The Submental Flap: Be Wary

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method of using free ap reconstruction, once post-op complications are taken into consideration. It will also serve as a warning to new reconstructive surgeons who consider using a submental ap, as opposed to the more traditional free ap.

Materials and Methods

is retrospective case series with chart review includes 10 patients that underwent SIF reconstruction following various head and neck procedures by 2 di erent physicians at a single care facility between November 2016 and April 2018. ese surgeons were newly out of fellowship training and embarking on their rst attending surgeon position. e rst ten consecutive SIF cases performed at one institution were included. Inclusion criteria were adults with a diagnosis of malignancy of the head and neck undergoing surgery with reconstruction using SIF, that then went on to fail SIF reconstruction. Demographics and preoperative risks were collected. Data were gathered regarding the type of procedure performed. Postoperative variables and wound dehiscence were recorded.

Results

10 total patients underwent submental aps between 2016 and 2018. Five were female, and 5 were male. Age of patients ranged from 33 to 85, with an average age 60.7 years. Only 2 patients were smokers. Four patients had hypertension, and one had diabetes. Six of the patients had no comorbidities. Nine of the patients had simultaneous neck dissection. None of the patients had prior chemotherapy or radiation. e defects requiring reconstruction were widely varied (Table 1).

Patient	Sex	Age	Comorbidities	Tobacco Use	Simultaneous Neck Dissection	Previous Radiation or Chemotherapy?	Outcome	Need for second trip to OR	Defect
1	F	61	None	Yes	Yes	No	Aborted due to pathologic nodes in submental area and Free Flap next day	Yes	Composite resection of right floor of mouth, right ventral tongue partial glossectomy, and right marginal mandibulectomy.
2	F	33	None	No	No	No	Residual postauricular defect that needed cervicofacial rotational flap reconstruction	Yes	Parotid defect
3	M	56	None	Yes	Yes	No	Congested and debulked	Yes	FOM/Ventral tongue
4	F	85	DM, HTN	No	Yes	No	Performed a submental island flap. Later it was noted that the submental vein	Congested defect that	MFOM/Ventral…auriculasubm

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blood supply to the island gra . He then underwent a split thickness skin gra (STSG) the same day.

Six of the 10 patients had initial placement of the SIF and further debridement at a second OR sitting. ree of those had venous congestion, and 3 of those were due to necrosis from poor arterial supply. One patient noted survival of a portion of the SIF for a parotid defect but needed a subsequent cervicofacial rotation ap for closure of the remaining defect.

Discussion

Although the submental ap is relatively thin, easy-to-harvest, and typically well-vascularized, it does have complications. Our single institution series varied from the literature with 100% failure rate [10].

Chow *et al.* reported partial loss of 2 out of 10 aps in their 2007 study, while Merten *et al.* reported loss of 1 ap in 11 nonirradiated patients in their 2002 study [11-12]. In a series of SIF performed in 2018 by Faisal et al., 2 complete and 3 partial ap losses were recorded [10]. e authors mentioned that th e SIF if the neck ha been previously irradiated, with *al. reporting tha* preoperative radiotherapy was the ent nding in thos who su ered ap loss [13].

Nine of our 10 patients requir ous neck dissection. When a neck dissection is needed ocedure where SIF is planned, the reconstructive surgeon a careful discussion with the resecting head and neck s at the facial artery or vein is not ligated during the neck d the circumstance that the vein or artery is injured, using t e neck for the SIF i not recommended, and the subme uld be based on th contralateral side.

ree of the patients were no venous congestion requiring second trip to the OR. e ein has been found t be the primary venous drainage of t one of our cases th submental vein was noted to drain ternal jugular syste during the bring-back procedure. ular system had bee ligated during the initial procedur his could have bee avoided with an earlier identi cation my. A di erent mod of reconstruction could have bee n during the initia procedure.

ree of the patients were noted otic SIF from lack o blood supply. Studies have shown c ble perforator of th SIF, which is much smaller than t rs of the work-hors anterolateral thigh free aps and r free aps. e siz di erence for vessel handling can be chnical challenge.

Our poor SIF results were indepe defect site. We use SIF for so tissue defects resulti osite resection o mandible/tongue/ oor of mouth; cts of oral tongue retromolartrigon and parotid. Sittitra and colleagues c that e , is suitable for ora tongue reconstru ion, a lo ation incidence whe

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