

**LONG TERM RESULTS OF INVASIVE THYROID CANCER WITH SEVERE AIRWAY TRACT
INVASION TREATED BY ONE STAGED RECONSTRUCTION OF VOICE BOX/AIRWAY TRACT
WITH LOCALLY PREPARED FLAPS (VAF KIMONO FLAP OR IMAP FLAP AS ITS ALTERNATIVE).**

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Background/Purpose: One staged tailor made reconstruction of voice box/airway tract using intelligently prepared pedicled flaps for thyroid cancer was assessed in a long term.

Methods: From 1995 to 2012, 20 patients of thyroid cancer of various types with severe airway tract invasion were treated by one staged reconstruction using external jugular veno-accompanying artery based flap (VAF flap) or internal mammary artery perforator based flap (IMAP flap). 18 were papillary, 2 poorly differentiated, and 2 postoperatively confirmed anaplastic cancer. VAF flap is prepared bilaterally to reconstruct the voice box and to cover the defect of the dermis, the conformation of which reminds of kimono wear (kimono flap). VAF kimono flap can be prepared with its pedicle based proximally or distally according to the vascular state of the neck dermis. Unilaterally prepared IMAP flap was applied alternatively in case that VAF kimono flap is not appropriate because of dermal invasion. Patients underwent hard tissue reconstruction using an auricular cartilage to reenforce the framework enabling earlier decannulation.

Results: Cause specific death occurred in 2 anaplastic, 1 poor differentiated (pulmonary metastasis) and 1 papillary (brain metastasis). Two patients had recurrence in the reconstructed voice box, but lesions were easily removed by open and closure maneuver along the flap-dermis junction. No patient required total laryngectomy.

Discussion & Conclusion: VAF kimono flap and IMAP flap, although the latter is less aesthetic, are both very useful and identical in oncological outcome by long term observation in the treatment of invasive poorly and well differentiated thyroid cancer.