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Editorial

Mark Skues, Editor-in-Chief

More astute readers will notice the lack of publication of *Ambulatory Surgery* in June of this year. This was due to the lack of manuscripts being submitted for consideration, thereby resulting in the absence of the Journal at this time. However, for September, we return with a "full house" of papers for your edification and perusal. These range from an evaluation of septorhinoplasty as an ambulatory procedure by Omani authors, to a review describing the complications that may arise from perceived 'minor' sugery. Also described is the management of trichilemmal cysts and the management of salivary gland surgery as a daycase operation.

Al-Alawi and colleagues describe their management of 52 patients undergoing septorhinoplasty in a plastic and reconstructive surgery department. They report a successful migration to ambulatory surgery for this procedure, as well as providing a useful commentary on the benefits (or not) of nasal packing after the operation.

Kaiser and Gettler provide a review on the outcomes of minor surgery, and despite the nomenclature, emphasise the relative risks involved and how to mitigate them. Prominent among these is the ongoing development of a safety culture embracing consent, checklist compliance, and awareness of the potential for significant complications despite the perception of the minor nature of the procedure at hand.

A Brazilian study describes the management of the removal of 12 nodular lesions of the scalp over a period of five weeks. Having originally been referred to a tertiary hospital that was a significant distance away from home, this paper describes the subsequent management in a hospital outpatient unit.

Finally, a study from Portugal evaluates the feasibility of salivary gland surgery for ambulatory care. The authors analysed 18 patients, most of whom underwent parotid operations. Post-operative follow up was for a period between six and twelve months. Complications consisted or seroma/sialocele in 3 patients, haematoma in 2, one of which required reoperation, the authors contend that such surgery is safe and feasible, provided careful patient selection is made, and appropriate post-operative follow up carried out.

In conclusion; I hope you find it useful perusing the enclosed papers.. time will tell whether we are able to publish in three months time. So, please consider contributing your work.

Dr Mark Skues
Editor-in-Chief

Streamlining Septorhinoplasty: The Benefits of Daycare Surgery in Septorhinoplasty, a Single Surgeon Experience

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Abstract

Background: Day surgery is increasingly utilized for elective procedures, but the feasibility of septorhinoplasty in a daycare setting remains underexplored. This study evaluates outcomes of septorhinoplasty performed in inpatient and daycare settings in a Tertiary care center in Oman.

Methods: A retrospective analysis was conducted on 52 patients undergoing septorhinoplasty at Khoula Hospital, Oman, in 2023. Data on demographics, surgical details, and outcomes including operative duration, readmission rates, and complications—were reviewed.

Results: The cohort (mean age 27 years) consisted of 63.5% males and 36.5% females, with 80.8% presenting traumatic deformities. Surgical techniques included 40 open and 12 closed approaches, with a mean operative time of 110 minutes. No daycare patients required admission or readmission. Complication rates and residual deformities were low and similar between groups.

Conclusion: Septorhinoplasty can be safely and effectively performed as a daycare procedure, offering comparable outcomes to inpatient care with reduced hospital resource utilization. Further studies are recommended to confirm these findings.

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Introduction

Day surgery is an elective surgical procedure in which the patient is admitted, treated, and discharged on the same day (1,2). Day surgery is also known as outpatient surgery, one-day surgery, ambulatory surgery, and even daycare surgery. The history of day surgery goes back to Robert Campbell, who used a day surgery unit for inguinal hernia cases in Belfast Hospital for Sick Children in 1897 (1). Later, in 1909 James Nicoll published his successful 9,000 pediatric procedures, which were conducted as day surgeries(2,3). The idea of day surgery was inspired by his own philosophy of early patient ambulation, early discharge, and wound management at home which can be conducted by the mother or by the visiting nurse. In the following decades, several surgeons and physicians reported success with day surgery, such as Ralph Waters, an American anesthetist who provided a downtown anesthesia clinic for dental and other minor procedures (4). Over the past few decades, day surgery units have become well establish and well-integrated part of health system around the world. The proportion of elective procedures conducted as day surgery is on the rise. For instance, according to a national survey conducted in the United States, the utilization of knee arthroscopy as a day surgery procedure surged from 15% in 1996 to 51% in 2006 (5).

The safety of day surgery has been extensively investigated in numerous studies (6–12). These investigations typically assess various outcomes, including procedural success and the occurrence of complications such as readmission, pain, and hematoma/seroma formation. A multicenter cohort study conducted in Denmark, encompassing over 57,000 outpatient procedures, concluded that day surgery is generally safe when accompanied by stringent patient selection criteria (12). Notably, the study reported a 0% mortality rate directly attributable to the procedures. Additionally, the readmission rate was found to be 1.21% (CI 1.12-1.30%), with the majority of readmissions attributed to factors such as infection, hematoma formation, and deep vein thrombosis (DVT) (12).

To ensure procedural safety and mitigate complications, healthcare systems worldwide have developed diverse selection criteria (2,13–17). Initially, these criteria primarily relied on patient characteristics such as ASA grade, BMI, and age group (2). However, subsequent research revealed that these factors no longer pose limitations on outpatient procedures, as even elderly or morbidly obese patients can benefit from day surgery. Consequently, newer criteria have emerged. For instance, the British Association of Day Surgery (BADS) recommends evaluating patients based on three primary aspects: surgical considerations, medical stability, and social support(15). BADS has delineated a list of procedures deemed suitable for day surgery. Typically, these surgeries are brief, entail low risk of significant postoperative complications, do not necessitate specialized post-procedural care, and permit pain management through oral analgesia. Regarding medical suitability, patients with chronic illnesses should exhibit stability, and day surgery should be avoided for those whose conditions are unstable or anticipated to precipitate major operative or postoperative events. Regarding social support, patients with adequate home support tailored to the procedure and residing in close proximity to a medical facility are deemed excellent candidates for outpatient surgery (14,15).

Furthermore, plastic surgeons have begun to align with contemporary trends by increasingly conducting numerous procedures as outpatient day surgeries. Initially, outpatient plastic surgeries were primarily utilized for minor to intermediate procedures, such as those addressing skin and hand pathology (18,19). However, there has been a notable transition towards more intensive procedures, including abdominoplasty and breast reduction, being conducted as day surgeries. A study evaluating the trend in plastic procedures among Medicare beneficiaries in the US revealed a significant shift from inpatient to outpatient and office surgeries. For instance, in 2011, 52% of abdominoplasties were performed in inpatient facilities, compared to less than 20% in 2018 (20).

