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Unresectable Tumors Of The Head And Neck

Dr. Indranil Pal[1*]

[1] Professor & Head
Department of Otorhinolaryngology Head & Neck Surgery
College of Medicine & JNM Hospital,
Kalyani, Nadia, WB
*Correspondence:
Dr. Indranil Pal

Introduction:

Head & Neck cancers form 30 % of the total cancer burden worldwide. In India about 75% of cancer patients, like in most of the developing world , present in advanced stages. Thus proper decision making in the management of head and neck cancer cannot be over emphasized. The treatment offered is either surgery or Radiotherapy (often with chemotherapy) or more often a combination of both.

The decision for surgery is by and large dependent on the resectability of the tumor. If the tumor is unresectable, then radiotherapy or palliative care is obvious alternative. That leads us to an important question: What is an unresectable tumor? There is general consensus that tumors with AJCC T4b staging are surgically unresectable. The T4b stage emphasizes the poor prognosis unresectability. Tumors staged T4a and lower are generally considered to be resectable.

The main criteria for staging a primary head and neck tumor as T4b are as follows:

1. Vascular (carotid) encasement and invasion.
2. Prevertebral space invasion.
3. Mediastinal invasion.

However, it needs to be stressed that 'resectable' does not necessarily mean 'operable'. The 'operability' is dependent upon various patient, clinical and external factors. A decision has to be made regarding the complete resection of the tumor and what impact it will have on the patients quality of life, profession and self image thereafter. The successful resection of the whole tumor may be good for the self esteem of the surgical team but the morbidity associated with the primary surgery may give the patient a quality of life with questionable additional value.

The patients choice will be important where the loss of an organ (tongue or larynx) or a function (swallowing or speech) alongwith a significant cosmetic morbidity will give him, say a 10-15% increase in 5 year survival compared to RT or sometimes even palliative care.

Keeping this in mind it will be helpful to group patients in the following categories [(1)]:

1. Unresectable
2. Resectable with limited "collateral damage"
3. Resectable – Extensive surgery with major QOL issues.

Factors determining Operability:

By an large the factors that determine morbidity also determine the 'operability. These include:

1. Tracheal invasion: Intraluminal invasion of the trachea and its extension into the mediastinum indicates advanced primary tumor and is associated with low survival.
2. Oesophageal invasion: Invasion of the oesophagus is associated with poor resection margins and thus poor survival because of its proximity to the prevertebral soft tissues.
3. Laryngeal cartilage penetration: The traditional belief is that involvement of the thyroid cartilage is a contraindication for RT and an indication for surgery. However, there are studies that indicate that T4 tumor patients with minimal laryngeal cartilage involvement do well with RT/CRT (2)
4. Pre-epiglottic fat involvement: May require resection of a part of the base of tongue with its associated problems regarding swallowing.
5. Dural spread.

6. Bone infiltration (mandible, maxilla and skull base): Involvement of the skull base by a malignant primary tumor or metastatic nodes (IIb) compromise oncological margins and thus adversely affect prognosis.
7. Orbital involvement: The decision to exenterate even a partially functioning eye in the name of oncological clearance has significant implications for the patient.
8. Brachial plexus involvement: Either by the primary tumor or the metastatic nodes. Will be associated with involvement of the scalene muscles and thus poor operability.
9. Co-morbid conditions: Like chronic debilitating diseases or overall poor general health of the patient which increases surgical morbidity.
10. Condition of the neck nodes: Especially extranodal extension.
11. Preference for organ preservation: The patients choice is very important.
12. Expected functional outcomes following surgery.
13. Chances of getting pathologically negative surgical margins.
14. Histological grading of the tumor.
15. Patient compliance.
16. Survival statistics: The patient needs to be informed in detail about the survival chances with each treatment modality so that he/she can make a choice balancing the QOL with survival.

Unresectability does not necessarily mean incurability:

An unresectable tumor is not necessarily incureable and definitely not untreatable. Head and neck lymphomas, nasopharyngeal and oropharyngeal SCC are good examples of such tumors. So all is not lost if the tumor is unresectable or deemed inoperable. There are other good treatment options available the decision about which should be made after detailed discussions with the patient. After all it is his/her life and his/her body. If they decide to chose QOL over a marginal increase in survival or otherwise, we should respect their judgement and go along with it.

Management Options for unresectable/ inoperable tumors:

1. Radiotherapy
2. CT + RT
3. Palliative care: In the form of 'Best supportive care'(3) which is defined as, treatment administered with the intent to maximise the QOL without a specific antineoplastic regimen. This obviously includes all kinds of symptomatic and supportive treatment. BSC alone is associated with a median survival of 3-6 months.

Palliative care an also include palliative radiotherapy which though part of an antineoplastic regimen is not administered with curative intent.

Conclusion:

Resectable tumors are not necessarily operable. The resectability is dependent primarily on tumor-factors while the operability is dependent primarily on patient factors. However, it needs to be emphasized that unresectable doesn't necessarily mean incurable. So, the treatment of head and neck cancers needs to be individuaised depending on the patients preferences after detailed discussions with them.

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