Management of advanced head and neck squamous cell carcinoma – Role of surgery?

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Introduction

- 1990's Surgery was the primary treatment for all head and neck squamous cell cancer's and radiotherapy reserved for failures or inoperable cancers
- How things have changed since then…
- Advances in radiotherapy techniques.
- Advances with adjuvant chemotherapy and chemoradiation therapy.
- 2012… *Surgery has become a "supporting act".*

Aim of treatment

- Organ preservation
  - Speech
  - Taste
  - Swallowing
  - Mouth opening
  - Cosmesis
- Local control
- Regional control
- Distant control
- Better overall 3 and 5 year survival

Where is surgery "debilitating"

- Not under debate
  - Nasopharynx
  - Hypopharynx
  - Larynx
  - Base of tongue

- The "grey area"
  - Oropharynx
  - Tonsillar
  - Lips
  - Sinuses
  - Skin……

The dilemma of the surgeon.

- Primary Stage III and IV cancer surgery, with or without adjuvant radiotherapy, was associated with poor 5 year disease free survival of 30% (181 patients) and 5 year survival of 38% (**32 – 38**%). (Head and Neck 2005)
- Cleveland RCT (Head and Neck 1997), phase three study, of **resectable** stage III and IV cancer and Maryland group showed 5 year survival of similar benefit (40%) *without functional impairment of the patient*.

Overall survival after Chemoradiotherapy

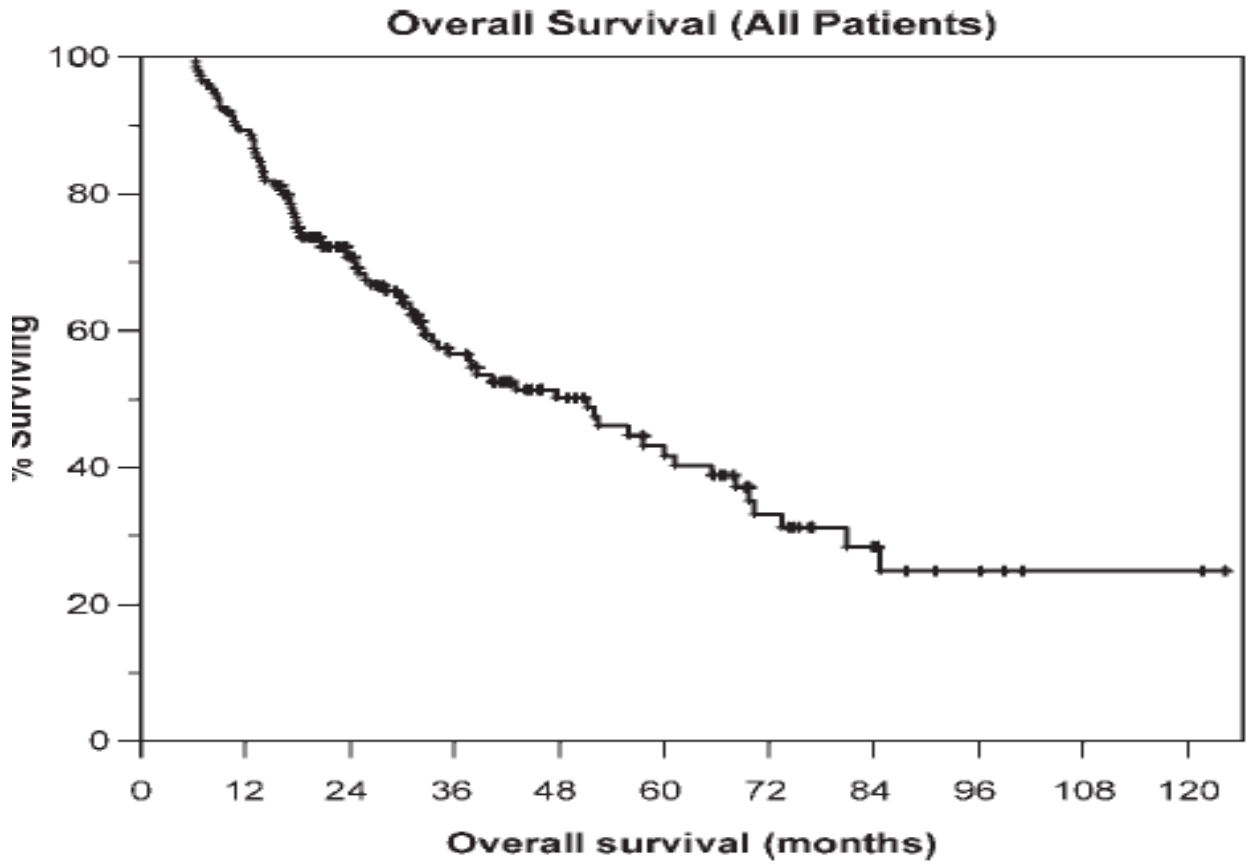


FIGURE 2. Overall survival, all patients.