In contrast, rhinoplasty is commonly perceived as a procedure associated with significant trauma and carries an elevated risk of

postoperative bleeding or hematoma formation(21). Consequently, many surgeons opt to classify it as an inpatient procedure, in part to facilitate close monitoring during the initial postoperative period. While several studies have examined septoplasty as a day surgery procedure, there is a paucity of research on rhinoplasty in this context, with the majority of available studies being outdated (21–27). Consequently, this study was undertaken to address this gap in the literature and provide updated insights into the feasibility and outcomes of rhinoplasty as a day surgery procedure.

Methods

A case series study was conducted to review the experience of conducting septorhinopasty by the senior author in inpatient vs daycare at Khoula Hospital, the Sultanate of Oman, during 2023. A list of all patients that underwent septorhinoplsty by the senior author during 2023 was obtained from the department of plastic surgery, reconstructive surgery, and craniofacial surgery.

The list includes a total of 52 patients. The electronic medical records of these patients were thoroughly reviewed to extract study parameters. Demographic data that were collected included age and gender. Specification of the corrective rhinoplasty collected included primary vs secondary, open vs closed, dorsal hump correctio, cephalic trim, septoplasty, turbinate work, cartilage work, osteotomy, placement of internal splint. Other information gathered included the type of operation (inpatient vs daycare surgery), duration of the operation, hospital stay, and readmission rate.

To control for bias, data was collected independently by two different, trained researchers. All data was coded and kept in one Excel sheet in one password-protected computer.

Ethics approval

This study was approved by the Khoula Hospital Ethical Board. This study was conducted in accordance with the Declaration of Helsinki.

Results

During the study period, a total of 52 patients underwent septorhinoplasty by the senior author: 28 cases were performed as daycare procedures, while the remaining 24 were conducted as inpatient surgeries. Regarding patient demographics, males constituted 63.5% of the study population, with females accounting for 36.5%. The average age was 27 years.

In terms of the indication for septorhinoplasty, 42 (80.8%) patients underwent surgery to correct traumatic deformities, while 10 (19.2%) patients underwent surgery to correct cleft lip nasal deformities. Among the cases, 22 were primary septorhinoplasties, and 30 were secondary procedures.

Of the 52 patients, 47 patients had septoplasty. Regarding the surgical approach, 12 cases were closed, and 40 were open. The surgical techniques employed included dorsal hump correction in 46.2%% of cases, cephalic trim in 32.7%, cartilage work in 69.2%, and nostril and alar work in 21.2%. Cartilage was harvested from the ear in 7.7%% of cases and from the nose in 61.5%. Regarding osteotomy, 28.9% of patients underwent lateral osteotomy, 1.9% underwent medial osteotomy, and 23.1% underwent both bilateral and medial osteotomy. Internal splints were used in 64.3% of daycare cases and in 75% of inpatient cases. Internal packing was used in 4 patients (3 inpatients and 1 daycare patient). Table 1.

The average operative time was 110 minutes, with the shortest procedure taking 45 minutes and the longest taking 240 minutes.

None of the patients operated on as daycare cases required admission or experienced post-discharge readmission. For inpatients, the average length of stay was 3 days.

Regarding postoperative outcomes, three inpatients experienced nasal oozing, which resolved spontaneously within 48 hours. During follow-up, 59.1% of inpatients and 42.9% of daycare patients reported significant improvement in breathing. Additionally, 36.4% of inpatients and 57.1% of daycare patients reported some improvement in breathing.

In terms of residual deformities, 14.3% of daycare patients and 16.7% of inpatients exhibited residual deformities as assessed by subjective clinical examination. The average follow-up duration was two months, ranging from a minimum of three weeks to a maximum of 12 months.

Discussion

The evolution of daycare surgery has witnessed tremendous changes in the past few decades. Plastic surgeons have followed this trend by increasingly performing a majority of aesthetic procedures as outpatient surgeries. This study examined 52 patients who underwent septorhinoplasty in both inpatient and outpatient settings.

One objective measure to assess the efficiency of conducting septorhinoplasty in a daycare setting is the readmission rate. In a large study conducted in the US, which included 175,842 septorhinoplasty patients treated in a day surgery setting, 6.5% revisited the hospital within 30 days post-operation. Among the reasons for hospital revisits, the most common were nasal bleeding (18.8%), dressing removal (4.6%), and nasal infection/sinusitis (4.6%). Further analysis revealed that individuals aged 41 years and older, of Black race, comorbidities, and those who received a conchal cartilage graft were independently associated with a higher revisit rate. In our cohort, none of the patients required a revisit to the hospital. These findings highlight the importance of tailored postoperative care protocols and closer monitoring for patients with these risk factors. In addition, the findings of this study, along with previous research, provide evidence supporting the safety, patient satisfaction, and cost-effectiveness of performing septorhinoplasty as a daycare procedure.

The usage of nasal packing after septoplasty is a common practice with the aim to stop postoperative hemorrhage, formation of septal hematoma and adhesions.(28) However, it is usage has been controversial and was the focus of several studies.(28–30) A randomized controlled trial involving 88 patients compared the usage of nasal packing versus no packing in patients undergoing septoplasty. The study revealed that patients who had packing experienced significant postoperative pain, headaches, excessive tearing, difficulty swallowing, and sleep disturbances is compared to no packing group. In addition, there were no significant difference in terms of post operative bleeding and septal hematoma rate between the two groups. (28)

A retrospective review that included 130 patients found that Merocel packing alone is significantly associated with synechia formation compared to patients with a septal splint (19.7% vs. 0%). The study concluded that there was no significant difference in the rates of infection and removal of epistaxis between packing and splinting. (31) Moreover, a study that analyzed cardiac parameters showed that anterior nasal packing can lead to cardiac changes such as increase in diastolic blood pressure and heart rate as compared to no nasal packing.(32) In our cohort, nasal packing was used in 4 patients. In contrast, 2 (8%) patients who did not have nasal packing experienced minimal oozing that stopped spontaneously within 12 hours

postoperatively. Both patients were kept on a Mustache dressing, which has a less traumatic and painful removal compared to nasal packing. Therefore, it can be summarized that patients undergoing septorhinoplasty can be safely discharged without the use of internal nasal packing if no bleeding is anticipated.

