# Submental Island Flap for Reconstruction of Oral Cancer Post Resection Defects: Surgical Outcomes and Oncological Safety

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## Abstract

*Background:* Management of oral cancer is always causing dilemma regarding reconstruction of post ablative defects. Submental island flap (SIF) had been widely experienced for restoration of oral integrity. However, presence of its pedicle in the area of neck dissection (ND) raises inquiries about its safety especially in node positive neck.

*Objective:* Assessment of oncological safety of submental flap applied for oral defects after malignant tumor resection and its surgical outcomes as regard comparing disease free survival between node positive and node negative neck.

*Patients and Methods:* A total sample of 56 patients who were diagnosed with oral cancers, were treated by wide local excision and block neck dissection with immediate reconstruction by submental artery island flap (SMAIF) at Surgical Oncology Unit, Mansoura University, Egypt, from July 2014 to December 2020.

*Results:* Data was collected retrospectively including 56 patients aged from 29 to 87 years (mean age 52.5 years old). The mean operative time was (5.25+1.25) hours. The mean blood loss was $460\pm100$. The mean hospital stay was $15\pm7$ days. Patients started oral fluid after a mean time $11.2\pm2.7$ days ranged from. We encountered 16 complicated cases (28.6%) suffered from 24 complications included. Partial flap loss in 3 patients and total flap loss in 2 patients. Intraoral hair growth was the most common complication which occurred in 7 (12.5%) patients. After a median follow-up of 35.8 months, mortality occurred in 9 (8.9%) cases; disease-specific in 6 patients while disease recurrences was reported in 11 (19.6%) patients.Four years overall survival was 79% with mean $51.09\pm2.09$ months (CI: 46.9-55.1) and four years disease free survival (DFS) was 74.1% with a mean $48.1\pm2.4$ months (CI: 43.3-53.6).

*Conclusion:* Submental island flap is an excellent option in reconstruction of oral defects after malignant tumor resection with short operative time, short hospital stay but hair growth in male patient must be warned. It is oncologically safe in node negative neck and may be in early non heavy node positive neck provided that preoperative clinical, radiological and intraoperative assessment of sub mental area was free.

*Key Words:* *Submental flap – Reconstruction – Oral cancers.*

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## Introduction

**ORAL** cavity carcinomas are the 6th most common cancer worldwide and represent nearly 30% of all head and neck cancers. The standard treatment is surgical excision, with block neck dissection (BND). The primary tumor is excised with a safety margin of at least 1 cm all around. Multiple reconstruction methods have been introduced to reconstruct the orofacial defects after these ablative surgeries, including split-thickness skin grafts, locoregional flaps, and free flaps. Each of these techniques has its advantages and disadvantages [1].

Submental island flap (SMIF) was originally introduced by Martin et al., 1990 [2] and due to its advantages, then it emerged and gained popularity in head and neck reconstruction. These advantages include having a long up to 8cm, consistent and reliable pedicle, and can be used as a cutaneous, myo-fascial, or osteocutaneous flap [3]. Also, SMIF flap has an excellent skin color match and wide arc of rotation due to juxtaposition to face and neck extending from the medial canthus to zygomatic arch [4]. Compared with other pedicle flaps, SMIF has many advantages. It is thin and pliable, and a large surface area may be harvested; the largest skin paddle can reach 15 x 6cm. Further, as the flap is adjacent to the surgical defect, it is easy to harvest. A rich vascular network between the ipsilateral and contralateral facial arteries and

veins allows the submental flap to be used safely in patients who have received prior radiation treatment [5]. The SMIF provides a concealed donor-site incision that can be closed primarily and leads to excellent swallowing and speech functions. It allows the flap to be used for reconstruction of the lower face, tongue, palate, buccal mucosa, mouth floor, gingival margin and laryngeal region etc [6]. Karacal et al. used this technique for periorbital soft tissue and socket reconstruction in six patients with good results [7]. Chen et al., reported that there was no serious change in the mean intra-arterial pressure in the facial artery after proximal ligation and occlusion of the opposite relevant artery, which suggested that the reverse facial–submental artery island flap is reliable [8].