Evidence

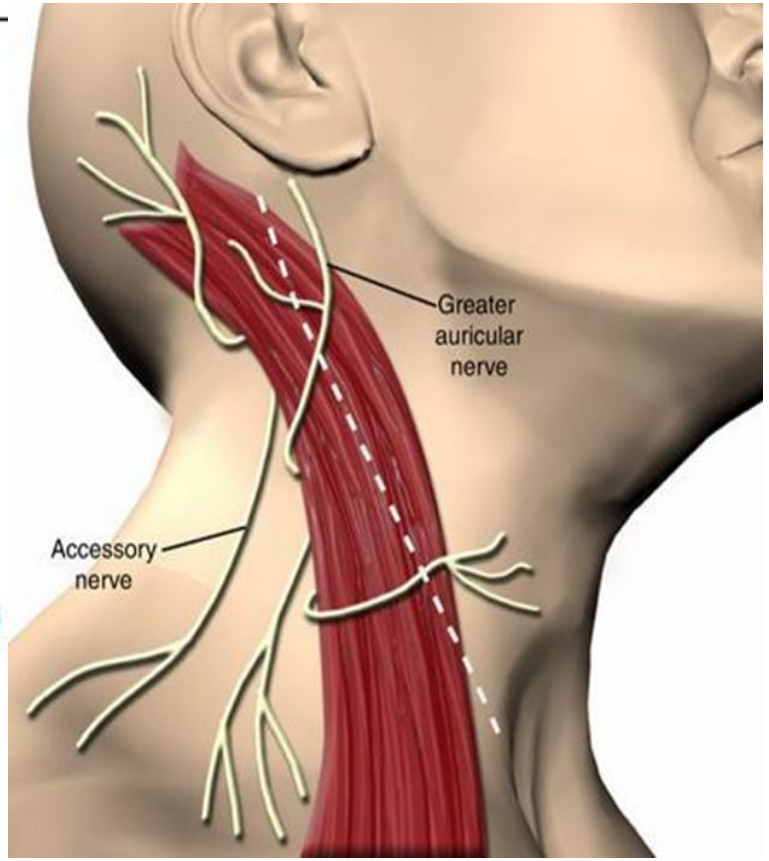
- Netherlands study (135 patients) found only advantage of primary surgery was if the patient could not get into the radiotherapy department in time (H&N, Sept 2012).
- CRT – organ preservation without compromising overall survival. Residual neck disease in as many as 30 – 50% cases in literature.
- No consensus in literature regarding MRND for "***microscopic***" residual disease.
- Early MRND or RND for macroscopic recurrence where distant or local primary recurrence at same time may preclude further surgery? (H&N. June 2010)

Evidence

- Early SND with preservation of SCM, SAN and IJV; has minimal functional impairment and should not have to incorporate all levels of the neck – should be based on clinical disease prior to CRT.
- PET scan as determining microscopic residual disease still under investigation.
- BUT so far **SND,** (with only about 5% neck failure rate) for microscopic disease, shown to have **no impact on overall survival** as yet and should be considered at best as a “staging” procedure! (H&N 2010).

Functional disability

1. Spinal accessory nerve
2. Phrenic nerve
3. Hypoglossal nerve
4. Lingual nerve
5. Vagus nerve
   - i) Recurrent laryngeal nerve
   - ii) Superior laryngeal nerve
6. Sympathetic trunk
7. Marginal mandibular branch of facial nerve



Patterns of failure of patients who receive primary CRT.

