Wound complication in Post-Chemoradiotherapy Neck Dissections

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ABSTRACT

Objective: To report the incidence and type of post-operative complications following planned neck dissection in patients with advance stage squamous cell cancer of the laryngopharynx who have been treated with chemoradiation (CRT) and to identify predictive factors.

Design: Retrospective case series.

Patients: Thirty-three patients (median ± SD age, 59 ± 7.8 years; 85% male) who had a post-chemoradiation neck dissection, with or without resection of the primary site, for advance stage cancer of the laryngopharynx were identified between May 2003 and October 2007.

Results: Thirty-eight neck dissections (33 patients; 5 bilateral necks) were carried out on our cohort. Wound complications were recorded in 6 (18%) of 33 patients with one mortality from carotid rupture. Complications were seen in 1 (17%) of 6 patients with N1 disease, 5 (23%) of 22 patients with N2 and none of 5 patients with N3 neck disease. There was no association between type of neck dissection and rate of complications. No statistical increase in complication rate with age, comorbidities, and smoking was noted between type of neck dissection and rate of complications. No statistical increase in complication rate with age, comorbidities, and smoking was noted. 

The objective of this study was to report our experience of wound complications following planned neck dissections in patients with advanced stage squamous cell cancer (SCC) of the oropharynx and laryngopharynx treated primarily with CRT.

METHODS AND MATERIALS

Design: Retrospective case series.

Setting: Otologyngology head and neck surgery unit, St John’s Hospital Livingston; Edinburgh Cancer Centre, Western General Hospital Edinburgh.

Patients: Thirty-three consecutive patients (median ± SD age, 59 ± 7.8 years; 85% male) who had post-chemoradiation neck dissection, with or without resection of their primary tumour site, for advance stage SCC of the oropharynx, larynx and hypopharynx were identified from a pre-existing database between May 2003 and October 2007. Intra-operatively, all patients received a single dose of cefuroxime and metronidazole. The time from completion of radiotherapy treatment to surgery ranged from 4 to 24 weeks (median ± SD, 8 ± 5.5 weeks).

All patients received radiotherapy to their neck of 68 Gy in 34 fractions over a median period of 6.5 weeks and 1-3 cycles of concurrent chemotheraphy consisting of either cisplatin or carboplatin alone, or a combination of cisplatin and 5-fluouracil or carboplatin.

Main outcome measure: post-operative complications.

RESULTS

Thirty-eight neck dissections (33 patients; 5 bilateral neck dissections) were carried out between May ’03 and Oct ’07. Patient and tumour characteristics are shown in Table 1. The median age was 59 years (range 42 to 78 years) and 85% were male. Medical co-morbidities were present in 14 (42%) patients; 70% were heavy smokers and 27% were known to be excess alcohol drinkers at time of treatment. The majority of primary tumours were located in the oropharynx (78%), 79% were advanced T3/T4 tumours, and 82% had N2/N3 neck disease at diagnosis prior to oncologic treatment.

Local wound complications were recorded in 6 (18%) of 33 patients with one mortality from carotid rupture. Complications were seen in 1 (17%) of 6 patients with N1 disease, 5 (23%) of 22 patients with N2 and none of 5 patients with N3 neck disease. There was no association between type of neck dissection and rate of complications. No statistical increase in complication rate with age, comorbidities, and smoking was noted. (Table 2).

Half of the patients underwent bilateral neck dissection and developed wound complications. None of our patients developed swallowing or speech problems as a result of the neck dissection. One patient (3%) developed a pharyngocutaneous fistula, swallowing difficulty, airway problems after salvage head and neck surgery in patients previously treated with chemoradation have a significant impact on morbidity and sometimes mortality as seen in our case series. Factors such as choice of chemotherapy regimen and time interval from RT to salvage surgery, are associated with higher wound complications. Studies in recent years have conclusively shown that the use of short-term perioperative prophylactic antibiotics in patients undergoing clean and clean-contaminated neck dissection substantially reduces the risk of wound infection. However, prolonged antibiotic use failed to lower infection rate in head and neck cancer patients following surgery. The incidence of wound complications after neck dissection in patients treated with chemoradation in our cohort is 18%. This compares favourably to the reported literature. Our case series comprised of younger patients and we did not find any association between age, gender, presence of comorbidities, radiotherapy dose and time interval from RT to salvage surgery. This is in contrast with previous reports which have shown a relationship between the amount of radiation received and the risk of neck dissection.

Wound complications may be reduced by optimizing perioperative nutrition in all patients, use of prophylactic antibiotics and more limited surgery by carrying out selective or superselective neck dissections.

CONCLUSIONS

In our experience, wound complications may be reduced by optimizing perioperative nutrition in all patients, use of prophylactic antibiotics and more limited surgery by carrying out selective or superselective neck dissections.

REFERENCES