The submental artery is a well-defined and consistent branch of the facial artery. It arises deep to the submandibular gland and passes forward and medially across the mylohyoid muscle. At its origin, the diameter of the submental artery ranges from 1.0 to 2.0mm [9]. The submental artery may be superficial (30%) or deep to the digastric muscle (70%) [10]. Sebastian et al., indicated that the terminal submental vessels are protected by including the overlying segment of the anterior belly of digastric muscle. Further, the underlying mylohyoid muscle can be cut or a strip of it included with the pedicle when the flap needs to be tunneled to a defect medial to the mandible. According to their experience, the terminal submental vessels were all located deep within the digastric muscle. All harvested flaps were included with the anterior belly of digastric muscle, and no flap loss occurred [5].

Since its use, there is controversy about this flap due to potential involvement of submental lymph none within it (cervical level 1a LN) [11]. Consequently, this article presents our experience of applying SMIF in reconstructing oral defects after malignant tumor extirpation with attention paid to assessment of oncological safety and surgical outcomes.

## Patients and Methods

Research Ethics Committee at Oncology Centre of Mansoura University (OCMU) had approved the research work as a retrospective designed study. Data of all patients with underlying oral cavity carcinoma who underwent wide local excision (WLE) and block neck dissection (BND) and immediate reconstruction by SMIF were collected from the database of Mansoura University Oncology Centre.

This is a retrospective analytic case series single institution study including fifty six (56) patients whom were diagnosed with oral cancers, and treated by WLE and BND with immediate reconstruction by submental artery island flap (SMAIF) at surgical oncology unit at oncology Centre-Mansoura University, Egypt, from July 2014 to December 2020. All data of clinical presentations, surgical treatment, intraoperative finding, complications, postoperative & follow-up and loco-regional control & survival data were collected and analyzed according to the protocol of this study.

Patients with irresectabletumor (T4b), primary oropharyngealtumors, clinical or radiological suspicious submental LN, N3 disease, distant metastases (M1), unfit patients with ASA score 4 were excluded. Also, patients with history of previous ipsilateral BND or submandibular sialadenectomy were excluded and patient with intra oral post-ablative defects that could be closed primarily. Any discovered intra-operative suspicious submental LN was frozen section pathology to exclude malignant infiltration. Patients underwent previous surgical intervention or neoadjuvant chemotherapy or residual disease after definitive chemo radio-therapy, and patients with recurrence were not excluded from our study whenever candidate for surgical excision and immediate reconstruction of the defect.

After written informed consent, all patients were subjected to detailed history and thorough clinical examination of oral cavity & neck. Beyond pathological diagnosis and routine metastatic workup& laboratory investigations; neck us, MD-CT, MRI head and neck, pan-endoscopy were routinely done. ODG was asked for suspected bony infiltration. Physical and psychological improvement of patients, nutritional supplementation, control of comorbidities, oral hygiene and treatment of dental problems by deontologist of our team were done before surgery.

*Surgical technique:*

All patients underwent simultaneous tumor resection, BND and immediate reconstruction by orthograde SMIF. The flap was designed with a marked ellipse after pinch test, upper incision at inferior mandibular border from angle to angle while lower incision at hyoid bone or roughly at lower limit of pinch test to allow easy adequate primary closure. Beginning the incision with ipsi-lateral lower line of ellipse in continuity with the submandibular incision used allowing level I BND before committing on raising the skin island help-sthe surgeon in switching over to an alternative

plan if pedicle of flap is doubtful or nodal clearance is unsatisfactory.

Flap harvesting, including ipsilateral anterior belly of digastric muscle included in the flap in all cases, was done with ipsilateral BND sparing submental triangle with preservation of facial artery and submental branch. Submandibular gland is carefully dissected of with care to ligate glandular branches of facial artery. Doppler localization of the pedicle was not routinely needed in any of our cases. A pedicle length was approximately 4.5-6cm, the length and blood supply of flap could be enhanced by distal ligating of facial artery after the origin of submental branch and proximal dissection of facial artery up to its origin.

