

Tonsillektomide Üç Yöntemin Karşılaştırılması

Comparison of Three Methods of Tonsillectomy

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Bu çalışmanın amacı hastalar için termal welding tonsillektomi (TWT), klasik diseksiyon tonsillektomi (KDT), radyofrekans ile diseksiyon tonsillektominin (RFT) karşılaştırılmasıdır. Bu çalışmaya kronik tonsillit veya üst solunum yolu obstrüksiyonu nedeniyle tonsillektomi yapılan çocuk ve erişkin yüz otuz beş hasta alındı. Hastalar tonsillektomi tekniğine göre termal welding tonsillektomi (TWT), klasik diseksiyon tonsillektomi (KDT) ve radyofrekans ile diseksiyon tonsillektomi (RFT) gruplarına ayrıldı. Grupların yaşı, cinsiyeti, operasyon zamanı, erken postoperatif ağrı, normal diete başlama zamanı, intraoperatif kan kaybı miktarı, postoperatif kanama, onuncu gün tonsiller fossadaki iyileşmeleri değerlendirildi. TWT ve RFT grupları arasında ortalama operasyon zamanı açısından istatistiki olarak anlamlı bir fark yoktu ($p>0,001$). Bu iki grup KDT grubuyla karşılaştırıldığında istatistiki olarak anlamlı bir fark vardı ($p<0,001$). Postoperatif 7.gün ortalama ağrı skoru TWT grubunda $4,7\pm 1,3$ (median 5, range 4-6), KDT grubunda $8\pm 1,02$ (median 7, range 6-9), RFT grubunda ise $5,2\pm 1,3$ (median 6, range 5-8) idi. Ortalama ağrı skorunda TWT ve RFT grubu arasında istatistiki olarak anlamlı bir fark yoktu ($p>0,001$). Bu iki grup KDT grubuyla karşılaştırıldığında istatistiki olarak anlamlı bir fark vardı ($p<0,001$). KDT grubunda 2 hastada, RFT ve TWT gruplarında ise 1 hastada postoperatif kanama olmuştur. Tonsillektomi sonrası kanama insidansı yönünden üç grup arasında istatistik olarak anlamlı bir fark yoktu. Operasyonda ortalama kanama miktarı TWT grubunda 8, RFT grubunda 13, KDT grubunda ise 22 mililitre idi. İntraoperatif kan kaybı TWT ve RFT grubunda anlamlı olarak daha azdı ($p<0,001$). Normal diete başlama zamanı TWT grubunda ortalama 3. gün, RFT grubunda 6. gün, KDT grubunda ise 8.gün idi. Radyofrekans ve termal welding yöntemleri klasik diseksiyon yöntemine göre avantajlıdır. Fakat termal welding bu üç yöntem arasında en güvenilir, intraoperatif kanaması en az postoperatif morbiditesi en iyi olan yöntemdir.