Conclusion

This study demonstrates that septorhinoplasty can be safely and effectively performed in a daycare setting, achieving comparable outcomes to inpatient care with reduced hospital resource utilization. The low rates of complications, minimal readmissions, and high patient satisfaction underline the viability of this approach. These findings support the growing trend of incorporating daycare surgery for more complex procedures, offering a cost-effective and patient-centered model of care. Further studies with larger sample sizes are recommended to validate these results and refine patient selection criteria.

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Conflict of interest

The authors declare no competing interests.

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Minor Surgery, Major Problems: A Review

C.W Kaiser[a], H.A. Gettler[b]

Abstract

Purpose: To examine the outcomes of common minor surgery procedures and review the ambulatory surgery literature to identify preventive measures in their occurrence

Method: Closed claims from a malpractice insurance company related to minor surgical procedures were reviewed and the more common procedures were identified and their occurrence, outcome, and preventive steps were reviewed .This information and several illustrative case studies are described. .

Conclusions: Despite the perceived "minor" nature of some surgical procedures, significant problems may ensue. In most cases, such problems can be minimized, and often prevented, with improvement of safety culture and staff readiness to accept recommended changes, involving proper informed consent documentation, surgical checklist compliance, attention to surgical technique, and increased awareness of the potential for significant complications.

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Keywords: Minor surgery, complications, prevention.

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> **Minor surgery:** surgery involving little risk to the life of the patient, specifically performed upon the superficial structures of the body or a manipulative procedure that does not involve a serious risk (*Merriam-Webster Dictionary*).

Introduction

There is currently no generally accepted or agreed upon definition of what constitutes a minor surgical procedure, multiple sources classifying it by either a brief period of time, no need for hospitalization, being of an elective nature, under local anesthesia, or not normally constituting a hazard to life, organ function, or body parts, usually performed by a board certified surgeon in a secondary care hospital setting (1).

Despite this issue, the term minor surgery, has become well established in medical practice, surgical publications, and medical education, the adequacy of surgical residency training being evaluated based upon sufficient completion of major and minor surgical procedures (2).

While minor surgery has thus historically been viewed as a procedure that does not present a risk of significant injury to the patient during its performance, this perspective may not be entirely accurate, since interventions classically viewed as being "minor" in nature, have been associated with some very major problems.

Minor surgery can be performed in various patient care settings, each of which have different processes, resources, and requirements in the delivery of surgical care. All however, have the commonality of avoiding preventable significant complications.

For prevention of complications from minor surgery, appropriate patient selection and careful preparation for the planned minor surgical procedure are critically important in providing a safe and high level quality perioperative experience. This goal entails the performance of a complete preoperative patient evaluation that includes elements of the Surgical Safety Check List, discussed below. In the ambulatory surgery center setting, policies should be developed that address the criteria used to determine which patients may receive services there, such as use of the American Society of Anesthesia Physical Classification (ASA PC) System Score.

In that regard, the Joint Commission (JC) has established standards for ambulatory surgery centers designed to enable a clinical care facility to ascertain which medical staff members should receive new or maintenance of existing privileges and to ensure the presence of patient safety and team work.

Unfortunately, these standards are not universally adopted or implemented. In a review of 1365 ambulatory surgery centers using these criteria, the Accreditation Association of Ambulatory Health Care found a 30% failure rate for facility performance of the required periodic recredentialing and time limited granting of privileges, and a 12% failure to utilize peer review results as part of the process for granting continuation of clinical privileges (3).

Informed Consent

The traditional approach to obtaining consent for surgical procedures has evolved from a simple signature by the patient on a form. It is now generally accepted that patients should be

treated as members of the care team, and be adequately informed as to the extent and associated complications of the proposed procedure, in order to ensure their engagement and partnership in the process.

With respect to the obtaining of informed consent through intermediaries, it has been reported that physician delegation of the informed consent process to a health care provider intermediary is not the standard of care, setting the stage for additional malpractice litigation.

Namely, the Pennsylvania Supreme Court has declared that "a physician may not fulfill through an intermediary the duty to provide sufficient information to obtain a patient's informed consent" (4). This decision could result in a major adverse effect upon the physician who delegates the informed consent process for the performance of minor surgery procedures to other healthcare providers

Wrong Site Surgery

Wrong site surgery has been found by the JC to be one of the most frequently reported sentinel events (5). Other sources estimate that this occurs as often as 40 times per week (6). This problem often results In malpractice claims, generating awards to plaintiffs in up to 79% of wrong site ophthalmologic and 84% of orthopedic surgery procedures (7).

In 2004, the JC established the Universal Protocol (UP), designed to ensure that the correct surgical procedure would be performed on

the proper patient and the proper body part (8). This process entailed the following steps; preprocedure verification, surgical site marking, and a timeout immediately preoperatively.

Unfortunately, utilization of this procedure has not eradicated the problem of wrong site surgery, which continues to happen, as noted in a 2007 report of multiple wrong-side errors occurring despite time-out processes that were described as being performed without any apparent inadequacies (9). The authors concluded that a single time-out just before the incision did not provide the necessary redundant checks.

Accordingly, in 2008, the World Health Orgainization proposed a Surgical Safety Checklist (SSC) protocol, modelled after the very successful one used in the aviation industry, which was expected to markedly reduce the incidence of wrong site surgery. Its main elements included three time out checks (time points) to be conducted before induction of anesthesia, immediately prior to the skin incison, and at the sign out before the patient leaves the operating room (10).

During the first sign in timepoint, the nurse and anesthesia staff verify the patient's identity, operative site, operative procedure, presence of an appropriately executed informed consent form, and that the operative site has been marked, ideally with a surgical skin marking pen, or another type of agent resistant to preoperative skin preparation.

Parenthetically, this can be an important issue, since skin markings made by conventional marking pens may fade or disappear after ethanol or chlorhexidine scrubbing. It has been reported that the notations placed by nine different types of marking pens tested were erased by preoperative scrubbing and showering. The only effective agent was henna paste, which lasted up to three weeks, despite showering and skin cleansing (11).

At the second step, the time out immediately prior to skin incision, the entire OR team confirms that all members have been introduced to the patient by name and role. The OR team also confirms the patient's identity, surgical site and procedure, and that all preoperative films have been reviewed. During the third step, the sign out time point, the OR nurse reviews with the OR team the name of the procedure, completion of correct counts and specimen identification.

