Tumour reduction with a Cavitron Ultrasonic Surgical Aspirator® in the palliative care of anaplastic thyroid cancer

JHR Becker,[1,2] F Ghoor[1,2]

[1]Department of General Surgery, Sefako Makgatho Health Sciences University, Pretoria, South Africa
[2]Dr George Mukhari Academic Hospital, Pretoria, South Africa

Corresponding author: *JHR Becker (jhr.becker@telkomsa.net)*

A 54-year-old woman developed a fungating locally invasive anaplastic thyroid cancer with distant metastases, and was treated with aggressive tumour reduction, using a Cavitron® Ultrasonic Surgical Aspirator. This mode of treatment, applied for the first time in this context, proved to be effective, safe and improved her quality of life.

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Anaplastic thyroid cancer (ATC) is a disease of middle-aged women.[1] ATC comprises 5% of all thyroid cancers,[2] and yet it contributes to 50% of thyroid cancer-related deaths,[3] often by airway obstruction.[4] Effective palliation is the goal as there is a very poor prognosis for ATC, with life expectancy ranging from 3–7 months.[5] Radical surgical resection is not indicated when the local invasion is clear cut on imaging. Traditionally, chemoradiation is used to improve local control.[6] However, we believe that the use of the Cavitron Ultrasonic Surgical Aspirator® (CUSA®) was novel and appropriate in the case of rapidly progressing fungating aggressive cancer recurrence. The CUSA® is frequently used for brain and liver resections.[7,8] The instrument microfragments, and aspirates tissue parenchyma without injuring the solid structures.[7,8] These characteristics were utilised in our case to fragment, irrigate and aspirate the soft thyroid cancerous tissue without causing major morbidity by injuring the adjacent major vessels, trachea or oesophagus. This enabled our patient to be discharged as she felt socially acceptable, and was once again able to interact confidently with friends and family.

Case study

A 54-year-old euthyroid woman, who had undergone a total thyroidectomy and lymph node clearance three months prior, presented with a large ulcerating thyroid mass fixed to the underlying structures. This tumour was a follicular variant of a papillary tumour, with anaplastic dedifferentiation. I-123 scintigraphy confirmed metastases to the skull, chest, abdomen and pelvis. A computed tomography scan showed infiltration and fixation to the underlying structures in the neck. She had not experienced any voice changes. External beam radiation failed to produce a response. The patient was in a pitiful state. She could not flex her neck, and there was an offensive smell from the constantly oozing tumour (Figure 1). It was felt that tumour debulking and iodine ablation were the best available palliative therapies. The CUSA® was used for tumour reduction, while preserving the functional structures. The tumour was successfully reduced in size with an operative blood loss of under 500 ml. Mild oozing from the tumour bed was easily controlled with Surgicel® and mild pressure. The results of the debulking surgery are shown in Figure 2. The open wound required a small absorbent gauze, while the use of a scarf made the patient appear natural and presentable.

Figure 1: The fungating tumour before tumour reduction with a Cavitron Ultrasonic Surgical Aspirator®

Figure 2: An image of fungating locally invasive anaplastic thyroid cancer after tumour reduction with a Cavitron Ultrasonic Surgical Aspirator®

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