After tumor wide local excision with free frozen section confirmed soft tissue safety margin, defect was assessed for reconstruction. SMF is tunneled medial to mandible in tongue and floor of mouth defects while tunnelling of SMF lateral to mandible in cases of buccal, retro-molar or alveolar defects (Fig. 1). Donor site and neck incision were closed in layers after hemostasis and insertion of suction drains.
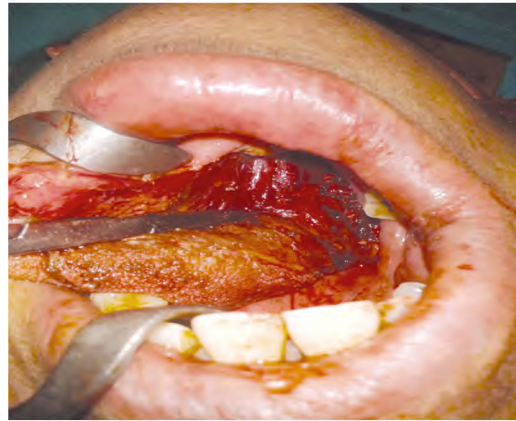


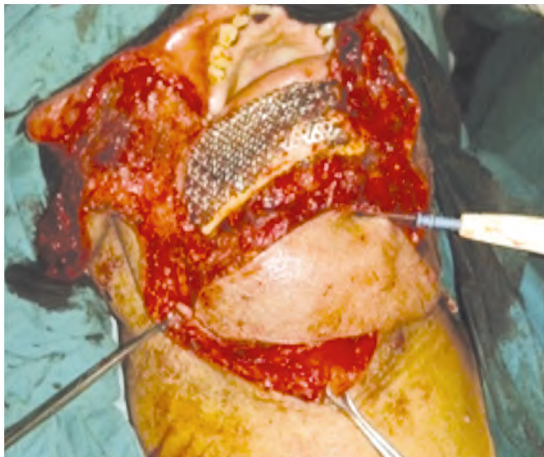Fig. (1A): Defect after compartmental tongue resection.



Fig. (1B): Flap after complete harvest.



Fig. (1C): Flap inset.

*Postoperative:*

All patients should be monitored for vital signs and flap viability. Patients were kept well hydrated. Broad-spectrum antibiotics, analgesics and anti-inflammatory are prescribed. Maintenance of oral hygiene by use oral antiseptics, early ambulation and chest exercise were advised.

*Follow-up:*

The patients were followed-up every three months in first year, then every six months in the following years. Clinical examination in addition to MRI on head and neck and neck US were done to detect loco regional recurrence in the patients. Any local or nodal recurrence was confirmed pathologically.

## Results

In our study; 56 patients were enrolled from July 2014 to December 2020 including 36 male patients and 20 female patients with age ranged (29-87) with Mean ± SD (52.5±13.6); 24 patients were smokers (42.8%). Twelve patients had comorbidities (21.4%); seven patients received neoadjuvant chemotherapy NACT (12.5%). Apart from 6 (10.7%) recurrent cases; the remaining are denovo. Preoperative radiology revealed that +ve LN in 36 (64.3%) while negative LN had been found in 20 cases (35.7%).

According to oral sub sites as following chart (Fig. 2); tongue and lips were the most common sites for reconstruction by SMIF which was applied for reconstruction of tongue defects in 18 (32.1%); lip defects in 14 (25%) patients; buccal mucosal defect in 10 (17.8%); and floor of mouth defects in 6 patients (+10.7%) while retro-molar trigon and alveolar ridge defects were the least; only for patients in each group (7.1 %).

The mean operative time was (5.25+1.25) hours. The mean blood loss was 460±100. Blood transfusion was needed in 7 patients for one pack except the case of IJV injury (needed two packs). The oral defects were purely soft tissue in 48 cases, while composite defects occurred in 8 cases. The length of post resection defect ranged between 5.2-10.5cm. Modified radical BND was done in 5, Supra-omohyoid BND in 51 patients.Intraoperative complication: Two cases from internal jugular vein and hypoglossal nerve injury. Tracheostomy was needed for 3 cases (5.4%) for tongue and floor of mouth reconstruction to avoid the risk of airway oedema.The mean hospita stay was 15±7 days ranged from (7-32). Patients started fluid per NGT in 2nd day. The mean time of start of oral fluid was 11.2±2.7 days ranged from (7-21).