Unfortunately, utilization of this process has not been very effective in preventing wrong site minor surgery. In a survey of ENT surgeons, 21 cases of wrong side sinus surgery were reported, and the UP/SSC was followed in only 1/3. Only 49% of the responding members reported routinely using a preoperative checklist, and only 65% routinely reviewed the CT preoperatively (12).

A review by the Veterans Health Administration in 2009 reported 161 adverse wrong site minor events from 908,774 procedures over a 5½ year period (.01%). Wrong implant placement for ophthalmologic and invasive radiology procedures were most commonly involved (13).

In a two year review of pain management procedures from four academic and three military centers, and three private practices involving 48,941 procedures, there were 13 cases involving transforaminal injections; 11 wrong side and 2 wrong level (14).

The question then arises, what is being done wrong? One explanation is that successful prevention of wrong site surgery using the UP/SSC is predicated on proper behavior, which is necessary in order to prevent the three basic types of human error: a) skill based, b) rule based, and c) knowledge based (15).

A skill based error is one that occurs during the performance of a routine task, usually as a result of distraction, such as an unexpected change in patient condition or a busy OR schedule.

A rule based error is one committed when shortcuts are taken, not in compliance with proper checklist completion. This can be a very common problem, as noted in a review of 671 patients, one year after checklist implementation, showing only 85% compliance with completion of the checklist and an accuracy of 64%. The authors concluded that there is a major problem in checklist compliance such that even when it is implemented, it is not reflective of completeness and accuracy (16).

A knowledge based error results when one exercises improper problem solving to deal with new situations, such as when missing or wrong equipment is an issue.

Even when 100% compliance is claimed, a report reviewing 142 wrong site minor surgical cases, including skin or soft tissue, head and neck, and ophthalmologic, found that none of the patients' checklists had been completely executed, and the average number of checklist items performed in the observed cases was only 4 of 13 (17).

The authors concluded that these data showed that despite the 100% documented completion of the preincision phase of the checklist, most of the individual checkpoints were either not executed as designed, or not executed at all. These findings demonstrate lack of checklist implementation fidelity, which may be a reflection of poor implementation and dissemination strategy.

How can these poor results be explained? In the aviation industry, timing of checklist completion arranged so that it does not interfere with other essential flight activities, does not impose significant additional workload, and is actually perceived by the aircrew as something that makes the flight easier and safer.

In the medical application, the sign in and time out time points are performed immediately before the case can begin, delaying its start, and accordingly, is often seen as an unnecessary increase in workload.

In combination with implementation issues, this may explain the continuing occurrence of wrong site surgery, as well as the reported skeptical opinions about the mandated use of checklists in surgery.

In that regard, it has been suggested that progress in this area has been slowed by excessive focusing on human error rather than adopting methodology used in other areas. These include routine automated tracking of patient safety events rather than spontaneous reporting, increasing funding for research into how care is delivered, and implementation of preventive measures, such as algorithms to identify patients at increased risk (18).

Illustrative Case

A 36-year-old woman was found to have a right palmar ganglion, for which surgical excision was recommended. On that same day, a surgical scheduler preadmission testing form was completed by the office secretary, mistakenly indicating that the patient was being scheduled for right carpal tunnel release.

On the day of surgery, the perioperative nursing record recorded that the patient's preoperative diagnosis was right carpal tunnel syndrome, and the patient had signed a consent form for right carpal tunnel release surgery. The surgeon signed the consent form, which had acknowledged that the procedure had been explained to the patient and her family and all questions had been answered satisfactorily.

The patient was taken to the OR where after a timeout was held, an endoscopic right carpal tunnel release was performed. At the second postoperative visit when the surgical dressing was removed, it became apparent to the patient that her ganglion had not been removed. When the patient questioned why the ganglion was still there and had not been removed, the surgeon responded that he had performed the procedure to which she had consented.

In this case, there was a question regarding a language barrier such that when the office secretary asked the patient if she were having carpal tunnel surgery, the patient replied in the affirmative which was also the case in the preoperative area in the surgical consent form for right carpal tunnel release being signed by the patient. Analysis of the case revealed that all three failures of proper behavior had occurred.

In a similar case performed at another facility, a patient consenting to a trigger finger release underwent a carpal tunnel decompression instead, despite preoperative discussions and apparent compliance with the surgical safety checklist having been carried out by the OR staff and the surgeon, who expressed his opinion that after this incident, he "no longer saw these protocols as a burden" (19).

This observation, however, clearly reflects that the surgeon indeed had viewed the protocols as unacceptably onerous, and this attitude can be a major problem in their implementation and attempts to prevent wrong site/patient surgery.

Retained surgical items (RSI)

Unintended retention of a foreign body was the fourth most common sentinel event reported to the JC, with 94 occurrences in 2021, and 30 events in the second quarter of 2022, involving surgical sponges and laparotomy pads, cotton applicator tips, parts of surgical instruments, catheters, and localization wires, occurring in multiple specialty settings, felt to represent a human error due to poor policy, suboptimal safety culture, and inadequate communication (20).

Variations in the clinical practices of counting, use of count visualization tools, and time-out procedures also increase the possibility of an RSI. The risk of a retained item unfortunately continues to exist even when counting of sponges, sharps, and instruments is performed for every surgical procedure in the OR (21).

Implantation of pacemakers or generous flap undermining may result in capacious subcutaneous pockets into which small sponges can be placed and retained. Good surgical practice mandates that sponges are counted on all procedures in which the possibility, not probability, exists that a sponge could be retained.

Implemented use of an all-encompassing bundle of best practices, instead of a single-component intervention, can be more effective in reducing preventable human errors that result in the occurrence of a RSI. Use of this bundle technique has been reported to result in a 14.3% reduction in the rate of harm, a 59.1% increase in near miss reporting of retained objects, and a compliance rate of 70.5%, resulting in improved reliability and near miss reporting, while also improving the quality of care for patients (21).

This practice entails the incorporation of five elements: Surgical Stop (initiated by the surgeon prior to the first stitch of closure with all activity ceased while the surgeon performs an exploration of the surgical wound), Surgical Debrief (counts are verified prior to the surgeon leaving the room), Visual Counter (whiteboard used to track surgical items throughout the procedure), Imaging (to be utilized prior to closure when counts are incorrect), and Reporting (deviations such as incorrect surgical counts without resolution.