Yovino et al H&N Jan 2010; Maryland, Baltimore

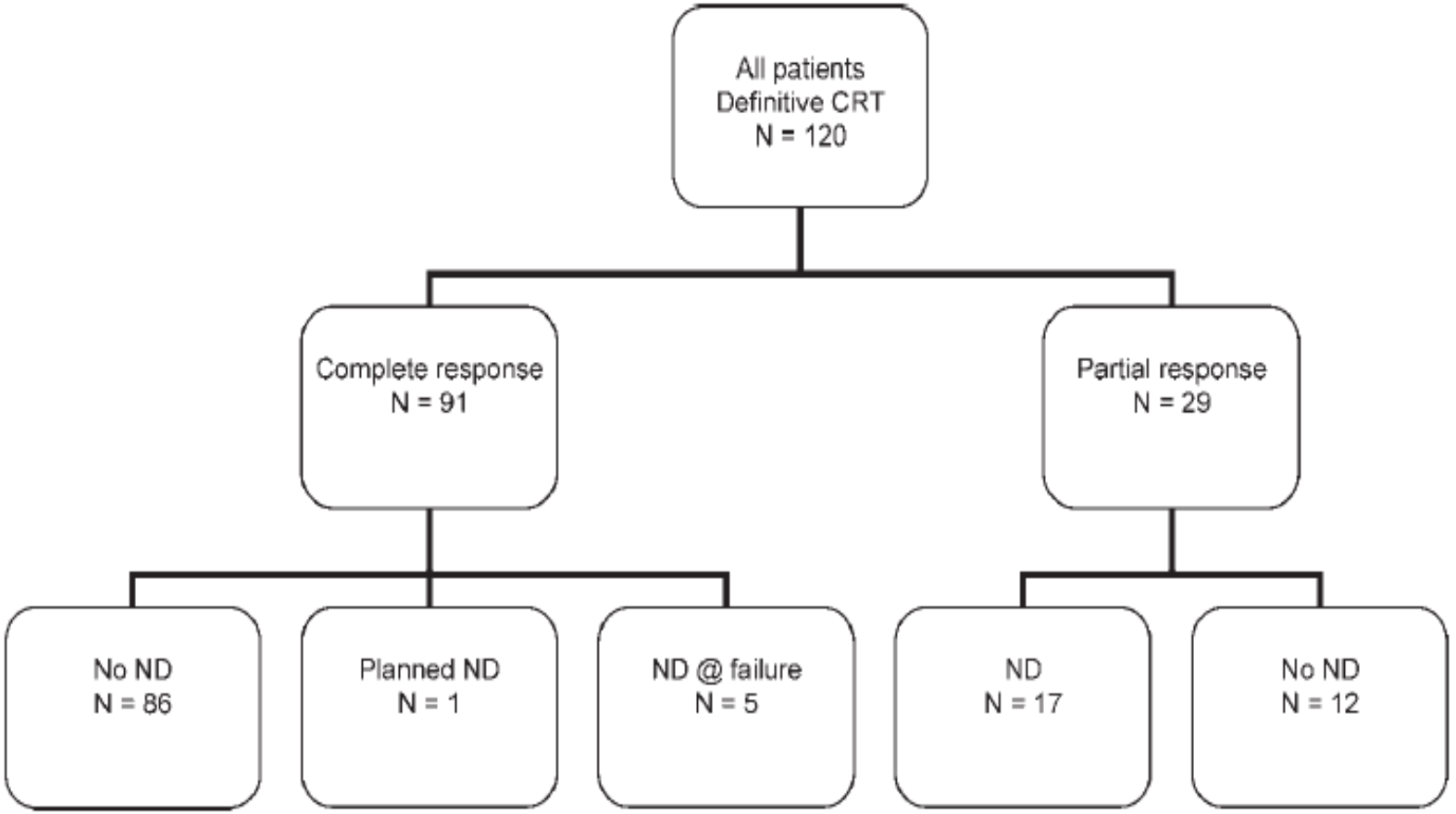


FIGURE 1. Flow diagram of patient treatment.

Partial responders and subsequent surgery.

- 17 (29) patients (24% failure rate)
- 1/7 had recurrence of disease where no residual cancer was found at histopathology.
- 8/10 patients with confirmed residual disease ended up with disease progression after surgery.

- *Sorry tale for the surgeon*.

Table 2. Failure patterns among complete responders.

Site of failure	*N*	%
NED	63	69.2
Distant metastases	17	18.7
Primary only	6	6.6
Neck only	2	2.2
Primary + neck	1	1.1
Died of treatment toxicity	2	2.2

Abbreviation: NED, no evidence of disease.

Elective neck dissection for CR after CRT?

