

How Safe Is Airline Travel 48 Hours After Open Septo-Rhinoplasty Surgery?

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ABSTRACT

Objective: The aim of this study was to find out if patients can travel safely on a plane 48 hours after open septo-rhinoplasty (SRP) surgery. Also, to compare analgesic need, mobilization time, readmission rate, side effects, time out of work and routine life between travelling and non-travelling patients.

Materials and Methods: This study was conducted at Istanbul Florence Nightingale Hospitals in Istanbul/Turkey and Group Florence Hospitals in London/United Kingdom.

A total of 120 patients who had SRP were included in the study. Sixty patients who traveled from London to Istanbul by plane (approximately 3 hours 40 minutes, 2520 km) for SRP surgery and returned home 48 hours after surgery were compared with 60 local patients. All patients were observed at 8, 12, 24, 36, and 48 hour intervals after surgery. Additionally, all patients who travelled from London to Istanbul were reviewed after 6 days, 14 days, 1 month, 3 months, 6 months and 1 year.

The analgesia need, mobilization time, readmission rate, early and late complications patterns and incidence, time out of work and daily routine was compared between the two groups.

Early onset side effects include pain, discomfort, bruising, ecchymosis, edema, oozing, bleeding, septal haematoma, and late onset complications like delayed septal haematoma, delayed bleeding, infection, excess edema, breathing problems were compared between travelling and non-travelling patients.

Results: The hospital stay was 24 hours for all patients. No further analgesia was needed in both groups during their hospital stay, Mobilization time was in 8 hours in both groups and none of the patients needed readmission in both groups.

Common early complications in travelling patients like pain, edema, bruising, ecchymosis, minor oozing, blocked nose, and pain after 48 hours were similar to the local patients and all travelling patients felt confident and strong enough to travel after 48 hours without additional medication or treatment during or after the surgery.

Conclusion: People with no underlying medical conditions, who want to travel abroad for surgery and cannot or do not want to stay longer than 48 hours due to their personal or business lives, can consider travelling back to their countries, following SRP surgery, which is as safe as having the surgery locally without travelling abroad.

Keywords: Rhinoplasty, safe travel, travel with planerhinoplasty, safe travel, travel with plane

INTRODUCTION

No doubt plastic surgery all around the world has increased rapidly in the last decade and septo-rhinoplasty (SRP) is one of the most popular plastic surgeries globally.

Many surgeons including Plastic surgeons, ENT surgeons, and Maxillofacial surgeons around the world are offering SRP to their patients. Social media has had a significant impact on

marketing of all kinds of plastic surgery (1) and as a result many patients are travelling abroad to have their surgeries in other countries (2, 3).

In this article we aimed to find out if airline travel is safe 48 hours after SRP surgery, and compare the early and late onset complications of SRP surgery between travelling and non-travelling patients.

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Open SRP surgery is mostly done under general anesthesia and primary surgeries usually take around 2-3 hours and revision surgeries around 4-5 hours. Twenty-four hour hospital stays are usually necessary after SRP surgery and a majority of the patients are discharged the next day with no complications. The first follow-up is usually in a week and the second follow-up in a month.

Complications from SRP surgery can be summarized as early and late onset complications. Early complications from SRP surgery include pain, discomfort, nausea, vomiting, bruising, periorbital edema and ecchymosis, bleeding, septal haematoma and breathing due to congestion and usually develops within 24 hours. Minor bleeding usually caused by mucosal bleeding stops within 24 hours. Minor pain and discomfort usually extend up to 48 hours, the bruising, ecchymosis around the eyes heals in 7-10 days, and the edema takes a couple of weeks to settle.

Late complications including numbness, scarring, skin problems, breathing problems, septal perforations (especially after revision surgeries) usually develop after 7-14 days to a year including late bleeding due to infections or turbinate necrosis especially if a turbinate surgery or radio frequency was performed (4).

The aim of this study is to investigate whether patients can safely travel by plane 48 hours after open technique SRP surgery, and to compare patients with and without travel in terms of various variables such as analgesic need, mobilization time, and readmission rate, recovery time to go back to work, and early and late onset complication patterns.

METHODS

A total of 120 patients who underwent open SRP performed by the same surgeon (DK) were analyzed retrospectively; 60 patients who travelled from London to Istanbul were compared with 60 local patients in the same hospital (Florence Nightingale Hospital) between January of 2019 and December 2020.