Postoperative histopathological examination revealed that squamous cell carcinoma (SCC) was the most common type with grade II differentiation being more frequent (Table 1). Positive nodal infiltration was detected in 44 (78.6%) patients while no nodal infiltration was found in the remaining 12 (21.4%) patients with total number of harvested LN ranged (7-28) with Mean ± SD (14.2± 5.1) while the number of positive LN ranged from (1-7) with Mean ± SD (1.5±1.6), (Table 1).

In our study; we encountered 16 complicated cases (28.6%) suffered from 24 complications. Flap related complications included Partial flap loss in 3 patients, total flap loss in 2 patients, Hair growth intraoral which was the most common complication in 7 male patients; Hematoma in 2 patients; salivary fistula in 3 cases. Donorsite wound infection and dehiscence in 4 cases. Three general complications were reported as chest infection in 2 cases and deep venous thrombosis (DVT) & subsequent pulmonary embolism in the last case. Seven cases (12.5%) required reoperation: exploration for bleeding (n=2); debridement of totally lost flap and immediate reconstruction (n=2) [one case by tongue flap and the other case by PMMF]; trimming of edges and 2ry suture of defect for partial flap loss (n=2) and debridement and closure of salivary fistula (n=1), (Table 2).

After a median follow-up of 35.8 months (ranging from 11-60 months), no perioperative mortality encountered in our series but mortality occurred in 9 (8.9%) cases; disease-specific in 6 patients who died within (7-28 months postoperative) while the other three cases due to cardiac or chest causes.Overall survival (OAS) was 47/56 (83.9%). Tumour recurrence occurred in 11 cases (19.6%); isolated local recurrence occurred in 5 cases; isolated nodal recurrence occurred in 2 cases; dual loco-nodal recurrence in 2 cases. Two cases developed distant metastasis at 8 & 12 months after operation. The disease-free survival (DFS) ranged was 35.8 months (ranging from 10-60 months. Four years overall survival (OAS) was 79%. Mean 51.09 months ± 2.09 (CI: 46.9-55.1). 4 years disease free survival (DFS) was 74.1%. Mean was 48.1 months ± 2.4 (CI: 43.3-53.6).

These recurrences managed as wider local excision for isolated local recurrence and reconstruction (n=4) (2cases by supraclavicular flap; 1 case by PMMF; 1 case by delto-pectoral flap); (redo BND for isolated nodal recurrence (n=4); combined redo- BND and WLE of loco-nodal recurrence with reconstruction by PMMCF in three cases. The other cases received palliative treatment.
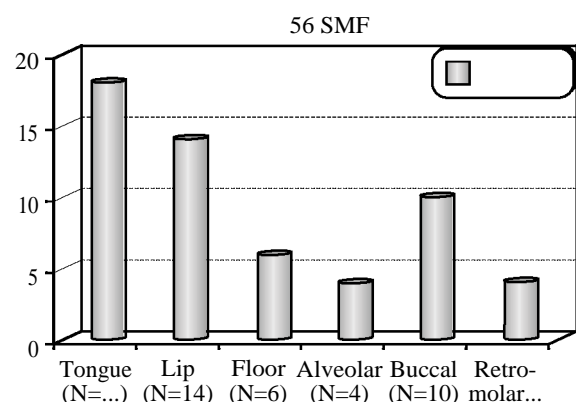


Fig. (2): Show distribution of submental flap into different oral subsites.

Table (1): Tumor histopathological characteristics.

| Type | SCC | 50 | 89.3% |
|------|------|------|------|
| | Salivary carcinoma | 4 | 7.1% |
| | Anaplastic carcinoma | 2 | 3.6% |
| Grade | I | 18 | 32.1% |
| | II | 30 | 53.6% |
| | III | 8 | 14.3% |
| T | 1 | 0 | |
| | 2 | 20 | 35.7% |
| | 3 | 22 | 39.3% |
| | 4a | 14 | 25% |
| N | 0 | 12 | 21.4% |
| | 1 | 34 | 60.7% |
| | 2 | 10 | 17.9% |
| Stage | I | 0 | |
| | II | 4 | 7.1% |
| | III | 30 | 53.6% |
| | IV a | 22 | 39.3% |

Table (2): Complications and number of patients affected per each.

