Surgical Management of Anaplastic Thyroid Cancer: A 33-year experience

Ron Mitzner M.D.¹, Saima Durvesh M.B.B.S.², David Goldenberg M.D. F.A.C.S.¹

¹ Division of Otolaryngology-Head and Neck Surgery, Department of Surgery
² Division of Endocrinology, Diabetes and Metabolism, Department of Internal Medicine
Penn State University College of Medicine, Hershey, Pennsylvania

Introduction
Anaplastic thyroid carcinoma (ATC) is among the most aggressive human neoplasms, with patient survival measured in months. ATC commonly presents as a rapidly growing thyroid mass with extensive local invasion. Distant metastases occur early. The most common cause of death is upper airway obstruction. ATC is rare, representing only 2% of all thyroid cancers. The role of surgery is usually palliative. Tracheotomy is sometimes performed in order to prevent asphyxiation. The role of more aggressive intent. Surgery alone is not thought to improve survival. Several studies have demonstrated increased survival in patients who underwent resection and radiotherapy. Three patients in our series survived over 2.5 years with one undergoing surgery and two undergoing thyroidectomy and neck dissection. All three survivors underwent postoperative chemoradiation.

Discussion
ATC accounts for 2% of all thyroid carcinomas with an annual incidence of about 1-2 cases per million. The female to male ratio previously reported is 3.1:1. Anaplastic thyroid carcinoma often presents in advanced stages with tumor extension and metastases precluding surgical resection with curative intent. Surgery alone is not thought to improve survival. Several studies have recommended increased survival in patients who underwent resection and radiotherapy. Three patients in our series survived over 2.5 years with one undergoing surgery and two undergoing thyroidectomy and neck dissection. All three survivors underwent postoperative chemoradiation. Several studies have suggested that in patients with localized disease, complete resection can improve survival. The current consensus on treatment of ATC recommends attempts at surgical resection if all gross disease can be resected without excessive morbidity. Chemoradiation improves local control. Tracheotomy should be performed for impending airway compromise. Discussion with the patient and family regarding quality of life should be undertaken prior to considering any surgical treatment for this highly lethal disease.

Materials and Methods
A retrospective chart review was performed which identified patients that underwent treatment for thyroid carcinoma at the Penn State Hershey Medical Center between 1975 and 2008. Those meeting the histopathologic criteria for ATC were identified by our pathology department and entered into the study group. ATC was confirmed in 34 cases. 20 patients underwent surgical treatments ranging from tracheotomy to radical resection. Tracheotomy was performed in 9 patients, Thyroidectomy in 7 patients and neck dissection in 3 patients. Of those patients who underwent surgery 15% survived greater than 30 months.

Results
The mean age at presentation was 65.4 years (Range 26-93 years); male/female ratio was 1.1. The most common presenting symptom was dysphagia (59.5%), hoarseness (29.4%), and weight loss (17.6%). Mean survival was 6.27 months. 5 year survival was 8.82% and 2 year survival was 14.7%. 41% were treated with chemotherapy and 53% underwent radiation treatment. Surgery was part of the treatment regimen in 20 (58%) patients. Tracheotomy was performed in 9 patients, Thyroidectomy in 7 patients and neck dissection in 3 patients. Of those patients who underwent surgery 15% survived greater than 30 months.

Conclusions
ATC is a rare tumor most commonly found in older adults that typically holds a dismal prognosis; however, for a small subgroup of patients with complete resection in combination with multimodality therapy, long-term survival and cure are possible.

References
3. Haigh PI et al. 2001 Completely resected anaplastic thyroid carcinoma combined with adjuvant chemotherapy and irradiation is associated with prolonged survival. Cancer 91:2335-2342