Consent forms were obtained from all patients. None of the patients were on any regular medications or had any chronic disease before the surgery. Unsatisfactory results and revision surgery were not included in the study.

All patients flights from London to Istanbul were approximately 3 hours and 40 minutes (approx. 2520 km.) and they all underwent SRP surgery under general anesthesia within 24 hours.

Both groups, were asked to stop taking aspirin, ibuprofen and similar painkillers, green tea, herbal teas, and omega 3-6 tablets seven days before their surgery. Eight hours of fasting were required before the day of surgery.

All patients were reviewed 8 hours after surgery, then 12 hours and finally 48 hours. The mobilization times were noted, pain level was assessed individually using visual analog scale (VAS 0-10; 0: no pain, 10: unbearable pain), questioned/observed

for edema, ecchymosis, bleeding, nausea, and vomiting. Edema and ecchymosis were evaluated separately using visual analog scales (0-10). On the rating scale, the smallest number indicated no edema or ecchymosis and the largest number indicated edema severe enough to close the eyelid or severe ecchymosis spreading to the lateral canthus.

When leaving the hospital the next day all patients were prescribed one gr Amoxicillin + Clavulanic acid tablet twice a day for 7 days, paracetamol 500 mg 4 times a day, 10 mg cetirizine twice a day for 5 days and chloramphenicol cream twice a day for 7 days to apply on sutures.

Surgical technique

All procedures were performed under general anesthesia. Local anesthetic administration was used; 1ml 1:100.000 Adrenaline with 2ml %1 lidocaine mixed with 5ml isotonic solution and total amount 2ml of mixture was injected to the columellar skin, to anterior and posterior septum mucosa, piriform aperture and to the tip area and waited for 10 minutes before the incision.

One thousand mg of Tranexamic acid with 500ml isotonic solution infusion (adjusted for 10mls per min) was started before the surgery. Also, 1gr Cefazoline iv as a single dose was given for prophylaxis to all patients in both groups.

Our standard SRP surgical steps were followed in all travelling and local patients, and it started with a columellar incision, followed by smas elevation and exposition of cartilaginous and bony dorsum.

Then, the dorsal bony hump was reduced with a Rubin osteotome and rasps. Next, the upper lateral cartilages were separated from the septum and septoplasty was performed using a Cottle elevator. The L strut was protected and a necessary amount of graft harvested posteriorly with a 15 blade. The bilateral lateral and para median osteotomies were done internally using lateral osteotomes.

After the osteotomies dry ice, wrapped in a sterile glove, was applied on the sides and on the radix for 10 minutes and 40 mg Prednisolone with 4 mg Dexamethasone was given.

Dorsal height was then determined, and 2 spreader grafts placed with 5/0 PDS sutures.

The cephalic alar resection was done to leave around 8mm cartilage support and then with trans domal and inter domal sutures, the tip was given its final shape. Only five cases used a strut graft, and in 55 cases the tongue-in-groove technique was used for tip support.

4-0 rapid vicryl was then used for suturing the septum mucosa by passing the needle from one side to another.

Silicone nasal splints were then inserted in two sides and fixed to the septum with a single 3-0 prolene suture.

The skin incision was closed with 6-0 PDS sutures. Sterile strips

were used to fix the skin and then a thermal splint was used as a cast.

For all patients as a post-operative care, 1gr paracetamol iv 4*1, single dose of 40 mg Prednisolone with 4 mg Dexamethasone was given at midnight.

The sleeping position was straight on their backs with a 45 degree upright position and every 2 hours, 10 minutes of dry ice compression was given by the nurses. Normal nasal saline spray was given 6 times a day, 2 sprays to each side to keep silicone splints moisturized and to keep them open for better breathing.

The silicone splints, thermal cast, and sutures were removed after 6 days. Nasal endoscopy was done, and clinical observations were noted.

Statistical analyses were performed with SPSS v.21 (IBM Corp, Armonk, NY). Variables were reported as mean ± SD, and a distribution of discrete variables was reported as a percentage for each group. Additionally, variables were compared utilizing the Mann–Whitney–U test.

RESULTS

Ninety-two (%77) were female and 28 (%23) was male. All female patients were between 20 and 39 years old, the mean age was 27 and all male patients were between 25 and 39, with a mean age of 31 years old.