Syncope

Several risk factors have been associated with the development of a vasovagal reaction secondary to minor surgical procedures, the most important being a prior history of such reactions. Loss of consciousness secondary to vasovagal reactions in association with surgical proceduresunder local anesthesia has been reported to develop in 14% of patients, and may be associated with injuries in up to 30%, usually consisting of bruising, abrasion, or laceration. However, in 4% of patients, injuries were severe, involving fractures, burns, joint pain and dental problems (23). These may result in malpractice claims with significant outcomes.

In one instance, a patient was allowed to stand unattended postoperatively, despite feeling dizzy, and fell, sustaining injuries for which a malpractice court awarded 1.2 million dollars (24).

Preventive measures have been suggested to minimize preoperatively the occurrence of this complication by encouraging fluid intake and temporarily discontinuing medicines that lower blood pressure, as well as ensuring patients are monitored postoperatively for signs of increased vagal tone and avoiding triggers, such as unsupervised standing.

Tissue fillers

Tissue filler injections, usually involving hyaluronic acid and calcium hydroxylapatite preparations, are very commonly administered for cosmetic enhancement Due to the rich vasculature of the commonly injected head and neck region, the use of such tissue fillers may be complicated by intraarterial injection. The viscous nature of these preparations may result in arterial inflow compromise which can rapidly cause significant tissue ischemia progressing to necrosis, requiring multiple surgical debridements (25).

Illustrative Case

A 39 year old nurse practitioner presented to a cosmetic surgeon requesting augmentation of her nasolabial folds. The patient signed a multiple page informed consent form listing multiple potential complications of calcium hydroxylapatite (Radiesse,Merz North America Inc. Franksville, WI), an injectable tissue filler). However, there was no mention that its adverse effects could not be rapidly reversed by the injection of hyaluronidase, as can be done for hyaluronic acid based fillers such as Juvederm (Allergan Aesthtics) or Restylane (Galderma, Lausanne) Radiesse 0.8ccs was injected into the left nasolabial fold using a 27 gauge needle. Shortly after the injection, the patient complained of numbness, swelling, and discoloration of the area which eventually progressed to areas of significant necrosis, requiring multiple debridements, with resultant deformity and scarring. It was felt that the Radiesse had been injected into the left angular and/or the dorsal and lateral nasal arteries, resulting in vascular occlusion and ischemic necrosis.

In some cases, tissue fillers injected into the facial vasculature may embolize into the ophthalmic artery, resulting in blindness, especially if the injection is rapidly injected and/or near to underlying vasculature (26).

Spinal Accessory Nerve Injury

The spinal accessory nerve lies very superficially in the posterior cervical triangle, where it is vulnerable to injury from procedures such as lymph node biopsy. In our review of closed claims there were 21 instances of this problem. None of the informed consent discussions/forms included mention of this complication, the diagnosis was delayed in all patients postoperatively, and significant permanent disability was present in a high percentage of patients.

Common causes described were blind electrocoagulation of bleeders, suture ligatures, and lack of nerve stimulator usage. This can be a serious injury, since the spinal accessory nerve innervates the trapezius muscle, which function is critical to stabilizing the scapula to allow lateral elevation of the humerus. Without trapezius contraction, the scapula "wings" posteriorly, and patients are unable to achieve full abduction of the shoulder.

Conclusion

Despite the perceived "minor" nature of some surgical procedures, significant problems may ensue. In most cases, such problems can be minimized, and often prevented, with improvement of safety culture and staff readiness to accept recommended changes, involving proper informed consent documentation, surgical checklist compliance, attention to surgical technique, and increased awareness of the potential for significant complications.

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Outpatient management of multiple trichelemmal cysts in a non-hospital setting: Case report

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Abstract

Aim: This report describes the case of a 49-year-old woman treated at a non-hospital outpatient clinic with diffuse nodules on her scalp for two years.

Methods: Sequential excision of the nodules was performed for diagnosis, treatment and aesthetic and functional improvement.

Results. Twelve nodular lesions were removed, with surgical procedures performed every seven days, over the course of five weeks.

Conclusion: The case reinforces the importance of non-hospital outpatient care in the healthcare network and its potential for resolving problems and improving access to healthcare, which directly benefits the patient and the public healthcare system.

Keywords: Epidermal Cyst; Ambulatory Care; Pathology; Ambulatory Surgical Procedures.

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Introduction

Cystic epithelial lesions (CELs) are commonly found in various parts of the body, characterized as closed lesions, reaching the dermis or subcutaneous cellular tissue, containing fluid or semisolid content. The diagnosis of CELs is basically clinical, according to the findings and symptoms, and the need for additional investigation is infrequent [1, 2].

Among CELs, there is the trichilemmal cyst (TC) or pilar cyst, a benign epithelial cystic tumor, derived from hair in the growth phase. This lesion has a good prognosis, even in the presence of complications such as infections, representing 20% of all CELs [3]. The scientific literature indicates that the formation of the hereditary trichilemmal cyst is associated with a specific genetic mechanism, involving the phospholipase C delta 1 gene (PLCD1). Studies indicate that these cysts follow an autosomal dominant inheritance pattern [4,5]. Therefore, it is important to perform a family investigation.

Ninety percent of TCs are found on the scalp. Their main differential diagnosis is epidermoid or follicular cyst, in addition to epidermal inclusion cysts, pilomatricoma, multiple steatocystoma, acne, lipomas and proliferating trichilemmal tumor, which is a rare condition [1, 3].

The approach to TC involves detailed clinical evaluation, surgical intervention and histopathological examination to confirm the diagnosis [1].

Objective

The objective of this report is to write a clinical case of multiple trichilemmal cysts, treated in an outpatient setting outside the hospital, in a small municipality.

Case description

Clinical history: Woman, 49 years old, admitted to the minor surgery service of the medical specialties outpatient clinic of a small municipality II (45,000 inhabitants), complaining of nodules in the scalp region for approximately 2 years. The patient reported that within a short period of time there was an increase in the number and size of the nodules, which were spread throughout the scalp. She also reported that, when the nodules first appeared, she sought medical care and was referred to a tertiary hospital located in a regional reference city, where two nodules were removed. The patient reported that she had lost follow-up at the aforementioned service due to difficulty in accessing the service, as she lived in another city. Therefore, she sought outpatient care in her city of residence after 18 months, alleging the appearance of new lesions that were growing progressively. She denied comorbidities and a family history of similar conditions. However, she reported great discomfort due to the presence of the lesions, reinforcing the drop in self-esteem and the desire to undergo the procedure to remove the nodules.