| Complication | Number of ptns | Percent |
|------|------|------|
| Total flap loss | 2 | 3.6 |
| Partial flap loss | 3 | 5.4 |
| Hair growth | 7 | 12.5 |
| Hematoma | 2 | 3.6 |
| salivary fistula | 3 | 5.4 |
| Donorsite wound infection & dehiscence | 4 | 7.1 |
| Chest infection | 2 | 3.6 |
| DVT & PE | 1 | 1.8 |
| Total nu. of complications | 24 | 42.8 |
| Total nu. of complicated cases | 16 | 28.6 |

Table (3): Disease recurrence and its management.

| Disease recurrence | Number of ptns | Percent | Surgical | Palliative |
|------|------|------|------|------|
| local | 5 | 8.9 | 4 | 1 |
| Nodal | 2 | 3.6 | 2 | |
| Local & nodal | 2 | 3.6 | 1 | 1 |
| Metastatic | 2 | 3.6 | | 2 |
| Both Local & metastatic | 0 | | 7 | 4 |
| Total recurrences | 11 | 19.6 | 7 | 4 |

Univariate analysis showed no significant relation between DFS and sex ($p=0.3$), type ($p=0.98$), grade ($p=0.45$), T sage ($p=0.87$), N status ($p=0.13$) and stage ($p=0.57$). However in pair analysis of N0 vs. N1 and N2), there was significant different between N0 and N2 ($p=0.045$) and no significant between N0 and N1 ($p=0.053$). In addition, the different was significant of analysis of N0 status vs. Node positive cases ($p=0.046$).

No significant relation were found between OAS and pathological type ($p=0.83$), grade ($p=0.71$), tumor stage ($p=0.55$), N stage ($p=0.24$) and stage ($p=0.58$).

**Discussion**

The main goal of treatment of oral carcinoma is to achieve cure with wide local excision of malignant tumor with safety margin with comprehensive BND in LN positive patients and elective supraomohyoid BND in LN negative neck. However post ablative defect should be reconstructed to restore oral integrity to maintain swallowing, speech, chewing in addition to maintain acceptable aesthetic outcomes.

Although free flaps had been mainstay for reconstruction in head and neck region as being versatile, reliable and providing well vascularized tissue especially after radiotherapy or chemo-radiotherapy, they had multiple disadvantages as their use mandates dedicated expertise which may not be always available, longer operative times, higher costs, not suitable for fragile patients and extensive postoperative nursing and observation with Flap failure rates ranges from 2% to 15% of cases [16].

According to oral sub sites, tongue (32.1%) and lips (25%) were the most common sub sites reconstructed by SIF. This matches Thomas et al., 2016 who reported that tongue was the most common subsite in their study (79.9%) [18]. SMIF is reliable to cover composite defect after maxillectomy or mandibulectomy, we used SIF to cover defects in 8 (14.3%). It is also used by Shen et al., 2021 in 11.7% cases.

In our study, the mean operative time for flap harvest was 45±11 minutes while in study performed the Maxillofacial Unit, Assiut University Hospital, Egypt, the mean operative time was 25 to 40 minutes [1]. The mean operative time for resection and harvest was (5.25+1.25), while MOT was (5.7± 1.17 hours) in a study carried at the Department of Oro maxillofacial-Head and Neck Surgery, School of Stomatology of China Medical University; from March 2005 to December 2012 on 65 patients [12]. The width of the flap is determined by the laxity of the neck skin allowing primary closure (pinch test), and can be as large as 18cm x 7cm. The vascular pedicle and length are designed according to the defet and can span from mandibular angle to angle if necessary, providing an arc of rotation extending from the medial canthus to the zygomatic arch. The pedicle length can reach 5cm when the entire facial artery is

retained [13]. To increase the length of pedicle, proximal facial artery dissection and distal ligation of facial pedicle after giving off submental branch should be performed.

The mean hospital stay was 15±7 days ranged from (7-32) longer than studies which reported post-operative hospital stay ranged from 3 to 12 days [14].

Post-operative histopathological examination revealed that SCC was the most common type while grade II is the most common. N +ve was detected in 44 (78.6%) while N0 was found in the last 12 (21.4%) patients only with total number of harvested LN ranged (7-28) with Mean ± SD (14.2±5.1) while the number of positive LN ranged from (0-7) with Mean ± SD (1.5±1.6). This approaching the results of in Elzahaby, et al., 2015 on 36 study, the total median cervical LN yield was 16 (range 11-24) for N0 and 25 for N1 patients [19].