Both groups stayed in the hospital for 24 hours and were discharged the next day following their surgeries. All patients had similar pain, discomfort, edema, bruising and ecchymosis (Table 1). Nausea was a common symptom in first 12 hours but none of the patients vomited. There was no septal haematoma or bleeding observed in any patients. All patients were able to mobilize after 6 hours and able to eat and drink with no problems.

No further analgesia was needed in both groups during their hospital stay, 1gr Paracetamol 4x1 and single dose of 40 mg Prednisolone with 4 mg Dexamethasone in 24 hours were enough to make patients comfortable. The mobilization time was 8 hours in both groups and all patients were able to walk around, go to the toilet, eat and drink. None of the patients needed readmission.

Common early complications within 48-72 hours in travelling patients like edema, bruising, ecchymosis, minor oozing, blocked nose, and pain were similar to the local patients and all travelling patients felt confident and strong enough to leave the hospital the next day and travel after 48 hours. Readmission was not needed in either group.

None of the patients had any bleeding after the silicone splint, cast and suture removal. Bruising was nearly gone and there was no pain. One female patient had minor oozing after silicone removal but when ice was applied oozing stopped in 7-10 minutes.

None of the patients had any further complications during their second month, 3rd month, 6th month and 1st year reviews including bad scarring in the columellar area. The time to get back to work was 7-10 days in both groups. All patients were told to avoid hot baths and housework for 2 weeks and exercise for 8 weeks.

Delayed complications like infections, bleeding, were not seen in either patient group.

DISCUSSION

Septo-rhinoplasty surgery is for sure one of the most popular aesthetic surgeries and everyday many patients travel abroad to have SRP surgery leaving their families behind and taking time off from their jobs. As a result, they do not prefer spending so much time away from their families and jobs.

Many surgeons are trying to master the surgery to provide better results and to prevent complications. None of the surgeries are risk free and patients need to be given good explanation of the complete process including complications. All patients need to read and understand all possible risks and complications related with SRP surgery and general anesthesia.

In some hospitals in the UK, SRP surgery is accepted as a day case surgery in which patients are resting after the surgery and discharged the same day (5).

Generally, after SRP surgery the hospital stay is 24 hours and patients are discharged with minimal pain, edema, bruising, minor oozing, or nasal congestion which are normally expected after SRP surgery. Most patients travel by car to their home after 24 hours.

Table 1: Variable measurement

	Travelled patients (Mean scores of n: 60)	Local patients (Mean scores of n:60)	P value
Pain (VAS)	2±1	3±1	0.05<
Mobilization time (mean hour)	6	6	N/A
Ecchymosis (VAS)	2±1	3±1	0.05<
Edema (VAS)	4±2	3±2	0.05<
Nausea (VAS)	3±1	2±1	0.05<
Vomiting (VAS)	1±1	1±1	0.05<

Patients who are willing to travel abroad are worried about recovery time, how long they will need to stay, how long off time they need to arrange from work, how long will they stay apart from their families. In the literature there is no research about the safety of travelling after SRP surgery and it would save so much time and money to find out how safe it is to fly after 48 hours following surgery.

Septo-rhinoplasty surgery is not like middle ear surgeries which are related with air pressure and can be affected by air pressure changes. Recent studies have shown that even after tympanoplasty surgery travelling by plane one day after surgery is safe and does not have any effect on graft healing (6).

There was no extra suture or extra dressing needed during or after the surgery in the travelling patients' group. There was no additional medication or different dosage of medications added in both groups for our research.

DVT (Deep venous thrombosis) prophylaxis is not recommended for patients who are travelling under 6 hours (7). Therefore, we did not consider any anticoagulant therapy.

The results showed that there was no clinical difference in between the two groups regarding pain, discomfort, or readmission rates. Also, early complications like edema, bleeding, and all other early and late onset complications were not more frequent, or more severe and travelling did not change the time to go back to work or normal life after the surgery in travelling patients.

All precautions, surgical steps, and medications during the hospital stay and post-operative care and medications after discharge were similar in both patient groups.

CONCLUSION

As a result, patients with no underlying medical conditions, who consider travelling abroad for surgeries and cannot stay

or do not prefer staying longer due to personal or business life, travelling after 48 hours following a SRP surgery should be considered relatively as safe as having the surgery without travelling abroad.

Informed Consent: Written informed consent was obtained.

Peer Review: Externally peer-reviewed.

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