On examination, the patient was in good general condition and did not complain of pain. Palpation of the epicranium revealed 12 nodules measuring approximately 1 to 3 cm in size, firm in consistency, without a central point, relatively mobile, with well-defined contours, some isolated, others in visible clusters and others hidden by hair and without inflammatory signs (Figure 1).

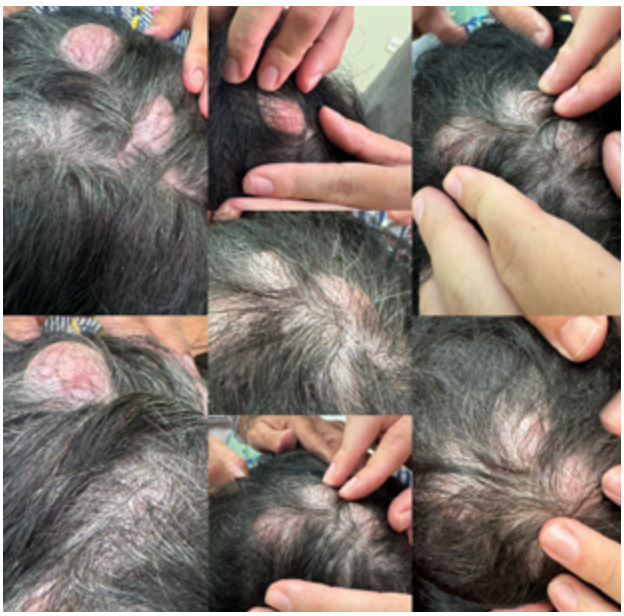

Figure 1. Initial inspection of lesions in the preoperative period.

Considering the available outpatient structure, sequential excision of the lesions was indicated, with the removal of two to three cysts per session (Figure 2).

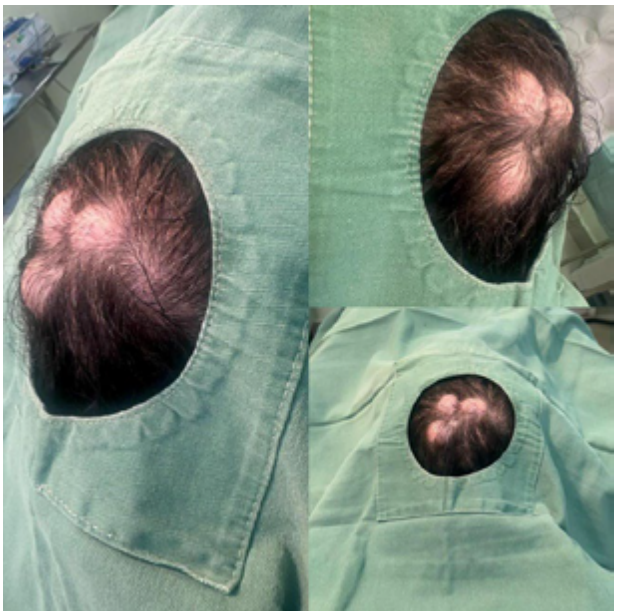

Figure 2. Visualization of the nodules after placement of the surgical field.

This approach aimed to ensure patient safety, the technical quality of the procedure and the lowest risk of complications.

Surgical description: Antisepsis was performed with chlorhexidine, followed by local anesthesia with lidocaine, with vasoconstrictor. The skin incision was superficial, preserving the integrity of the cyst capsules in most lesions. In some cases, the capsule ruptured, and the cyst contents were drained. Subsequently, the capsule was removed with the aid of "Halsted" forceps (Figures 3 and 4).

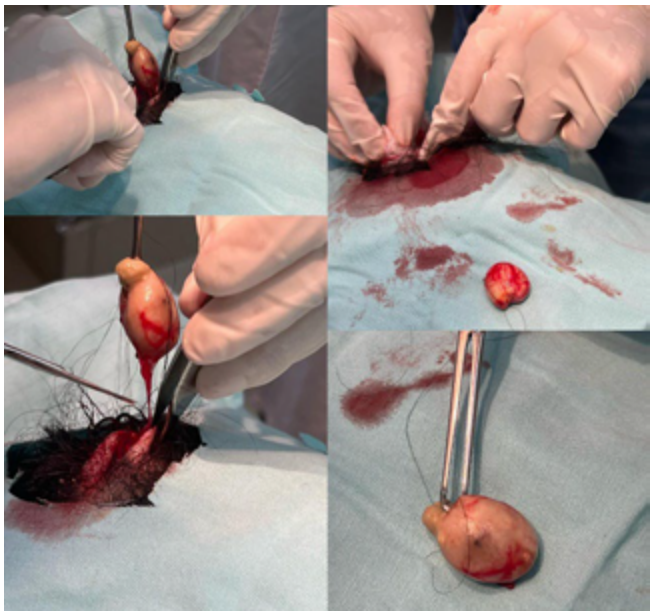

Figure 3. Procedure for excision of nodules.

After the cysts were removed, the skin was sutured with simple stitches using 4.0 nylon thread. In total, 12 nodular lesions were removed, with surgical procedures performed every seven days over a period of five weeks.

The removed lesions were sent for anatomopathological examination, which confirmed that they were one lipoma and 11 trichilemmal cysts. There was satisfactory healing after the lesions were resected, the patient recovered without signs of infection

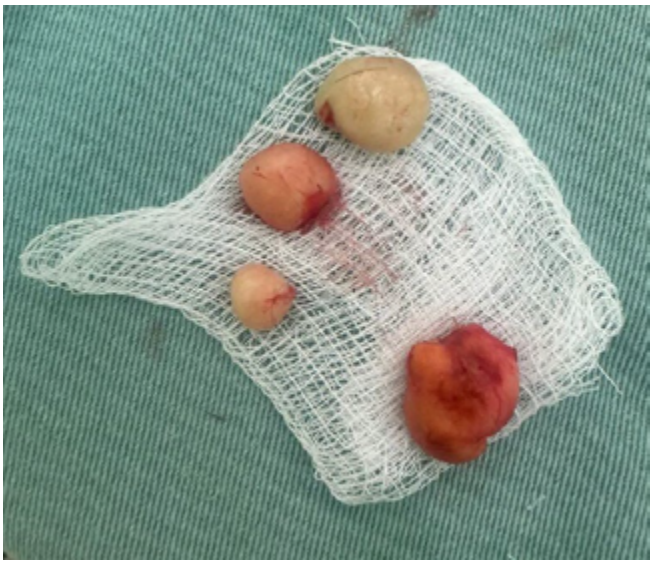

Figure 4. Surgical specimens.

and is being followed up. This study was approved by the Research Ethics Committee of the Barão de Mauá University Center (CAAE: 86890025.9.0000.5378; Nº. 7.511.607).

