study, mother or father difference does not create a bias. Interestingly, mean anxiety and depression scores were significantly

low possibly in consequence of pre and post-operative information and support provided.

Family anxiety has been reported to be higher in young children and children who have surgery for the first time(12, 13). Maternal anxiety is higher in surgeries that are more invasive than circumcision(14). Perdana et al reported a negative correlation between maternal level of education and anxiety before her child undergoes surgery. However, the younger the age of child, the higher the anxiety(15). However, in our study, no statistically significant difference was found between pediatric patients divided into 4 different age groups in terms of their mother's anxiety and depression scores ($p = 0.227$, $p = 0.777$, respectively). In our study, we found that maternal education levels did not affect anxiety but depression scores were higher in lower education degrees ($p = 0.21$, 0.002 respectively). Also, in our study, no significant relationship was found between maternal age and anxiety/depression scores ($p = 0.875$, 0.696). Anxiety scores were similar between housewives and working women ($p = 0.592$), but depression scores were statistically significant higher in

housewives ($p < 0.001$). Of course, other sociological factors are also present in the depression score, and the evaluation of these factors will give clearer results.

It was observed that the level of anxiety was higher in the mothers of children who will receive anesthesia for the first time (7, 12, 16). In our study, there was no statistically significant difference in terms of anxiety and depression scores, between the inexperienced mothers who had their first experience of child circumcision and experienced mothers who had had another of their children circumcised previously. ($p=0.508, 0.460$, respectively). Based on these results; It can be said that mothers' experiences do not affect anxiety and depression scores.

The most important reason that most of the factors we evaluate are similar in the two anesthesia groups is that their anxiety and depression scores are generally low. One reason for these mothers' scores to be low is they consider circumcision as a simple surgery, and another is they know that all boys in the community are circumcised and there are no major problems afterwards. However, the biggest factor is that the patient and family are together and the family is informed in detail about both the types of anesthesia and the circumcision technique.

The families of the children were able to choose the type of anesthesia for circumcision independently. They chose local anesthesia because they were afraid of general anesthesia and thought it was safer to accompany the child during surgery (62%). No major complications developed after the surgeries.

CONCLUSION

Circumcision is one of the daily surgeries that does not cause serious anxiety in families and it is performed under local anesthesia, usually with the choice of families'.

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No acknowledgments to declare.

Conflict of Interest

All authors declared that there is no conflict of interest.

Financial Disclosure

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Ethical Approval

The study was approved by the Ethics Committee of Nevşehir Hacı Bektaş Veli University (Approval number: 55831188-929-E380) (Date: 2019, Oct 18). The study protocol conformed to the ethical guidelines of the Helsinki Declaration.

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