- If the neck has a CR after CRT based on clinical and radiological evidence an elective neck dissection (END) is still advocated by some of the "die hard's".
- Even if residual disease is found after END, what further treatment is available to the patient? Does surgery for microscopic disease have better outcome than for macroscopic recurrent disease?
- With positive residual disease the battle is invariably lost at a distant metastatic level. (Cleveland and Maryland studies)

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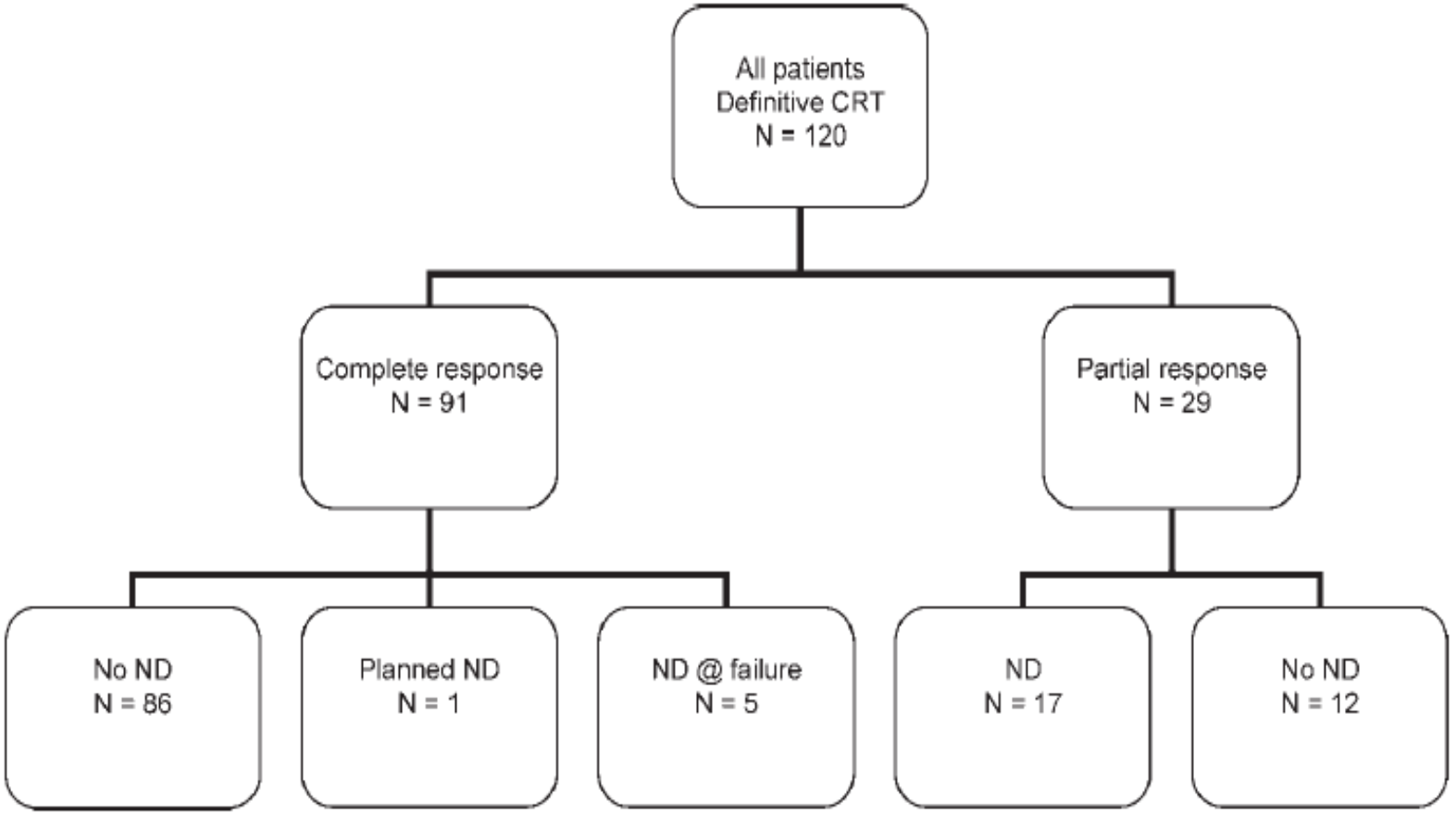

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Summary

- Used to be that the surgeon did his best with advanced resectable advanced squamous cell cancer of the head and neck and told the radiotherapist to “salvage” what he could after the surgery.
- Now a role reversal. Surgeons are now the ones who have to try and salvage the patient if CRT fails (fortunately only about 25% cases).
- In these patients we see more functional impairment than with primary surgery with much higher complication rates.
- BUT…..

Summary

- Surgery is still justified…
- If the radiology/ chemotherapy departments are logistically too busy to see the patient within weeks of diagnosis. (Not true in private practice!)
- Where functional disability is acceptable in the context of the extent of surgery (MUST get clear margins!)
- Primary surgery with adjuvant CRT outcomes are just as favourable as primary CRT… more morbidity and cost!
- We will end up having poorly skilled head and Neck surgeons from lack of experience.
- Does it matter (2/29)?


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