Discussion

This case report highlights the challenges and the solution found to treat a patient with aesthetic and functional complaints associated with multiple lesions on the scalp, in a small municipality. Thus, it emphasizes the importance of resolution in outpatient services in small municipalities, in line with the principles of the SUS of comprehensiveness and regionalization of care.

Scalp cysts are a common clinical condition, more frequent in women aged 40 to 60 years, and their approach should consider factors such as aesthetic impact, risk of infection and differential diagnosis [6]. Although generally benign, multiple or atypical cases should raise suspicion of conditions such as genetic syndromes or rare malignant lesions [7]. Rapid growth may be a sign of infection or malignancy, which should be considered when approaching these cases [8].

In turn, CTs are less common than follicular cysts, they also have a slight predominance in females and 90% of them are located on the scalp. They rarely appear on the face, limbs and trunk. Other specificities regarding epidermoid cysts are the absence of an orifice, greater mobility and firmer consistency [3].

Scientific evidence highlights that, generally, small CTs that do not cause symptoms or aesthetic or functional discomfort for the patient can be monitored without surgical intervention. However, surgical management with complete excision is the recommended course of action to resolve the problem, minimizing complications such as infection or inflammation, if there is any trauma to the cyst [1]. Furthermore, the surgical procedure has a good prognosis, with a low recurrence rate and is important for confirming the diagnosis, as it allows for histopathological examination. It is worth noting that, although rare, there is a possibility of CTs transforming into trichelemmal carcinoma, a condition that requires another type of intervention [9]. Possible complications of surgical removal include bleeding, pain, infection and scarring [1].

In the case in question, the patient had impaired self-image and social life, due to the presence of visible lesions on the scalp, in addition to difficulty maintaining hair hygiene.

This case report also raises reflections on the importance of ensuring continuous access to health care in small municipalities. Losses

to follow-up, as occurred initially in this case, can delay definitive diagnosis, influence prognosis, and increase the psychological impact on patients with relevant aesthetic and functional complaints.

In addition, it is worth noting that the CT approach can be performed safely in a non-hospital outpatient unit (Type I) [10]. In Brazil, in the public health system, the Unified Health System, it is the responsibility of the health manager to organize local services, which will bring direct benefits to the patient and the health system. Enabling the performance of minor surgical procedures in non-hospital outpatient units located in small municipalities contributes to improving the effectiveness of care and the efficiency in the application of financial resources, especially in the field of public health. Furthermore, it prevents loss of follow-up due to difficulty in access, a common problem in remote areas or those with fewer resources, which can be minimized by decentralizing care.

This report contributes by showing that simple surgical procedures can be performed safely and effectively in non-hospital outpatient clinics, expanding access and reducing the burden on tertiary services. This is in line with the literature that recommends expanding the problem-solving capacity of primary and secondary care.

The main limitation of the study, since it is a case report, is the low generalizability of the findings. A review of other similar cases or discussion of complication and recurrence rates in case series was not performed, which can be developed in future studies.

Conclusion

This case demonstrates the feasibility of sequential management of multiple CTs located on the scalp in a non-hospital outpatient setting. In addition to ensuring confirmation of the diagnosis by histopathology, the most appropriate treatment for these lesions was promoted in a local health service. The approach to this case provided an opportunity to improve the patient's quality of life, highlighting the relevance of accessible health services in local contexts, which, if well structured, can be effective and efficient.

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Salivary Gland Surgery: is it feasible as a same-day surgery?

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Abstract

Ambulatory surgery has grown over recent decades, improving cost-effectiveness and patient satisfaction. While same-day surgery is considered safe with proper selection and experienced teams, no specific guidelines exist for outpatient major salivary gland procedures. We retrospectively analyzed 18 patients who underwent ambulatory salivary gland surgery between January 2015 and March 2024. Most cases involved the parotid gland; histology revealed 10 benign tumors, 1 malignancy, and other lesions such as mucoceles. Over half (58%) had no postoperative complications; seroma/sialocele formation was the most frequent. Outpatient salivary gland surgery is safe and feasible with careful patient selection and appropriate postoperative follow-up.

Keywords: Outpatient, Salivary Gland Surgery, Surgical Complications.

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Introduction

Ambulatory surgery has been rising exponentially in the last decades, driven by enhancements of surgical and anesthetic techniques, as well as day-care units conditions (1,2). These innovations contributed to significative gains in surgery cost-effectiveness ratio and patients' satisfaction, without a concurrent increment in postoperative complications or re-admissions rates. Recent systematic reviews and meta-analyses have shown the safety and feasibility of same-day surgery, taking into consideration careful patient selection, surgical team expertise and type of surgery proposed (3-9). Nevertheless, regarding major salivary gland surgery, no formal guidelines exist concerning patients' eligibility for an ambulatory surgical approach (10), dissimilarly to procedures as thyroidectomy (11).

Latest evidence in salivary gland surgery field have demonstrated similar outcomes and complication rates when comparing outpatient and inpatient surgery modalities (12-16). However, a great proportion of the published literature rely on the parotid gland surgery, since this gland is the most frequent site of salivary gland tumors (17). As a consequence, the feasibility of outpatient salivary gland surgical procedures, in particular involving submandibular and sublingual glands, remains unclear.

The main purpose of the present study was to summarize the cases of salivary gland surgery performed in Ambulatory Surgery Center of Hospital de Santo António, in Porto, Portugal. We aimed to demonstrate the safety and feasibility of these surgical interventions, analyzing patients' characteristics, type and duration of the procedures, and complication rates, from the immediate postoperative period until 6 to 12 months following discharge.

Methods

Study design and sample

A retrospective analysis was made, comprising all patients submitted to same-day salivary gland surgery, from January 2015 to March 2024, in Ambulatory Surgery Center of Hospital de Santo António, in Porto, Portugal. Patients who underwent salivary gland surgery in an inpatient regimen, or having reports with missing information were excluded. Outpatient procedures were defined as surgeries from which patients were discharged within 24 hours after admission.