In our study; we encountered 16 complicated cases (28.6%) suffered from 24 complications included flap necrosis occurred in 5 cases (8.9%) including partial (n=3) and total (n=2), Hair growth intraoral in 7 patients. In study of Thomas et al., 2021 Flap loss was reported (6.98%) but only 1.74% was total. He also documented persistent hair growth in 9% of patients. But fortunately hair growth may be affected by post operative adjuvant treatment [18]. In a study of Pradhan, 30 SMIFs performed for patients with oral SCC, partial necrosis was noticed in 4 patients and complete in 2 patients. Only 2 cases required a revision surgery, one patient was repaired with a nasolabial flap and the other with a rotational tongue flap [15]. Also in our study, we needed revision surgery in 2 patients for flap loss; they were managed by PM-MMCF in one case and tongue flap for the other. While in shen study, donor site dehiscence was the most common complication in 10 more than our study as donor site dehiscence occurred in 4 (7.1%) patients.

In our series, mortality occurred in 9 (8.9%) cases; in only six cases, the cause was disease-specific (7-28 months postoperative). Overall survival (OAS) was 47/56 (83.9%). Tumor recurrence occurred in 11 cases (19.6%), nine of them was either local or nodal or loc-nodal and only2 showed distant metastasis. No flap recurrence was diagnosed in any case. Our results was less than Recurrence reporeted in 26.6% of 30 patients studied by Shen 3 nodal and 5 local. Also, Mittal reported recurrence in 26.6%, nearly half of them suffered

from distant mets [20]. But our results was inferior to Thomas study, he documented that (9.2%) patients developed local recurrence (flap site recurrence forms nearly just less than half of them) and 7.8% developed nodal recurrence [19].

Our results showed that 4 years overall survival (OAS) was 79% and 4 years disease free survival (DFS) was 74.1%. This is coping with the results of thomas who reported that 5-years OAS was 84.6% while 5 years DFS WAS 78.1% [19]. This was documented in a study of Shen et al., 2021 which included 51 SAPF versus 30 SMIF for the intraoral reconstructions after oral cancer ablative surgery. But he found that There was no significant difference in DFS. However, several patients in SIF group had nodal recurrence under the flap after the first operation [17]. There is no recurrence related to the flap in our series and all recurrences were nodal or local and this can be justified by the nature of the pathology in majority of cases which was SCC.

However, there was significant different between N0 and N2 ($p=0.045$) and no significant between N0 and N1 ($p=0.053$). So we suggest safe oncological application of SMIF into N0 and N1, but in caution with N2.

Another serious factor that affects tumor recurrence is the T stage and biological tumor nature. Tumor recurrences were more related to the tumors' nature than the flap's harm [1].

Among common pedicled flaps, SMIF yields an excellent versatile successful option for reconstruction of oromandibular and facial defects. Since its appearance and the controversies aroused around SMIF in LN positive patients due to the potential involvement of level a cervical lymph node basin within the flap.

To ensure oncological safety certain rules should be respected as absence of any suspicious submental LN (cervical LN level Ia) should be excluded by clinical and radiological (US) examination, any suspected intraoperative submental LN should be sent for frozen section pathology and then SMIF harvesting should be stopped and other flaps may be applied. Also we must declare that a novel technique modification can solve the problem by harvesting the flap as perforator based one (submental artery perforator-based flap "SMAPF" versus submental island flap (SIF) where the flap is composed of the skin paddle and the perforator in the former one.

In negative neck, the oncological safety was declared by many authors. However, the potential risk of occult disease transfer with SMIF to the oral cavity site is concerning. Reconstruction in LN +ve cases is even more controversial than in an N0 setting [1]. Faisal et al., 2018 concluded that SMIF is oncologically safe in N0 and N1. However it should not be considered in advanced nodal disease in the neck (N2 & n3). The conclusion of Faisal is coping with our results. We adopted performing BND before SIF harvesting.

Shift from island (SIF) to perforator (SMAPF) should be considered particularly in node positive neck, SMAPF will be a step to more ontologically wise procedure as in the latter the flap is composed of skin paddle and the perforator reducing the potential risk of involvement of level 1 cervical lymph node.