Anahtar kelimeler: tonsillektomi-kronik tonsillit-kanama-soğuk diseksiyon

Abstract

The aim of this study is to compare thermal welding tonsillectomy (TWT), classic dissection tonsillectomy (CDT), and radiofrequency dissection tonsillectomy (RFT). This study included one hundred and thirty five adult and childhood patients undergoing tonsillectomy because of chronic tonsillitis or upper airway obstruction. By the tonsillectomy technique, the patients were divided into thermal welding tonsillectomy (TWT), classic dissection tonsillectomy (CDT), and radiofrequency dissection tonsillectomy (RFT) groups. These groups were assessed in terms of age, gender, duration of surgery, early postoperative pain, time to start normal diet, amount of intraoperative blood loss, postoperative bleeding, tonsillar fossa wound healing on the tenth postoperative day. There was no statistically significant difference between TWT and RFT groups in terms of average duration of surgery ($p>0,001$). When these two groups were compared with CDT group, a statistically significant difference was found ($p<0,001$). The average pain score on the postoperative day 7 was $4,7\pm 1,3$ (median 5, range 4-6) in TWT group, $8\pm 1,02$ (median 7, range 6-9) in CDT group, and $5,2\pm 1,3$ (median 6, range 5-8) in RFT group. There was no statistically significant difference between TWT and RFT groups in terms of average pain score ($p>0,001$). When these two groups were compared with CDT group, a statistically significant difference was found ($p<0,001$). Two patients in CDT group and one patient each in RFT and TWT groups developed postoperative bleeding. There was no statistically significant difference between three groups in terms of the incidence of bleeding following tonsillectomy. The average amount of bleeding during operation was 8 mL in TWT group, 13 mL in RFT group, and 22 mL in CDT group. Intraoperative blood loss was significantly less in both TWT and RFT groups ($p<0,001$). The elapsed time to return normal diet was an average of 3 days in TWT group, 6 days in RFT group and 8 days in CDT group. The radiofrequency and thermal welding techniques are superior to classic dissection technique. Among these three techniques, however, thermal welding is the most reliable method with the least amount of intraoperative hemorrhage and the best postoperative morbidity.

Key words: tonsillectomy, thermal welding, chronic tonsillit, radiofrequency

INTRODUCTION

Tonsillectomy is the most commonly performed type of surgery in the ear-nose-throat discipline. The troubles seen after tonsillectomy, e.g. pain, nutritional problem, made the researchers look for novel techniques. In the recent ten to fifteen years, many new techniques

have been proposed. As a result of this situation, the matter of which technique does have more advantages has come into question. The aim of this study is to compare thermal welding tonsillectomy (TWT), classic dissection tonsillectomy (CDT), and radiofrequency dissection tonsillectomy (RFT).

MATERIALS AND METHOD

This study included one hundred and thirty five adult and childhood patients undergoing tonsillectomy because of chronic tonsillitis or upper airway obstruction. By the tonsillectomy technique, the patients were divided into thermal welding tonsillectomy (TWT), classic dissection tonsillectomy (CDT), and radiofrequency dissection tonsillectomy (RFT) groups. These groups were assessed in terms of age, gender, duration of surgery, early postoperative pain, time to begin normal diet, amount of intraoperative blood loss (the blood lost during the operation was collected in the aspirator jar having a graduated scale), postoperative bleeding, tonsillar fossa wound healing on the tenth postoperative day. The patients were controlled on the postoperative 10th day. The groups were compared statistically to see if there was a significant difference.

RESULTS

The TWT group consisted of 27 men (mean age was $15 \pm 0,8148$) and 18 women (mean age was $19 \pm 0,3888$), totally 45 patients. In the CDT group, there were 46 patients (16 men [mean age was $4 \pm 0,45$] and 30 women [mean age was $6 \pm 0,166$]). The RFT group consisted of totally 44 patients, 14 male patients (mean age was $14 \pm 0,88$) and 30 female patients (mean age was 0,256). The average duration of surgery was $9 \pm 1,082$ minutes in TWT group, $22 \pm 2,143$ minutes in CDT group, and $17 \pm 2,003$ minutes in RFT group. There was no statistically significant difference between TWT and RFT groups in terms of average duration of surgery ($p > 0,001$). When these two groups were compared with CDT group, a statistically significant difference was found ($p < 0,001$). The average pain score on the postoperative day 7 was $4,7 \pm 1,3$ (median 5, range 4-6) in TWT group, $8 \pm 1,02$ (median 7, range 6-9) in CDT group, and $5,2 \pm 1,3$ (median 6, range 5-8) in RFT group. There was no statistically significant difference between TWT and RFT groups in terms of average pain score ($p > 0,001$). When these two groups were compared with CDT group, a statistically significant difference was found ($p < 0,001$). Two patients in CDT group and one patient each in RFT and TWT groups developed postoperative bleeding. There was no statistically significant difference between three groups in terms of the incidence of bleeding after tonsillectomy. The average amount of bleeding during operation was 8 mL in TWT group, 13 mL in RFT group, and 22 mL in CDT group. Intraoperative blood loss was significantly less in both TWT and RFT groups ($p < 0,001$). The elapsed time to return normal diet was an average of 3 days in TWT group, 6 days in RFT group and 8 days in CDT group. The TWT group patients began normal diet significantly earlier than the patients in other two groups. Tonsillar fossa wound healing was better in TWT group in comparison with other groups.