Variables

Data regarding patients' sex, age, surgery performed, operative time, histological classification of the anatomical specimen, and postoperative complications were collected. Anesthetic evaluation was performed using ASA-PS classification (American Society of Anesthesiologists – Physical Status). Histological classification of the anatomic specimens were analyzed likewise, according to World Health Organization Classification of Head and Neck Tumors.18

Most common surgical complications from approaches to salivary glands were analyzed, including formation of hematoma, seroma or sialocele, transient and permanent nerve paresis or paresthesia, surgical site infection, fistula formation, Frey's syndrome, and wound healing anomalies. Records of postoperative appointments, from 6 to 12 months following surgery, were used to evaluate the occurrence of surgical complications.

Ethical approval

This study was approved by the Ethics Committee of Unidade Local de Saúde Santo António (Reference No. 2024.157 - 128/DEFI/140-CE). All procedures were conducted in accordance with the ethical standards of the Declaration of Helsinki and institutional guidelines.

Results

A total of 18 cases were included, as shown in Table 1(near here). Most cases were male (61.11%), with a mean age of 43 years. Operative time was, on average, 43 minutes, with the longest surgery taking about one-hour and a half. Solely one patient was classified as ASA III, whereas 7 and 10 patients were given the classification of ASA I and II, respectively.

The parotid was the most frequent gland involved (50%), followed by minor glands (33%). No sublingual gland surgeries were recorded. Regarding histological classification, displayed in Table 2 (near here), 61% of the specimens revealed tumoral pathology, with only one being classified as a malignant tumor (lymphoma). The benign tumors identified include pleomorphic adenomas (6 cases) and Warthin tumors (4 cases). The remaining 39% of the cases comprised

essentially cystic conditions, namely mucoceles.

More than half (58%) of the patients of the present study had no postoperative complications (Table 3) (near here). The most prevalent complication was seroma / sialocele formation (3 cases), whilst more impactful disabilities, such as permanent nerve paresis / paresthesia, were not found. All complications listed occurred in different patients. Although one of the patients complicated with a cervical postoperative hematoma, requiring immediate reoperation for drainage, the patient was discharged on the same day, without further complications.

It is important to emphasize that the patients were followed for a period between 6 and 12 months after surgery, with no complications present at the postoperative appointment at discharge time. None of the patients was readmitted in hospital after discharge.

Discussion

Following the rising tendency of same-day surgery, attempts have been made to balance cost effectiveness and high-quality surgery. Considering salivary gland surgery, Steekler started in 1991 performing parotidectomies in an outpatient regimen, suggesting its safety and validity to suitable patients and pathologies (19). However, despite the shift towards outpatient surgery in the last decades, no structured criteria exist for selection of patients for outpatient surgery. Consequently, the existing data exhibits considerable heterogeneity, limiting conclusions when comparing outpatient and inpatient surgeries. Doubts remain if salivary gland surgery in ambulatory setting is feasible, without prompting higher postoperative complication rates and readmissions.

The present study sought to demonstrate the feasibility and effectiveness of ambulatory surgery to salivary glands, presenting a series of cases performed in the last 9 years in an Ambulatory Surgery Center in Porto, Portugal. Regardless of the fact that parotid tumors represent about 70% of the tumoral conditions (17), surgeries to other salivary glands, major and minor, where also included. In our sample, only 50% of the cases involved the parotid (Table 1), primarily due to the inclusion of minor salivary glands in the study.

Considering histological classification, displayed in Table 2, solely one of the cases presented was malignant. Even though some studies include the diagnosis of benign pathology as a requirement to perform outpatient surgery (13,20,21), the type and extent of salivary gland surgery in cases of malignancy is still controversial, particularly the amount of parotid tissue to be excised in malignant tumors (22). Some reports stated that, for superficial tumors (classified as T1 or T2) (23), partial or superficial parotidectomy can be adequate to remove the tumor, maintaining optimum outcomes (24-26). On that account, for selected cases, the histological diagnosis of a malignant tumor should not be an exclusion criterion for ambulatory surgery.

Evidence about surgery to major salivary glands other than parotid is sparse, specifically in ambulatory setting. The rationale is primarily based in anatomical accessibility and surgical complexity, given that submandibular and sublingual glands are more deeply located, and have a closer relation with mandibular marginal, lingual and hypoglossal nerves (27). Our study included three cases of submandibular pathology (two pleomorphic adenomas, and one case of sialolithiasis), submitted to sialoadenectomy. Despite the greater surgical complexity, this did not result in significantly longer operative times; all submandibular sialoadenectomies were performed in less than 1 hour (38, 43, and 55 minutes). It is noteworthy that two of these cases complicated with hematoma: one in the immediate postoperative period, requiring surgical drainage, and one on the 5th day after surgery, managed with conservative measures. Although significant complications, both cases were adequately managed in outpatient setting, with complete resolution and without further need of inpatient admission or recurrence.

Regarding anesthetic evaluation, ASA-PS classification was used to summarize patients' eligibility for same-day surgery. This method, although deemed subjective, is recognized as a good predictor of perioperative risk (28). Only one of our patients was classified as ASA III, with the remaining 17 being classified as healthy patients or having medically controlled mild to moderate systemic disease. A review by Rajan et al., presenting a summary of recent evidence to guide ambulatory patients selection (29), concluded that notwithstanding most of ambulatory surgery patients are classified as ASA I or II, ASA III patients can be considered suitable for surgery since their comorbidities are stable, and even ASA IV patients may undergo low-risk procedures under local anesthesia.

This study has some limitations, namely a retrospective data collection method, and a small sample size, restraining the possibility of conducting sub-analyses per type of salivary gland, type of pathology, or surgical technique. Nevertheless, we perceive the breadth of pathologies and salivary glands involved as a strength of this paperwork, given the scarcity of studies reporting cases involving salivary glands other than the parotid gland.

The limited sample size could also have contributed to the not negligible postoperative total complications rate (42%), when comparing the present study with the available literature. However, it is important to note that the complications monitored have not have the same level of severity. This underlines the importance of further studies with larger sample sizes, in order that individual complication rates could be assessed.

Within the limitations of this paper, we acknowledge that outpatient salivary gland surgery is safe and feasible, provided a careful patient selection and an adequate postoperative follow-up. Potentiated by these positive results, we expect this report can contribute to the development of a standardized protocol for ambulatory surgery patients' selection, comprising clinicopathological, anesthetic and social criteria.

Additional information

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