### Limitations:

Retrospective, small sample size, and absence of other pathological criteria as depth of invasion and perineural invasion and lymphovascular embolization.

### Conclusion:

SMIF is an excellent versatile option for reconstruction of oral defects after malignant tumor extirpation, because it is feasibility and minimal complications with good outcomes but hair growth in male patient must be warned. It is oncologically safe in node negative neck and may be in early node positive neck (N0, N1) provided that preoperative clinical, radiological and intraoperative assessment of sub mental area was free. Although there is no strong evidence against use of SIF in node positive neck, it is advised to pay extreme caution in using it in N2 patients and if the surgeon felt uncomfortable with oncological safety, the whole procedure should be abandoned backup technique should be used.

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# استخدام سدلة تحت الذَّقْنِ الجزيرية لإعادة بناء عيوب سرطان الفم بعد الاستئصال: النتائج الجراحية والسلامة من الأورام

تتسبب معالجة سرطان الفم دائماً فى حدوث معضلة فيما يتعلق بإعادة بناء عيوب ما بعد الاستئصال. تم اختبار سديلة تحت الذقن على نطاق واسع لاستعادة سلامة الفم ولكن وجود عنيقها فى منطقة تشريح الرقبة يثير تساؤلات حول سلامتها خاصة فى العنق الموجب للغدد الليمفاوية.

الهدف من الرسالة: تقييم السلامة من الأورام للسدلة تحت الذقن المطبق على عيوب الفم بعد استئصال الورم الخبيث ونتائجها الجراحية فيما يتعلق بمقارنة البقاء على قيد الحياة الخالية من الأمراض بين العنق الموجب والعنق السالب للغدد الليمفاوية

عولجت عينة إجمالية من ٥٦ مريضاً تم تشخيص إصابتهم بسرطان الفم عن طريق الاستئصال الموضعى الواسع وتشريح الرقبة مع إعادة البناء الفورى عن طريق سدلة تحت الذقن فى وحدة جراحة الأورام بجامعة المنصورة، مصر، من يوليو ٢٠١٤ إلى ديسمبر ٢٠٢٠.

النتائج: تم جمع البيانات بأثر رجعى بم فى ذلك ٥٦ مريضاً تتراوح أعمارهم بين ٢٩ و ٨٧ عاماً (متوسط العمر ٥٢.٥ عاما). متوسط زمن العملية كان (١.٢٥+٥.٢٥) ساعة. كان متوسط فقدان الدم ٤٦٠±١٠٠ ، كان متوسط الإقامة فى المستشفى ١٥±٧ أيام . بدأ المرضى فى تناول السوائل عن طريق الفم بعد فترة زمنية تتراوح بين ١١.٢±٢.٧ يوماً. واجهنا ١٦ حالة تعرضت لمضاعفات (٢٨.٦٪) عانينا من ٢٤ مشكلة بما فى ذلك فقدان السديلة الجزئى فى ٣ مرضى وفقدان السديلة الكلى فى مريضين . كان نمو الشعر داخل الفم هو أكثر المضاعفات شيوعاً التى حدثت فى ٧ (١٢.٥٪) مرضى. بعد متابعة متوسطها ٣٥.٨ شهراً، حدثت الوفيات فى ٩ (٨.٩٪) حالات، مرض محدد فى ٦ مرضى بينما تم الإبلاغ عن تكرار المرض فى ١١ (١٩.٦٪) مريضاً. كان البقاء على قيد الحياة لمدة أربع سنوات ٧٩٪ بمتوسط ٥١.٠٩±٢.٠٩ شهراً وأربع سنوات خالية من الأمراض كان ٧٤.١٪ بمتوسط ٤٨.١±٢.٤ شهراً.

تعد السدلة تحت الذقن خياراً ممتازاً فى إعادة بناء عيوب الفم بعد استئصال الورم الخبيث مع وقت إجراء قصير وإقامة قصيرة فى المستشفى ولكن يجب تحذير المريض من نمو الشعر. إنه آمن من الناحية الأورام فى الرقبة السالبة للعقدة ويمكن أن يكون آمناً فى العنق الموجب للعقدة فى مرحلة مبكرة بشرط أن يكون التقييم السريرى والإشعاعى وأثناء العملية لمنطقة تحت الذقن خاليا من الأورام.