DISCUSSION

Tonsillectomy is the most commonly performed type of surgery in the ear-nose-throat discipline. The troubles seen after tonsillectomy, e.g. pain, nutritional problem, made the researchers look for novel techniques. In the recent ten to fifteen years, many new techniques have been proposed. As a result of this situation, the matter of which technique does have more advantages has come into question. Thermal welding is one of these novel techniques. The studies comparing this method with other techniques have been conducted, and it was found that the duration of surgery was shorter, postoperative pain was milder, hemostasis was better and time to return to normal diet was earlier (1-5). In the present study, it was observed that TWT group was better than RFT and CDT groups in terms of the duration of operation, intraoperative blood loss, postoperative pain and postoperative hemorrhage. The

radiofrequency tonsillectomy causes less pain than the standard electrocautery tonsillectomy does (6). The number of novel techniques of tonsillectomy has been increased; many studies have been conducted in this issue and different results have been achieved. Bipolar diathermy is a reliable method. It shortens the time of surgery, reduces the amount of intraoperative bleeding, and it has a morbidity similar to the cold dissection (7,8). The bipolar cauterization tonsillectomy has higher risk of bacteremia (9). It is claimed that it increases postoperative morbidity (10). In this study, bipolar method was not used. During 21-day follow up, no difference was found between plasma knife tonsillectomy and cautery tonsillectomy in terms of postoperative pain (11).

Among pediatric patients, severities of pain caused by monopolar electrocautery and coblation subcapsular tonsillectomy are similar (12). Plasma knife tonsillectomy causes less intraoperative bleeding and quickens tonsillectomy (13). Micro-bipolar tonsillectomy is superior to conventional tonsillectomy (14). Peritonsillar fossa wound healing is better in monopolar tonsillectomy (15). Pain lasts less than 3 days in micro dissection tonsillectomy (16). Harmonic scalpel and electrocautery tonsillectomy have equal effects (17), however, harmonic scalpel causes less intraoperative hemorrhage (18). In adults, coblation tonsillectomy possesses significant advantages in terms of postoperative pain and wound healing in comparison with other methods of tonsillectomy (19,25). Microdebrider tonsillectomy takes less time than both electrocautery and coblation tonsillectomy do (20). Microdebrider intracapsular tonsillectomy for obstructive tonsillar hypertrophy is less painful than electrosurgery tonsillectomy (21). Bi-clamp forceps electro tonsillectomy reduces intraoperative blood loss and postoperative pain (22). Both ligasure tonsillectomy and harmonic scalpel tonsillectomy cause less intraoperative blood loss and pain than cold dissection tonsillectomy does (23). The amount of postoperative bleeding is much more in monopolar electrocautery tonsillectomy (24). The argon plasma coagulation technique is better than cold dissection, it shortens the duration of surgery without increasing postoperative morbidity and reduces hemorrhage (26). Coblation tonsillectomy has a shorter recovery period than monopolar electrocautery (27). It is argued that some tonsillectomy techniques increase postoperative morbidity. Diathermy and coblation tonsillectomy techniques increases bleeding after tonsillectomy (28). In another study, it was claimed that hot dissection tonsillectomy increased morbidity in pediatric patients (29). We did not observe any increase in the incidence of hemorrhage or in morbidity after tonsillectomy in our patients. There are different techniques used for tonsillectomy and several articles about them. Burton MJ, Doree c researched these articles. In most studies, when considering most outcomes, there was no significant difference between coblation and other tonsillectomy techniques (30).

Both radiofrequency and thermal welding techniques are more advantageous than classic dissection method. Becomes less blood loss during and after the operation, is less pain after the operation. After the operation the patient's quality of life would be much better.

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